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MOLLUSCAN TAXA OF ADDISON EMERY VERRILL AND KATHARINE JEANNETTE BUSH, INCLUDING THOSE INTRODUCED BY SANDERSON SMITH AND ALPHEUS HYATT VERRILL

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Abstract. All of the some 550 molluscan taxa introduced by Addison Emery Verrill, Katharine Jeannette Bush, Sanderson Smith, and Alpheus Hyatt Verrill are listed alphabetically. Most of the species occur in the north western Atlantic Ocean, but a few are from the Bermuda and Caribbean Islands and Lower California. Illustrations are provided of almost all of the previously unfigured types. Bibliographies of papers on mollusks by the several authors are included.

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HISTORICAL SECTION

Addison Emery Verrill, first professor of zoology at Yale University, was one of the leading figures in the third era of American conchology, which William H. Dall called the Stimpsonian Period after William Stimpson (1832-1872). "This period can hardly be said to have been introduced by an epoch-making work, but gradually the old methods were discarded for the new. This meant adopting radical changes in classification and welcoming the theory of evolution with all the light it shed in dark places" (Dall, 1888: 97). Stimpson was preparing a manual of the marine invertebrates from Maine to Georgia for the Smithsonian Institution based on the most extensive collection of eastern American invertebrates ever brought together, but it, along with the manuscript, was destroyed in the great Chicago fire of October 1871. Stimpson died the following year, only forty years old. It was Verrill who with the aid of his brother-in-law, Sidney Irving Smith, prepared a more geographically limited, but comprehensive manual, *Report upon the Invertebrate Animals of Vineyard Sound and adjacent waters* (1873). Verrill was to write extensively on the marine invertebrates of eastern North America based on subsequent collections made by the United States Fish Commission. Many of these works were exclusively on mollusks. Some, like those of Dall, were based on the spoils of Alexander Agassiz' expeditions on the government ships *Blake* and *Albatross* which Agassiz undertook at his own expense. When Dall wrote his paper, *Some American Conchologists* (1888), Stimpson, who was thirteen years his senior, was long dead "cut off early in his career showing more promise than accomplishment," but Dall could hardly have called the period after himself or Verrill, who were very much alive, and among its most accomplished members.

Verrill was born on his father's farm on Furlong Mountain in Greenwood, Maine on February 9, 1839, and was named for a close friend of his parents, Nathan Addison Emery, who died from a fall shortly thereafter. Verrill's parents, George

Washington Verrill and Lucy Hillborn, were both descended from Colonial families; the Verrill line from an ancestor who settled in Gloucester, Massachusetts about 1720 and the Hillborns from a Quaker who settled in Pennsylvania before 1688. As in many other old American families, some became entranced with their ancestors, especially as they correctly perceived that they were being outnumbered by newer arrivals as the nineteenth century advanced. Writing in this century, Verrill's son, George Elliot Verrill (1958) traced the Verrill name, and its variations, and concluded that the various branches of the family had a common progenitor, a Norman who came to England with William the Conqueror in 1066 and settled in Sussex County.

Interestingly, Verrill's sister, Lucy Ellen, married Henry Rust Mighels of Norway, Maine in 1866. He was the son of Dr. Jesse Wedgwood Mighels (1795-1861), the pioneer conchologist of Maine, whose collection of shells and books at the Portland Society of Natural History was destroyed in the Portland fire of 1854. During the 1840s he published several illustrated articles in the Boston Journal of Natural History describing new native shells (Johnson, 1949). Mighels returned from Cincinnati, Ohio to Norway, Maine in 1857 where he remained until his death. He must have been known to young Verrill.

Addison's interest in marine zoology is said to have been awakened by his grandfather Hillborn who took him for a walk along the sea shore at Cape Elizabeth, near Portland, Maine when he was ten years old and told him the vernacular names of the invertebrates which they found. His real passion at this age became minerals and he secured copies of C. T. Jackson's reports on the geology of Maine. Writing many years later he said, "About a dozen years later [age twenty-two] I was associated with Dr. Jackson as an officer of the Boston Society of Natural History [curator of Radiates, 1864-1870] and I had the pleasure of telling him how much his reports had helped me in my early efforts to study geology by myself. When I was about twelve years old my father obtained for me Dana's small *Manual of Mineralogy*, but I

little thought that I would eventually be the colleague of that eminent scientific man in Yale University. Later I also obtained Professor Asa Gray's *Manual of Botany*, little thinking that subsequently I would be a student under him at Harvard" (Verrill, 1958: 92).

In 1844 when Verrill was fourteen years old, his father was seriously injured, and the family moved to Norway, Maine where his father ran a successful general store until his death in 1862. Young Verrill prepared for college at the Norway Liberal Institute, which later became the public high school, between 1853-1859.

In addition to a passion for botany and an interest in photography, Verrill began to collect birds and mammals. Before he entered Harvard, he had already amassed a suite of specimens numbering two hundred birds and mammals. Although not particularly interested in insects, he aided a younger friend, Sidney Irving Smith (1843-1926) who became an authority on marine and freshwater Crustacea as well as the insects of Maine. Smith followed Verrill to Yale where he earned his Ph.D. in 1867 and became a professor of zoology.

Early in May 1859, when he was little more than twenty years old, Verrill entered the Lawrence Scientific School of Harvard University with advanced standing. He must have been present at the ground breaking ceremony on June 14 of Louis Agassiz' Museum of Comparative Zoology, which was ready for occupancy the following May. By this time Agassiz had hired Edward Sylvester Morse (1838-1925), another Maine boy and friend of Verrill, who later was to publish the first work on the terrestrial shells of Maine in the then new Journal of the Portland Society of Natural History. Subsequently, Morse became director of the Peabody Museum of Salem. Between 1877-1879 he visited Japan to teach zoology and became the father of zoological study there. He studied Japanese culture and made a distinguished collection of Japanese pottery. Among the mollusks he collected there were two new species of cephalopoda from Tokyo Bay which he sent to Verrill for description.

Among the other student assistants during the years of

1859-1864, most of whom became distinguished researchers, were Alexander Agassiz, Frederic Ward Putnam, Alpheus S. Packard, Jr., Nathaniel Southgate Shaler, Samuel Scudder, Alpheus Hyatt, Albert Ordway, Caleb Cooke, William H. Dall, and Albert Smith Bickmore. In his first annual report of the Museum of Comparative Zoology for 1859, Louis Agassiz wrote, "Mr. Verrill has arranged the corals, and has made a special study of the embryology of the class of Birds. To aid in the latter purpose, he passed the summer on the island of Grand Manan." When he returned at the end of the summer, Verrill had some 1200 bird embryos as well as numerous bird and fish skeletons.

Early in 1861 Agassiz sent Verrill, Ordway, and Putnam to obtain specimens from the Smithsonian Institution to "get as many corals, birds, birds' eggs, and mammals of all kinds as you can and gain the confidence of Prof. [Joseph] Henry (1797-1878) by talking with him." William Stimpson, then established as a marine invertebrate zoologist, who had been an Agassiz student about a decade before, and whom Verrill had previously met in Cambridge, was the first person to call on the young men as soon as they arrived in Washington. While there, Verrill met Spencer Fullerton Baird (1825-1887), who was to become an important contact, as Baird was appointed United States Commissioner of Fish and Fisheries, and eventually succeeded Joseph Henry as Secretary of the Smithsonian. He also met Count Louis F. de Pourtales, a former pupil of Agassiz in Switzerland, who had joined the United States Coast Survey in 1848 and was first in this country to attempt deep sea dredging.

During the summer of 1861, Alpheus Hyatt (1838-1902) and Nathaniel Southgate Shaler (1841-1906) visited Anticosti Island, in the Gulf of the St. Lawrence, to collect geological, paleontological, and zoological specimens. It was here that Verrill had a serious introduction to those marine invertebrates to which he was to devote most of his professional career.

Verrill's friendship with Hyatt continued through life, and he named his second son after him. Hyatt became curator at

the Boston Society of Natural History as well as being in charge of the fossil cephalopod collection at the Museum of Comparative Zoology. He also served as professor of zoology and paleontology at the Massachusetts Institute of Technology and professor of biology at Boston University. He published on the systematics and evolution of ammonoids and on fossil gastropods of the freshwater family Planorbidae, and was working on the Hawaiian tree snails at the time of his death. Hyatt was essentially a philosopher, lost in speculation concerning the significance of the adaptations of the animals he discovered. Like most of Agassiz' students he early embraced evolutionary theory, not as a Darwinian, but rather as a neo-Lamarckian and developed a theory of "racial senescence" which gained some popularity until the formulation of the modern synthesis of evolutionary theory in the 1930s.

Shaler was appointed assistant in paleontology in the Museum of Comparative Zoology in 1864, and the following year began teaching zoology and geology in the Lawrence Scientific School eventually becoming its dean. He was gifted in generalization and in the popularization of science. While Shaler may have considered himself an early Darwinian, he became more of a neo-Lamarckian as time went on, a term coined by Alpheus S. Packard, Jr.

Verrill in contrast to Hyatt and Shaler was a painstaking, hardworking investigator who devoted himself to discovering the most minute morphological characteristics that would distinguish two closely allied species, as well as tackling tangles of synonymy that might have discouraged anyone else. While the vogue in zoology changed from taxonomy to comparative anatomy, then to the study of adaptations and the evidences for evolution, and finally to experimental genetics at the beginning of the century, Verrill maintained to the end of his life the importance of taxonomy as a necessary preliminary to more specialized biological work.

The Anticosti Island trip did not lead to any extensive publications, and nothing appears to have been announced in

regard to the original purpose of the trip which was to test the anti-Darwinian teachings of Agassiz. On the contrary, this field experience helped to instill the belief of organic evolution in one form or another in the young men. In later years Hyatt, who commanded his own yacht, said it had been an extremely dangerous trip and that they should not have come back at all.

In 1863 Agassiz published in the annual report of the museum, a new set of regulations for museum assistants which caused nearly all of them, with the obvious exception of Alexander Agassiz, to leave the museum. E. S. Morse was the first to depart, followed by F. W. Putnam, A. S. Packard, Jr., A. Hyatt, and A. E. Verrill. A. S. Bickmore wrote the first annual report on Mollusca that year and then was dismissed by Agassiz for soliciting funds for an expedition to Amboina to re-collect the shells described by Rumphius in the sixteenth century. He later became scientific "father" of the American Museum of Natural History.

When George Peabody endowed the Peabody Museum in Salem, Massachusetts, Putnam became director and invited the others to help reorganize the museum of the East India Marine Society and to incorporate the natural history collections of the Essex Institute. Verrill was looked upon as the spokesman of the "Salem Secession," (Dexter, 1965: 1) but he was in Salem for only a short time before he took an appointment as a full professor in zoology in the Sheffield Scientific School of Yale University. He was made a member of the governing board, and became curator of all the zoological collections at the age of twenty-five.

In 1866 George Peabody also gave Yale University the funds to "found and maintain a museum of natural history, especially in the departments of zoology, geology, and mineralogy." Verrill moved into the original Yale Peabody Museum in 1876, and finally had the opportunity to put on display the collections he had been accumulating since he arrived in New Haven a dozen years before. He had already written extensively on cephalopods, especially giant ones, an interest that would persist at least until 1897 when he

wrote on a "Supposed giant Cephalopod on the Florida coast," *Octopus giganteus* Verrill, which only recently was proven to be an *Octopus* based on fragments of it that had been sent to the Smithsonian Institution. Therefore, not surprisingly among the exhibits were a life size model squid over forty feet long counting the two thirty foot tentacles and a giant octopus. These were designed by Verrill but constructed by James H. Emerton of Salem, Massachusetts, who became Verrill's assistant and illustrator in 1880. They were made of papier-mâché, rubber, and any other materials at hand. Three copies of the squid were made and two of the octopus. Only one model remains on exhibit, that of a huge reddish octopus suspended from the ceiling of the Coral Room at the Museum of Comparative Zoology. The room is a memorial to his lifelong friend from college days, Alexander Agassiz (Hall and Hall, 1985: 46).

During his first year at Yale, Verrill roomed with Daniel C. Eaton, Professor of Botany. They formed a friendship which lasted as long as they lived and in which their families participated after they both married. Verrill married Flora Louisa Smith in Norway, Maine on June 15, 1865. She was the sister of Sidney Irving Smith, whom Verrill had befriended in Maine and who became a distinguished Yale professor himself. The Verrills had six children, including Major George E. Verrill, an engineer who constructed breakwaters, and became his father's biographer and Alpheus Hyatt Verrill, who described a few shells in his latter years.

During his early years at Yale, Verrill did much of his marine collecting along the shore by dredging from a small craft in Long Island Sound, mainly in the vicinity of New Haven. In 1870 when the United States Commission of Fish and Fisheries was created with Spencer F. Baird as commissioner, he appointed Verrill as his assistant in charge of all of the invertebrate collections. The first investigations were made in 1871 with Woods Hole, Massachusetts as the base. In 1872 the dredging was conducted out of Eastport, Maine by the United States Revenue cutter *Mosswood* under the

instructions that operations were to be suspended if a suspicious vessel were sighted; however, since smuggling was done at night, the order does not appear to have upset any dredging schedule. From 1873 until 1881 when Woods Hole became the permanent base of operations, work was carried out by the vessels *Bache*, *Speedwell*, and *Blake* from various ports between Salem, Massachusetts and Newport, Rhode Island. It was not until the arrival of the vessel *Fish Hawk* in 1880 that there was sleeping space on board for the scientific staff, but the *Fish Hawk* was of light draft and could make offshore cruises of only a few days' duration. Finally in 1883 the Commission received a specially built research steamship, the *Albatross*, of about 1,000 tons, which had good accommodations and facilities for the scientists and was able to dredge in much deeper water than previously possible. When Baird died in 1887 coastal dredging off New England was discontinued and not resumed until 1954 (Galtsoff, 1962: 48).

Verrill's studies provided a basis of knowledge of the marine benthic invertebrates of the Woods Hole region extending at least to the 100 fathom line. Published in 1871, it is still a major source of information about benthic communities of this area. In "Notice of a remarkable marine fauna occupying the outer banks off the southern coast of New England, and some additions to the fauna of Vineyard Sound" (1884), he describes the rich fauna along the 100 fathom line between latitudes 35°40′ and 40°22′ N and longitudes 69°15′ and 71°32′ W. He concludes that the number of species and abundance of individuals in this area "is due very largely to the annual uniformity of the temperature enjoyed at all seasons of the year, at all those depths that are below the immediate effects of the atmospheric changes. The region . . . is subject to the combined effects of the Gulf Stream on one side and the cold northern current on them, together with the gradual decrease in temperature in proportion to the depth." He also describes the effects of the Gulf Stream in bringing "vast quantities of free-swimming animals which furnish an inexhaustible supply of food for many bottom animals."

"Verrill's conclusion about the condition responsible for the abundance of life along the 100 fathom line in an area south of Woods Hole shows a highly developed power of observation and the ability of the author to visualize a general ecological picture from the multitude of detached observations. Verrill never lost sight of the forest because of the trees" (Galtsoff, 1962: 48).

"For more than thirty years [Verrill] had the faithful assistance of Dr. Katharine J. Bush (1855-1937), co-author of several of his papers on mollusks and annelids, whose accuracy and ability are reflected in nearly all of Professor Verrill's publications during that period," wrote her brother-in-law, Wesley R. Coe (1929). Katharine Bush was educated in public and private schools in New Haven, but had not attended college, when in 1879 at the age of twenty-three, she was hired by Verrill. He noted in the 1880 annual report of the Peabody Museum she, "has been employed in completing the catalogues and writing labels," and in the next year's report, she had been promoted to arranging and cataloguing collections made by the United States Fish Commission at the commission's expense.

By 1885 she was taking courses at the Sheffield Scientific School and by 1901 became the first woman to earn a doctorate in zoology at Yale. Bush's research was on the taxonomy and systematic classification of marine invertebrates, especially mollusks, annelids, and echinoderms, based primarily on the material collected by Alexander Agassiz and the United States Fish Commission. Her papers appeared under her own name or as junior author with Verrill. Among her last works on mollusks was "Notes on the family Pyramidellidae" (1909); this was in response to a paper on the same subject written earlier the same year by Paul Bartsch (1871-1960), in which she complained about his purloining of her unpublished work. Dr. Bush left the Museum about 1913 or 1914 to become a patient at the Hartford Retreat (now called The Institute for Living) where she died in 1937. Wesley Coe, her brother-in-law and bibliographer of Verrill, sent a short paragraph to *Yale Alumni Weekly*, which on May 7, 1937 gave the

barest facts of her life. She never married and Katharine Bush's admiring biographer, Jeanne E. Remington, adds that "a series of rented rooms was home to Katharine Bush;" then lists the various addresses and even supplies a photograph of the entrance to one of them (Remington, 1977: 4, 6).

In addition to Bush, Verrill was long associated with Sanderson Smith (1832-1915) during the investigations of the marine fauna made by the United States Fish Commission from 1875 to 1887. Working without compensation Smith was a careful and enthusiastic collector who rendered valuable services in connection with the dredging during those years. Verrill mentioned that, "although unfortunate circumstances prevented his participating largely in the final working up of the collections as planned, his name appears jointly with that of the writer, in connection with a large number of new species of deep sea shells discovered by us."

During the spring of 1898 Verrill visited the Bermuda Islands, accompanied by, among others, C. Montague Cooke, Jr. (1874-1948) who was one of his students both as an undergraduate and as a Ph.D. candidate. In 1901 Verrill again visited the Bermuda Islands, this time accompanied by his wife and one of his sons, Alpheus Hyatt Verrill (1871-1954) who helped collect and make colored drawings, as well as photographs, of many of the specimens. He invented the autochrome photographic process in 1902. Verrill senior wrote extensively on all aspects of Bermuda, his last related paper appearing in 1923. A. H. Verrill became a naturalist and explorer and spent much of his life in Central and South America. He wrote many popular books on archaeological subjects and two on shells (1936 and 1950). In his seventy-third year he established a shell business in Lake Worth, Florida and began describing shells from the Caribbean that he believed to be new species.

The elder Verrill wrote his last paper on mollusks in 1906 and though he retired in 1910, he remained active and continued to publish numerous works on invertebrates. He died in 1926 while visiting his son and biographer, George, in Santa Barbara, California.

RELEVANT LITERATURE

Agassiz, L. 1861. Report of the trustees of the Museum of Comparative Zoology, 1861. pp. 1-50.

_____ 1863. Annual report of the trustees of the Museum of Comparative Zoology together with the report of the director, 1862. pp. 1-41.

_____ 1864. Annual report of the trustees of the Museum of Comparative Zoology together with the report of the director, 1863. pp. 1-56.

_____ 1865. Annual report of the trustees of the Museum of Comparative Zoology at Harvard College in Cambridge, Massachusetts together with the report of the director, 1864. pp. 1-51.

Coe, W. R. 1929. Biographical Memoir of Addison Emery Verrill (1839-1926). National Academy of Sciences of the United States of America. Biographical Memoirs **14**: 19-66.

Dall, W. H. 1888. Some American Conchologists. Proceedings of the Biological Society of Washington **4**: 95-134.

Dexter, R. W. 1954. Three young naturalists afield: the first expedition of Hyatt, Shaler, and Verrill. The Scientific Monthly **79** (1): 45-51.

_____ 1965. The "Salem secession" of Agassiz zoologists. Essex Institute Historical Collections **101** (1): 1-13.

_____ 1979. The impact of evolutionary theories on the Salem group of Agassiz zoologists (Morse, Hyatt, Packard, Putnam). Essex Institute Historical Collections **115** (3): 144-171.

Galtsoff, P. S. 1962. The story of the Bureau of Commercial Fisheries biological laboratory, Woods Hole, Massachusetts. United States Department of the Interior, Fish and Wildlife Service, Bureau of Commercial Fisheries. Circular **145**: 1-121.

Hall, E. and M. 1985. About the exhibits. Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts. pp. 1-56.

Johnson, R. I. 1949. Jesse Wedgwood Mighels with a bibliography and a catalogue of his species. Occasional Papers on Mollusks, Harvard University, Cambridge, Massachusetts. **1** (14): 213-231, pl. 27.

Linton, E. 1915. Reminiscences of the Woods Hole Laboratory of the Bureau of Fisheries, 1882-89. Science, n.s. **41**: 737-753.

Remington, J. E. 1977. Katharine Jeannette Bush: Peabody's Mysterious Zoologist. Discovery **12** (3): 2-8.

_____ 1977. Curatorial staff of Yale's Museum of Natural History and its antecedent collections, 1802-1977. Discovery **12** (3): 32-42, fold out.

Verrill, A. E. 1883. Description of some of the apparatus used by the United States Commission of Fish and Fisheries. Annual report of the United States Commissioner of Fish and Fisheries for 1880, pp. 65-74, pls. 1-4.

_____ 1884. Physical characters of the portion of the Continental Border beneath the Gulf Stream, explored by the "Fish Hawk," 1880 to 1882. Annual Report of the United States Commissioner of Fish and Fisheries for 1882, pp. 1045-1057, pls. 1-5.

_____ 1910. Alexander Agassiz. American Journal of Science **39** (4): 685-686.

_____ 1926. Sidney Irving Smith. Science, n.s. **54**: 57-58.

Verrill, G. E. 1958. The ancestry, life and work of Addison E. Verrill of Yale University. Pacific Coast Publishing Company, Santa Barbara, California. pp. vii, 1-99.

Wayman, D. G. 1942. Edward Sylvester Morse. A biography. Harvard University Press. pp. ix, 1-457

MOLLUSCAN TAXA DESCRIBED BY A. E. VERRILL, K. J. BUSH, AND S. SMITH AND LATER BY A. H. VERRILL, WITH THEIR ORIGINAL REFERENCES, TYPE LOCALITIES AND THE LOCATION OF THE TYPE SPECIMENS.

REMARKS

For convenience of reference the following list of taxa introduced by the above authors is arranged alphabetically by species. In addition to the original reference, subsequent ones are also cited if they include the first figure of a type or other relevant information. References to later collections are usually not included. Since many of the dredging stations are mentioned many times over, their longitude and latitude are listed beginning on page 77. There were very few *Bache* stations so they are included in the original references. Complete lists of the dredging stations in North American waters between 1867 and 1887 which include other data such as water temperature and types of bottoms were compiled by Smith (1888).

Most of the available types which were previously not illustrated are figured here. The figures on the plates are arranged by genera insofar as possible, though the several species described from Lower California are arranged geographically. The actual measurements are given on the plate captions. All data in brackets have been found on original labels, are additions or corrections from recent maps, or are

comments by this author. No attempt has been made to discuss the present status of any of the taxa. This is a task for individual revisers.

As a partial compensation for his work, the Fish Commission allowed Verrill to keep the first set of duplicates as his personal property, after sending the types and unique specimens to the National Museum of Natural History. Other duplicates were to be sent to other institutions. However, he did not finish working on the material until 1908, and except for his own set of duplicates which he sold to Yale's Peabody Museum, all of the material was returned to Washington, save for six holotypes which appear to have been overlooked. The types in the Division of Mollusks are segregated, and there is a file of the types which made the task of locating and determining holotypes, either figured or unfigured, easier than originally expected. When this could not be done, and when the original description was not based on a single specimen, lectotypes have sometimes been selected from among the syntypes. In all such cases the specimens are figured. Lectotypes have been selected from specimens in the National Museum when possible, otherwise from those in the Peabody Museum, where the types are also separated from the main collection. With the exception of two cephalopods sent to Verrill by E. S. Morse, and one he deposited in Canada, all of his extant types in this class are in Washington and were studied by Roper and Sweeney (1978), and no attempt has been made to do more than include their findings.

The types of the species described by Bush for Alexander Agassiz are in the general collection of mollusks at the Museum of Comparative Zoology. The collections made in Bermuda should be in the Peabody Museum, but only one lot described in Verrill's 1900 paper on nudibranchia was located and none from the 1901 paper, nor could the several subspecies of *Poecilozonites*, a fossil land snail from Bermuda, be found.

Many of the species which bear Bush's name do so jointly with Verrill; they are included in papers authored by him and

those that were co-authored. In addition are those which were described solely by Bush. Almost all of the species which bear Smith's name do so jointly with Verrill, who with Smith, recognized them as new when they were first sorted, "for such species, 'Verrill and Smith' are usually given as authorities," but Verrill makes it clear that he, alone, is responsible for the descriptions of all the species (Verrill, 1884: 140).

Since J. H. Emerton, Verrill's artist, did not publish on mollusks himself, but was included as an authority with Verrill in a few instances, he is mentioned here in this connection for the first time. In addition to the species in which Verrill included Sanderson Smith as an authority are listed the few which Smith described by himself or with Temple Prime.

Verrill described some 402 species of mollusks among these are 97 with Bush as joint author, 39 with Smith, and 2 with Emerton. No type material was located for 75 of these. Bush described 73 species, and type material was found for all but 4 of them. Together or separately Verrill and Bush introduced over 60 genera or other higher categories.

As mentioned previously, the molluscan taxa introduced by Alpheus Hyatt Verrill are included here so as to avoid confusion with those of his father. Most of his taxa were published in mimeographed form, but their validity was confirmed by Coan (1976). Unfortunately, most of these types were in his private collection, the deposition of which is unknown.

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It gives me pleasure to thank those people whose willing cooperation eased the task of accumulating data. Dr. M. G. Harasewych gave me access to the types in the National Museum of Natural History, Smithsonian Institution and Mrs. Raye N. Germon prepared the loan of those which were previously unfigured. Dr. Willard D. Hartman allowed me to examine all of the types in the Peabody Museum of Natural History, Yale University, and to borrow those requested. Dr.

Arthur E. Bogan of the Academy of Natural Sciences of Philadelphia studied the *Turbonilla* in that institution described by K. J. Bush and made available the unfigured types.

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ABBREVIATIONS

AJS	American Journal of Science and Arts
ALYNH	Annals of the Lyceum of Natural History of New York
ANSP	Academy of Natural Sciences of Philadelphia, Pennsylvania
ARUSCFF	Annual report of the United States Commissioner of Fish and Fisheries
BMCZ	Bulletin of the Museum of Comparative Zoology
MCCSC	Minutes of the Conchological Club of Southern California
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts
PANSP	Proceedings of the Academy of Natural Sciences of Philadelphia
PUSNM	Proceedings of the United States National Museum
TCAAS	Transactions of the Connecticut Academy of Arts and Sciences
USNM	National Museum of Natural History, Smithsonian Institution, Washington, District of Columbia
YPM	Peabody Museum of Natural History, Yale University, New Haven, Connecticut

LIST OF TYPES

Aaronia A. H. Verrill, Subgenus
1950, MCCSC no. *103*: 4. Type species: *Murex* (*Aaronia*) *strausi* A. H. Verrill 1950, by monotypy.

abrupta Bush, **Turbonilla**
1899, PANSP *52*: 168, pl. 8, fig. 4 (St. Thomas, West Indies). Holotype ANSP 79012, only specimen.

abyssicola Verrill and Bush, **Cardiomya**
1898, PUSNM *20*: 806, pl. 73, fig. 4; pl. 74, fig. 1; pl. 77, fig. 9 (1885–86, *Albatross*, three stations between 40°29′N, 66°14′W and 36°47′N, 73°9′30″W, 1685–1813 fms.). Lectotype, here selected, USNM 78935 sta. 2723, fig. 1; paralectotypes USNM 78896 sta. 2723, fig. 4; and USNM 52396 sta. 2461, fig. 9; paralectotype YPM 8826 sta. 2723.

abyssicola Bush, **Lissospira (Ganesa)**
1897, TCAAS *10*: 134 [not figured] (1880, *Blake* 307, east of Georges Bank, 980 fms.). Holotype, only specimen [not located in USNM or YPM type collections].

abyssicola Bush, **Molleriopsis**
1897, TCAAS *10*: 138, figs. 6, 7 (1885, *Albatross* 2572, 1769 fms.). Holotype USNM 52496, only specimen.

abyssicola Verrill, **Puncuturella**
1885, TCAAS *6*: 425 [not figured] (1884, *Albatross* 2222 [south of Martha's Vineyard, Massachusetts], 1537 fms.). Holotype USNM 44837, figured by Farfante (1947: 142, pl. 62, figs. 1–5).

abyssicola Verrill and Bush, **Turbonilla bushiana**
1909, *in* Bush, AJS (4) *27*: 479 [not figured, no locality; not located in USNM or YPM type collections].

abyssorum Verrill and Bush, **Bathyarca**
1898, PUSNM *20*: 843, pl. 76, fig. 9 (1885, *Albatross* 2713, 2714, off Delaware Bay, 1825–1859 fms.). Figured holotype USNM 78793 sta. 2714; paratype YPM 6737 sta. 2713.

abyssorum Verrill and Smith, **Benthodolium**
1884, *in* Verrill, TCAAS *6*: 177, pl. 31, figs. 12, 12a, 12b, 12c (1883, *Albatross* 2098, 2221 fms., 2105, 1395 fms.). Figured holotype USNM 35273 sta. 2098; paratype USNM 35364 sta. 2105.

abyssorum Verrill and Smith, **Buccinum** Plate 14, fig. 2
1884, *in* Verrill, TCAAS *6*: 167, pl. 31, figs. 11, 11a, 11b (1883, *Albatross* 2051 [off North Carolina], 1106 fms., 2052, 1098 fms., 2074, 1309 fms., 2076, 906 fms., 2077, 1255 fms., 2094, 1022 fms., 2102, 1209 fms., 2103, 1091 fms., 2111, 938 fms.). Lectotype, here selected, USNM 35644 sta. 2111, paralectotypes USNM 38319 sta. 2074, USNM 35008 sta. 2077, and USNM 34691 sta. 2094 with the note "used for figures."

abyssorum Verrill and Bush, **Malletia**
1898, PUSNM *20*: 875, pl. 97, fig. 7 (1875, *Albatross* 2566, off Chesapeake Bay, 2620 fms.). Holotype USNM 52159, only specimen. Lateral internal view [sketch] of the left valve figured by Sanders and Allen (1985: 199, fig. 4).

abyssorum Verrill, **Periploma**
in Bush, 1893, BMCZ *23*: 227, pl. 2, figs. 12, 13 (1885, [*Albatross*] 2484, east of Banquereau [Bank, off Nova Scotia], 204 fms.]). Figured holotype USNM 52597.

abyssorum Verrill, **Trophon**
1885, TCAAS *6*: 421 [not figured] (1883, *Albatross* 2115, off Cape Hatteras [North Carolina], 843 fms., 2076, 906 fms.); 1893 *in* Bush, BMCZ *23*: 240, pl. 1, fig. 14. Figured holotype USNM 35583 sta. 2115; paratypes USNM 38041 and YPM 38041 *both* sta. 2076.

acuta Verrill, **Bela concinnula**
1882, TCAAS *5*: 470, pl. 57, fig. 10 (1873, Casco Bay, Maine; 1873–74, 1877 Gulf of Maine, 88–118 fms.; USFC, Massachusetts Bay and Cape Cod Bay, 16–20 fms.). Figured holotype USNM 77327 sta. 24B is 42°56′N, 70°09′W.

Adranella Verrill and Bush, Subgenus of **Yoldia**
1898, USNM *20*: 858. Type species: *Adranella casta* Verrill and Bush 1898, original designation.

aeglees Bush, **Niso**
1885, ARUSCFF for 1883, p. 585 [83] ([1883] *Albatross* [2112], off Cape Hatteras [North Carolina], 14–15 fms.); 1885, TCAAS *6*: 465, pl. 45, figs. 10, 10a. Figured holotype USNM 35862.

affine Verrill, **Cyclostrema**
1884, TCAAS *6*: 199, pl. 32, fig. 15 (1883, *Albatross* 2115 off Cape Hatteras [North Carolina], 843 fms.). Figured holotype USNM 38443; paratype YPM 15772.

affinis Verrill, **Limopsis**
1885, TCAAS *6*: 442 [not figured] (1883, *Albatross* 2092, 197 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 846, pl. 75, fig. 5. Holotype USNM 44829; paratype YPM 5774, only specimens.

affinis Verrill and Bush, **Periploma**
1898, PUSNM *20*: 822, pl. 87, fig. 4 (1880–81, *Fish Hawk*, three stations off Martha's Vineyard [Massachusetts], 100–115 fms.). Figured holotype, in USNM 159791, right valve, sta. 873; paratype YPM 8832 sta. 949.

agassizii Verrill, **Mastigoteuthis**
1881, BMCZ *8*: 100, pl. 1, fig. 1; pl. 2, figs. 2, 3a–3g (1880, *Blake* 325, 328, south of Cape Hatteras [North Carolina], 647, 1632 fms.). Figured holotype MCZ 3508, sta. 328 [lost]. Syntypes USNM 574642 sta. 325; USNM 729733 sta. 328, *teste* Roper and Sweeney (1978: 3).

agassizii Verrill, **Opisthoteuthis**
1883, BMCZ *11*: 113, pl. 1, fig. 1; pl. 2, fig. 2 (1879, *Blake* 260, off Grenada [Windward Islands], 291 fms.). Holotype, only specimen, presumed lost, not mentioned by Roper and Sweeney (1978).

agassizii Verrill and Smith, **Pleurotoma**
1880, *in* Verrill, AJS (3) *20*: 394 [not figured] (1880, *Fish Hawk* 856-888, off Newport, Rhode Island, 891, 892, 894, 895; 65-500 fms.); 1882, TCAAS *5*: 454, pl. 57, figs. 3, 3a, genus changed to: *Pleurotomella*. Holotype USNM 37828 sta. 880, *teste* Bouchet and Warén (1980: 50); paratype YPM 15712 sta. 877.

agilis Verrill, **Teleoteuthis (Oncychia)**
1885, TCAAS *6*: 400, pl. 42, figs. 2, 2a (1884, *Albatross* 2225, off Chesapeake Bay [Maryland], at surface). Holotype USNM 40129, only specimen, *teste* Roper and Sweeney (1978: 3).

alba A. H. Verrill, **Voluta musica**
1953, MCCSC no. *132*: 9 (Grenada [Island, Lesser Antilles]). Type [presumed to be] in author's collection.

alfordi A. H. Verrill, **Voluta musica**
1953, MCCSC no. *134*: 4, fig. (Tobago [Island]). Six types [presumed to be] in author's collection.

Alloposidae Verrill, Family
1881, TCAAS *5*: 365. Type genus mentioned: *Alloposus* Verrill 1880.

Alloposus Verrill, Genus
1880, AJS (3) *20*: 393. Type species: *Alloposus mollis* Verrill 1880, by monotypy.

altus Verrill and Bush, **Cryptodon croulinensis**
1898, PUSNM *20*: 787, pl. 88, figs. 1, 2 (1870, Eastport, Maine; 1870, *Speedwell* 292, mouth of Cape Cod Bay [Massachusetts], 29 fms.). Figured holotype YPM 8764, Eastport, Maine; paratypes YPM 8765 sta. 292.

amabilis Verrill, **Philine**
1880, AJS (3) *20*: 398 [not figured] (1880, *Fish Hawk* 876, about 100 miles south of Newport, Rhode Island, 120 fms.); 1882, TCAAS *5*: 444, pl. 58, figs. 23, 24. Figured holotype USNM 45645; paratype YPM 15711.

amblia Verrill and Bush, **Yoldiella lenticula**
1898, PUSNM *20*: 866, pl. 80, fig. 9; pl. 81, fig. 4 (1878-79, *Speedwell*, two stations, north of Cape Cod [Massachusetts], 110-122 fms.). Figured syntypes USNM 159726 st. 186, separate valves.

amblytera Verrill and Bush, **Eulima**
1900, TCAAS *10*: 526, pl. 64, fig. 8 (Bermuda). Figured holotype YPM 15685; paratypes YPM 15684 and YPM 15686.

amblytera Bush, **Pleurotoma (Drillia)**
1893, BMCZ *23*: 203, pl. 1, figs. 5, 5a (1880, *Blake* 313, off Charleston [South Carolina], 75 fms.; 1883, USFC, off Cape Hatteras, North Carolina, 142 fms.). Figured holotype MCZ 119070 sta. 313.

americana Verrill and Bush, **Abra longicallis**
1898, PUSNM *20*: 778, pl. 83, figs. 6, 7 (1883-86, *Albatross*, six stations between 39°49'N, 68°28'30W" and 36°16'30"N, 68° 21'W, 924-2620 fms.). Figured holotype USNM 52170 sta. 2566; paratypes YPM 8835 sta. 2566 and YPM 8834 sta. 2714.

americanus Verrill, **Pleurobranchus**
1885, TCAAS *6*: 429, pl. 44, fig. 13 (1884, *Albatross* 2262, off Martha's Vineyard [Massachusetts], 250 fms.). Holotype USNM 40503, only specimen.

ampla Verrill, **Marsenina**
1880, PUSNM *3*: 374 [not figured] (Eastport, Maine, 1868); 1882, TCAAS *5*: 518, pl. 42, figs. 3, 3a. Figured holotype YPM 15703, probably only specimen, label also bearing USNM number 12270 [not located in USNM type collection].

andrewsii Verrill, **Scalaria (Opalia)**
1882, TCAAS *5*: 526, pl. 57, fig. 35 (1880, *Fish Hawk* 873, off Newport, Rhode Island, 100 fms.). Holotype USNM 44807, only specimen, refigured by Clench and Turner (1952: 335, pl. 162, fig. 2).

anomala Verrill and Bush, **Bathyarca**
1898, PUSNM *20*: 844, pl. 77, fig. 8 (1874, *Bache* 52 is 42°51'N, 68°52.5'W, off Cashes Ledge [Maine], 27 fms.). Holotype USNM 74081, only specimen.

antiqua Verrill, **Venus mercenaria**
1875, AJS (3) *10*: 371 (Sankoty Head, Nantucket [Island, Massachusetts] post-Pliocene). Syntypes YPM [not located].

antiquus Verrill, **Poecilozonites reinianus**
1906, TCAAS *12*: 165 [121], pl. 26, fig. 3 (from a quarry near Castle Harbor [Bermuda]). Holotype YPM [not located; this taxon not mentioned by Gould (1969)], only specimen.

apicina Verrill, **Cingula**
1884, TCAAS *6*: 183, pl. 32, fig. 8 (1883, *Albatross* 2041, 1608 fms.). Holotype USNM 38070, only specimen.

arata Verrill, **Neptunea (Sipho)** Plate 12, fig. 1
1880, PUSNM *3*: 370 [not figured] (1880, *Fish Hawk* 869-880, 893-895, off Martha's Vineyard [Massachusetts], 85-372 fms.); 1882, TCAAS *5*: 499, 500, changed to: *Sipho stimpsonii liratulus*, non *Neptunea arata* Gould 1860. Lectotype, here selected, USNM 158833, marked "type", off Newport, Rhode Island; paralectotypes YPM 15548 sta. 871, YPM 15537 sta. 872 and YPM 15541 sta. 878.

arata Verrill and Smith, **Pholadomya**
1881, AJS (3) *22*: 301 [not figured] (1881, *Fish Hawk* 940, 949, 950, off Martha's Vineyard [Massachusetts], 69–130 fms.); 1882, TCAAS *5*: 567, pl. 58, fig. 37. Figured holotype USNM 46140 stas. 949–950.

areolata Verrill, **Turbonilla** Plate 17, fig. 3
1873, ARUSCFF, p. 658 [364, not figured] (Long Island Sound, near New Haven [Connecticut]); 1884, TCAAS *6*, pl. 32, fig. 13. Figured holotype YPM 12848.

asperula Bush, **Turbonilla** Plate 17, fig. 1
1899, PANSP *52*: 151 [not figured] (Bermuda); 1900 *in* Verrill and Bush, TCAAS *10*: 530, pl. 65, fig. 23 as *Pyrgostelis* (*Mumiola*) *asperula* (Bush). Figured holotype and three paratypes [not located in YPM]; lectotype, here selected, ANSP 78253.

atlantica Verrill and Smith, **Placophora** (**Euplacophora**)
1882, *in* Verrill, AJS (3) *24*: 365 [footnote, not figured, no locality]; 1884, TCAAS *6*: 206, pl. 30, figs. 1, 1a, 1b (1882, *Fish Hawk* 1124, off Nantucket Island [Massachusetts], 640 fms.). Figured holotype USNM 106921.

atypha Verrill and Bush, **Cetoconcha** Plate 8, fig. 2
1898, PUSNM *20*: 814 [not figured] (1884, *Albatross* 2229, 1423 fms.). Lectotype, here selected, USNM 48703; paralectotype YPM 8762 [each a single broken valve].

atypha Verrill and Bush, **Eulima** Plate 16, fig. 3
1900, TCAAS *10*: 528, pl. 64, fig. 10 (Bermuda). Figured holotype YPM [lost, *teste* original label], the remaining paratype YPM 15886 labeled as lectotype by Warén, 1977. This selection has not yet been published (Warén pers. comm.) It is, here selected, lectotype.

atypha Bush, **Pleurotomella**
1883, BMCZ *23*: 205, pl. 2, fig. 3 (1880, *Blake* 325, 326, *both* off Cape Fear [North Carolina], 647, 464 fms.). Figured holotype MCZ 187276 sta. 326.

atypha Bush, **Turbonilla** Plate 16, fig. 10
1899, PANSP *52*: 170 [not figured] (Maldonado Bay, Uruguay). Lectotype, here selected, ANSP 70537, only the smaller of the two mentioned specimens remains.

aurantiaca Verrill, **Pleurobranchopsis**
1900, TCAAS *10*: 547, pl. 66, fig. 5 (Coney Island [Bermuda], at low tide, among algae). Holotype YPM [not located], only specimen.

aureopuncta Verrill, **Lamellidoris**
1901, TCAAS *11*: 31, pl. 4, fig. 9 (Harrington Sound [Bermuda], in shallow water, under corals). Holotype YPM [not located].

Axinodon Verrill and Bush, Genus
1898, PUSNM *20*: 795. Type species: *Axinodon ellipticus* Verrill and Bush 1898, original designation.

Axinulus Verrill and Bush, Genus or Subgenus [*sic*]
1898, PUSNM *20*: 790. Type species: *Axinulus brevis* Verrill and Bush 1898, original designation.

bairdii Verrill and Smith, **Calliostoma**
1880, *in* Verrill, AJS (3) *20*: 396 [not figured] (1880, *Fish Hawk* 865–880, off southern New England, 65–252 fms.); 1882, TCAAS *5*: 530, pl. 57, fig. 26. Lectotype USNM 44722 sta. 874, selected by Clench and Turner (1960: 38, pl. 24, fig. 1); paralectotype MCZ 224685 sta. 874.

bairdii Verrill and Smith, **Dolium**
1881, *in* Verrill, AJS (3) *22*: 299 [not figured] (1881, *Fish Hawk* 945, 1036, off Martha's Vineyard [Massachusetts], 202, 94 fms.); 1884, TCAAS *6*: 253, pl. 29, figs. 2, 2a, 2b. Holotype USNM 51385 sta. 945.

bairdii Verrill, **Octopus**
1872 [1873], AJS (3) *5*: 5 [footnote] (off Head Harbor, Campobello Island, 78 and 80 fms.; off Herring Cove, 60 fms.; off Grand Manan Island, 106 fms.; [*all* Charlotte Co., New Brunswick]). Six syntypes USNM 575315; syntype USNM 574638, collected at four *Mosswood* stations, *teste* Roper and Sweeney (1978: 5). Subsequently discovered specimen MCZ 3488, 1880, *Blake* 303, 306 fms., figured by Verrill, 1881, BMCZ *8*: 107, pl. 2, figs. 4, 4a; pl. 4, figs. 1, 1a.

bairdii Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 147, pl. 31, fig. 1 (1883, *Albatross* 2037, 1721 fms.; 2038, 2033 fms.; 2041, 1608 fms.; 2097, 1917 fms.; 2098, 2221 fms.). [None of the five type lots with the published catalogue numbers mentioned as being in the USNM were located]. Figured holotype YPM 15716 [label also bearing USNM number 37824] sta. 2037, female; allotype in the same lot; paratypes YPM 15717 sta. 2038 and YPM 15718 sta. 2097.

barbadensis A. H. Verrill, **Cypraea carneola**
1948, Mollusca *2* (3): 70 (Barbardos, [West Indies]). Syntypes [presumed to be] in author's collection.

beanii Verrill, **Brachioteuthis**
1881, TCAAS *5*: 406, pl. 55, figs. 3–3b, pl. 56, figs. 2–2a (1881, *Fish Hawk* 1031, 1033, off Martha's Vineyard [Massachusetts], 255, 183 fms., from fish stomachs). Syntypes USNM 574640 sta. 1031 and USNM 729736 sta. 1033, *teste* Roper and Sweeney (1978: 4).

benedicti Verrill and Bush, **Chlamys** Plate 8, fig. 4
1897, *in* Verrill, TCAAS *10*: 74 (off Martha's Vineyard [Massachusetts], 1356 fms., dead; West Indies, 25 to 72 fms., living); 1898, *in* Verrill and Bush, PUSNM *20*: 834, pl. 84, figs. 1–2 (1885, *Albatross* 2369–2374, 25–27 fms.; 2571, 1356 fms.). Figured holotype USNM [not located]; lectotype, here selected, YPM 8833, single valve, stations not separated; also paralectotype YPM 8865 [in alcohol].

benedicti Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 148, pl. 31, figs. 2, 2a (1883, *Albatross* 2084, 1290 fms.). Figured holotype USNM 38087.

Benthodolium Verrill, Genus
1884, TCAAS *6*: 177. Type species: *Benthodolium abyssorum* Verrill and Smith 1884, by monotypy.

Benthoteuthis Verrill, Genus
1885, TCAAS *6*: 401. Type species: *Benthoteuthis megalopsis* Verrill 1885, by monotypy.

bermudae Verrill and Bush, **Bulla**
1900, TCAAS *10*: 523, pl. 64, fig. 4 (Bermuda). Syntypes YPM [not located].

bermudensis Verrill and Bush, **Cerithiopsis**
1900, TCAAS *10*: 536, pl. 65, fig. 20 ([Ship Channel] Bermuda, 10–12 ft.). Figured holotype YPM 15676 [paratypes separated].

bermudensis Bush, **Lasaea** Plate 5, fig. 2
1899, Science *10*: 251 [not figured] (Bermuda); 1900, *in* Verrill and Bush, TCAAS *10*: 518, pl. 63, figs. 4, 5. Lectotype, here selected, YPM 8885.

biamaculatus Verrill, **Octopus**
1883, BMCZ *11*: 121, pl. 5, figs. 1, 1a; pl. 6 (San Diego [San Diego Co.], California, D. S. Jordan, USNM; Panama and San Salvador, F. H. Bradley, YPM). Syntype USNM 575560, Jordan's handwritten label reads, "Santa Barbara, Santa Barbara Co., California"; syntype YPM 17712 from the same locality; *both teste* Roper and Sweeney (1978: 5).

bifida Verrill, **Doris**
1870, AJS (2) *50*: 406 [not figured] (Eastport, Maine, at low-water mark, under stones); 1873, ARUSCFF, p. 664 [370], pl. 25, fig. 176. Syntype YPM [lost].

bistellata Verrill, **Doris** "?"
1900, TCAAS *10*: 548, pl. 66, fig. 2 (Castle Harbor [Bermuda], 2–4 feet, on reefs or dead corals). Figured holotype YPM [lost].

blakeana Bush, **Lucina**
1893, BMCZ *23*: 231, pl. 2, figs. 16, 17 (1880, *Blake* 326, off Cape Fear [North Carolina], 464 fms.). Holotype MCZ 119129, single valve.

blakei Verrill, **Bela** Plate 11, fig. 5
1885, TCAAS *6*: 417 [not figured, additions and corrections p. 452] (1884, *Albatross* 2226, 2021 fms.). Holotype USNM 44655, only specimen.

blaneyi Bush, **Bela**
1909, Nautilus *23*: 61, fig. 1 (south of Egg Rock buoy, in about 30 fms., mud and gravel, Frenchman's Bay, Maine). Figured holotype and paratype *both* YPM 15808, only specimens.

boreale Verrill and Smith, **Solarium**
1880, *in* Verrill, PUSNM *3*: 376 [not figured] (1880, *Fish Hawk* 871, off Martha's Vineyard [Massachusetts], 115 fms.); 1882, TCAAS *5*: 529, pl. 57, figs. 29, 30. Two figured syntypes, only specimens, lectotype, here selected, USNM 45298, fig. 30.

borealis Verrill, **Loligo pealei**
1880, AJS (3) *19*: 292 [not figured] (Annisquam [Essex Co.] Massachusetts); 1881, TCAAS *5*: 316, pl. 37, fig. 2; pl. 41, fig. 1. Four syntypes YPM [presumed lost].

borealis Verrill, **Marginella** Plate 13, fig. 5
1882, TCAAS *5*: 489 as *Marginella carnea* (Verrill), non Storer 1837; 1884, *Ibid. 6*: 165, pl. 29, fig. 4 (1883, *Albatross* 2011, 2012, off Norfolk, Virginia, 81, 66.5 fms.; 1880-81, *Fish Hawk*, off Martha's Vineyard [Massachusetts], 64.5, 100 fms.). Probable measured syntype, here selected lectotype USNM 35375 sta. 2011; paralectotypes YPM 15701 sta. 2011 and YPM 15702 sta. 2012.

Brachioteuthis Verrill, Genus
1881, TCAAS *5*: 405. Type species: *Brachioteuthis beanii* Verrill 1881, original designation.

brachyura Verrill, **Rossia**
1883, BMCZ *11*: 110, pl. 3, fig. 2 (1879, *Blake* 148, off St. Kitts Island [Leeward Islands], 208 fms.). Holotype, only specimen, presumed lost, not mentioned by Roper and Sweeney (1978).

brandii A. H. Verrill, **Mitra**
1950, MCCSC no. *104*: 4, fig. (off Dominica [Lesser Antilles], 75-100 fms.). Type in author's collection.

brevis Verrill and Bush, **Cryptodon (Axinulus)**
1898, PUSNM *20*: 790, pl. 89, figs. 7, 8 (1883, *Albatross* 2208, 92 fms.). Figured holotype USNM 159873, single valve, refigured by Scott (1986: 150, fig. 1b).

brevis Verrill, **Gymnobella**
1885, TCAAS *6*: 417, pl. 44, fig. 8 (1884, *Albatross* 2041, 1608 fms., 2084, 1290 fms., 2229, 1423 fms.). Holotype USNM 34838 sta. 2041.

brevis Verrill and Bush, **Kennerlia**
1898, PUSNM *20*: 821, pl. 88, figs. 7, a, b (1880-86, *Fish Hawk*, *Albatross*, ten stations between 40°15′30″N, 70°27′W and 35°10′40″N, 75°6′10″W, 58-100 fms.). Holotype USNM 40232, fig. 7a, refigured by Boss (1965: 205, pl. 124, fig. 3) sta. 2248, south of Nantucket Island [Massachusetts], 67 fms., non Sowerby 1829, changed to: *Pandora* (*Pandorella*) *inflata*; paratype USNM 45884, fig. 7b.

brevis Verrill, **Sipho stimpsonii**
1882, TCAAS *5*: 500 [footnote, not figured] (1881, *Speedwell* 978, off Chatham, Cape Cod [Massachusetts], 17 fms.). "If it is thought desirable to

designate this species [*Sipho stimpsonii* Verrill 1882] by a special varietal name it may be called *S. stimpsonii brevis*. All of the intermediate forms occur, however." [not located in USNM or YPM type collections].

briskasi A. H. Verrill, **Murex**
1953, MCCSC no. *128*: 2, fig. (Dominica [Lesser Antilles], 75–100 fms.). Type [presumed to be] in author's collection.

bruneri Verrill, **Menestho**
1882, TCAAS *5*: 539 [not figured] (1880, *Fish Hawk* 892, off Newport, Rhode Island, 487 fms.). Holotype [lost], only specimen, *teste* Bush, 1909, AJS (4) *27*: 482.

bruneri Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 155, pl. 31, fig. 7, 7a (1883, *Albatross* 2038, 2041, 2033, 1608 fms.). Figured holotype USNM 34846 sta. 2038; paratype USNM 34834 sta. 2041.

brychia Bush, **Choristella**
1897, TCAAS *10*: 140, fig. 10 (1884, *Albatross* 2234, off Martha's Vineyard [Massachusetts], 810 fms.). Holotype USNM 77622, only specimen.

brychia Verrill, **Cingula**
1884, TCAAS *6*: 179, pl. 32, fig. 9 (1880–82 *Fish Hawk* 892, 487 fms., 1093, 349 fms.; 1883, *Albatross* 2072, 2076, 2078, 2084, 499–1290 fms.). Figured holotype USNM 38086 sta. 1093; paratypes USNM 38021 sta. 892; USNM 38089; YPM 16596 sta. 2072; USNM 38073; YPM 16600 sta. 2076; USNM 38074; YPM 16599 sta. 2078 and YPM 38099 sta. 2084.

brychia Verrill and Smith, **Jumala**
1885, *in* Verrill, 1885, TCAAS *6*: 422, pl. 44, figs. 10, 10a (1884, *Albatross* 2224, 2574 fms.). Holotype USNM 44647, only specimen.

bushae Warén, **Ledella**
See under: **messanensis** Verrill and Bush, **Ledella**.

bushae E. H. Vokes, **Pterynotus** (*Pterynotus*)
See under: **pygmaeus** Bush, **Murex** (**Pteronotus**) [*sic*].

bushiana Verrill, **Leda**
1884, TCAAS *6*: 229 [not figured] (1883, *Albatross* 2110, off Cape Hatteras [North Carolina], 516 fms.); 1898 *in* Verrill and Bush, PUSNM *20*: 854, pl. 79, fig. 8; pl. 92, fig. 9. Holotype USNM 35729.

bushiana Verrill, **Turbonilla**
1882, TCAAS *5*: 537. New name for *Turbonilla formosa* Verrill and Smith 1880, non [*Odostomia formosa*] Jeffreys [1848]. See under: **formosa** Verrill and Smith, **Turbonilla**.

caelata Bush, **Cylichna**
1885, TCAAS *6*: 468, pl. 45, fig. 15 (*1884 Albatross* [2292], off Cape Hatteras [North Carolina], 15–43 fms.). Holotype USNM 44668.

caelata Verrill and Smith, **Neptunea (Sipho)**
1880, *in* Verrill, PUSNM *3*: 369 [not figured] (1880, *Fish Hawk* 891–895, off Martha's Vineyard [Massachusetts], 238 to 500 fms.); 1882, TCAAS *5*: 506, pl. 57, figs. 19, 19a, changed to: *Sipho caelatus* Verrill and Smith. Measured and figured holotype USNM 38026 sta. 894 [includes four smaller paratypes]; paratypes YPM 15269 sta. 891; YPM 15266 sta. 892 and YPM 15259 sta. 894.

caelata Verrill, **Verticordia**
1882, TCAAS *5*: 566 [not figured] (1881, *Fish Hawk* 949, off Martha's Vineyard [Massachusetts], 100 fms.); 1884, *Ibid. 6*: pl. 30, figs. 9, 9a. Figured holotype USNM 159807, only specimen.

caelatulus Verrill, **Sipho (Mohnia)**
1884, TCAAS *6*: 172 [not figured] (1883, *Albatross* 2048, 2051, 2052, 2072, 2076, 2077, 2084, 547–1290 fms.). Lectotype USNM 35226 sta. 2076 selected by Bouchet and Warén (1985: 212) [not figured, not located]; paralectotypes YPM 15278 sta. 2052.

calceola Verrill, **Cymbulia**
1880, AJS (3) *20*: 392, 394 (1880, *Fish Hawk* 865–872, about 30 miles south of Block Island, Rhode Island, near surface); 1882, TCAAS *5*: 553, pl. 58, fig. 33 [not in USNM type collection]. Syntype YPM 15681 sta. 872 [dried up].

californica Verrill, **Papyridea bullata** Plate 3, fig. 1
1870, AJS (2) *49*: 225 [not figured] (La Paz [Baja California]). Lectotype, here selected, YPM 4072; paralectotypes YPM 2807 and YPM 4071.

callista Bush, **Yoldia**
1893, BMCZ *23*: 233, pl. 1, figs. 9, 10 (1880, *Blake* 321, off Charleston [South Carolina], 233 fms.). Holotype MCZ 6866, only specimen.

callistiformis Verrill and Bush, **Tindaria**
1897, AJS (4) *3*: 59 [footnote], figs. 10, 20, 21 (1885, *Albatross* 2566, off Chesapeake Bay, 2566 fms.); 1898, PUSNM *20*: 881, pl. 78, fig. 1; pl. 80, figs. 6, 7. Figured holotype USNM 52536.

Calliteuthis Verrill, Genus
1880, AJS (3) *20*: 393. Type species: *Calliteuthis reversa* Verrill 1880, by monotypy.

canadensis 'Verrill and Bush' Whiteaves, **Bela cancellata** Plate 11, fig. 6
1901, Catalogue of the Marine Invertebrata of Eastern Canada, p. 197 (between Pictou Island and Cape Bear [Nova Scotia], Whiteaves; Little Metis and Murray Bay [Quebec], J. W. Dawson). Lectotype, here selected, YPM 16623, Murray Bay; paralectotype National Museum of Natural History, Ottawa, Canada 90, Murray Bay.

cancellatus Verrill, **Choristodon** "?"
1885, TCAAS *6*: 435 [not figured] (1884, *Albatross* 2265, off Chesapeake Bay [Maryland], 70 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 788, pl. 96, figs. 2, 3. Holotype USNM 44839, single valve [poor condition].

carinata Verrill, **Machaeroplax obscura** Plate 15, fig. 2
1882, TCAAS *5*: 532 [not figured] (1881, *Fish Hawk* 997, 1032, 1038, off Martha's Vineyard [Massachusetts], 146–335 fms.). Lectotype, here selected, USNM 44748 sta. 997; paralectotype YPM 15700 [from USNM 44749] sta. 1032.

carnea Verrill, **Marginella**
1882, TCAAS *5*: 489, non Storer 1837. See under: **borealis** Verrill, **Marginella**.

carolinensis Bush, **Cadulus**
1885, ARUSCFF for 1883, p. 587 *85* ([1883] *Albatross* [2214], off Cape Hatteras [North Carolina], 14 fms., 15–48 fms.); 1885, TCAAS *6*: 471, pl. 45, fig. 19. Figured holotype USNM 35811; paratypes YPM 15864 and MCZ 186818.

carolinensis Verrill, **Octopus**
1884, TCAAS *6*: 235 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Holotype USNM 35673, only specimen, *teste* Roper and Sweeney (1978: 5).

carolinensis Bush, **Pandora**
1885, TCAAS *6*: 475 ([1883] *Albatross* [2112], off Cape Hatteras [North Carolina], 15 fms.). Holotype USNM 35701, figured by Boss and Merrill (1965: 200, pl. 122, figs. 1, 2).

carolinensis Verrill, **Urosalpinx**
1884, TCAAS *6*: 237 [not figured] (1883, *Albatross* 2109, 2110, 2111, off Cape Hatteras [North Carolina], 142–938 fms.). Syntypes USNM 35735 sta. 2109. One separated out and figured as the "holotype" by Radwin (1972, fig. 1e). The catalogue number of the syntypes is given by Bouchet and Warén (1985: 213) and the "holotype" is refigured (figs. 555, 556). The figured specimen USNM 35735 is, here selected, lectotype. The paralectotypes have been recatalogued.

carpenteri Verrill and Smith, **Pleurotoma**
1880, *in* Verrill, AJS (3) *20*: 395 [not figured] (1880, *Fish Hawk* 870–873, off southern New England, 86–155 fms.); 1882, TCAAS *5*: 452, pl. 57, fig. 2, genus changed to: *Pleurotomella*. Figured holotype USNM 38421; paratype YPM 15715; [*both*] sta. 871.

casta Verrill and Bush, **Montacuta**
1898, PUSNM *20*: 781, pl. 94, fig. 5 (1884, *Albatross* 2283, off Cape Hatteras, North Carolina, 14–17 fms.). Figured holotype USNM 77632.

casta Verrill and Bush, **Yoldia (Adranella)**
1898, PUSNM *20*: 858, pl. 20, fig. 4 (1884, *Albatross* 2150, 382 fms.). Holotype USNM 202933, single valve.

catharinae Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 155, pl. 31, figs. 9, 9a (1885, *Albatross* 2038, 2033 fms., 2041, 1608 fms., 2084, 1290 fms., 2115, 843 fms.). Figured holotype USNM 37871 sta. 2041; paratypes YPM 15719 sta. 2038; USNM 34845 sta. 2038; USNM 37846 sta. 2084; USNM 35597 and YPM 15720 both sta. 2215.

Cerithiella Verrill, Genus
1882, TCAAS *5*: 522. New name for *Lovenella* Sars 1878, non Hincks 1869.

ceroplasta Bush, **Mangilia** Plate 13, fig. 3
1885, TCAAS *6*: 458 [not figured] ([1884] *Albatross* [2290], off Cape Hatteras [North Carolina], 9.75 fms.). Measured holotype USNM 44757.

chariessa Verrill, **Eulimella**
1884, TCAAS *6*: 193, pl. 32, figs. 4, 4a, 4, *Ibid.* p. 290 errata, "for *charissa* read *chariessa*." (1883, *Albatross* 2038, 2033 fms.). Figured holotype USNM 35164; paratype YPM 15691, four specimens only.

Cheloteuthis Verrill, Genus
See under: **Chiloteuthis**.

Chiloteuthis [sic] Verrill, Genus
1881, TCAAS *5*: 293. Type species: *Chiloteuthis rapax* Verrill 1881, by monotypy, *Ibid.* p. 446 errata, "read *Cheloteuthis=(Lestoteuthis)*."

Choristella Bush, Genus
1897, TCAAS *10*: 138, fig. 8. Type species: *Choristella leptalea* Bush 1897, original designation. Bouchet and Warén (1979: 225) say, "An examination of the types of *Choristella leptalea* Bush, 1897 (type species of *Choristella*) and *C. tenera* Bush, 1897 [nude name of Bouchet and Warén] has proved that they are synonyms of *Choristes elegans* var. *tenera* Verrill 1882. Verrill's name has to be used for the type species." Type species of genera are not subject to arbitrary change.

Choristidae Verrill, Family
1882, TCAAS, *5*: 540. Type genus: *Choristes* Carpenter 1872. "Choristidae has to be changed to Choristellidae" (Bouchet and Warén (1979: 225). See under: **Choristella** Bush, Genus.

cingulata Verrill, **Cithna**
1884, TCAAS *6*: 184, pl. 32, fig. 7 (1883, *Albatross* 2076, 906 fms., 2084, 1290 fms., 2043, 1467 fms.). Figured holotype USNM 38101 sta. 2076; paratypes USNM 38105 sta. 2084 and USNM 38104 sta. 2043 (one at each station).

cingulatum Verrill, **Cyclostrema**
1884, TCAAS *6*: 198, pl. 32, fig. 14 (1883, *Albatross* 2048, 547 fms.); non Philippi 1853, changed to: *Cyclostrema verrilli* Tryon 1888, Manual of Conchology *10*: 90. Holotype USNM 38100, only specimen.

citrina Verrill, **Acanthodoris**
1879, AJS (3) *17*: 313 [not figured] (Eastport, Maine); 1882, TCAAS *5*: 549 [not figured]. Syntypes [not located in USNM or YPM].

collinsii Verrill, **Histioteuthis**
1879, AJS (3) *17*: 241 (from the stomach of *Alepidosaurus*, 42°49'N, 62°57'W, off Nova Scotia); 1879, TCAAS *5*: 234, pl. 22. Holotype USNM 730893 only specimen, *teste* Roper pers. comm.

complanata Verrill, **Doris**
1880, AJS (3) *20*: 399 [not figured] (1880, *Fish Hawk* 872, about 70 miles south of Martha's Vineyard [Massachusetts], 85 fms.); 1882, TCAAS *5*: 549, pl. 58, figs. 34, 34a, 34b. Syntypes USNM [presumed lost].

composa Verrill and Bush, **Eulima**
1900, TCAAS *10*: 527, pl. 64, fig. 16 (Bermuda). Holotype YPM 15687, only specimen.

composa Bush, **Turbonilla** Plate 17, fig. 2
1899, PANSP *52*: 168 [not figured; no locality given]. Holotype ANSP 79015, only specimen.

concinnula Verrill, **Bela**
1882, TCAAS *5*: 468, pl. 48, fig. 15; pl. 57, fig. 11 (from the region south of Martha's Vineyard [Massachusetts], in deep water, to Labrador, 1877-81, USFC [many stations]). Described holotype USNM 77344 sta. 245; paratype YPM 15640, Labrador.

conica Verrill, **Cocculina**
1884, TCAAS *6*: 204 [not figured] (1883, *Albatross* 2078, 499 fms.). Holotype USNM 38441 [not located in 1972, *teste* F. Ruhoff].

conoides Verrill, **Poecilozonites nelsoni**
1906, TCAAS *12*: 163 [119], fig. 45; pl. 25, pl. 26, fig. 4 (western shore of Castle Harbor [Bermuda], in a mass of red-clay and stalagmite; near Paynter's Vale; shore opposite Coney Island). Holotype YPM [not located; type not mentioned by Gould (1969: 508)], pl. 26, fig. 4, first locality.

conradi Bush, **Turbonilla**
1899, PANSP *52*: 159, pl. 8, fig. 10 (Tampa Bay, Florida). Holotype ANSP 72052, only specimen.

constricta Bush, **Turbonilla incisa** Plate 16, fig. 9
1899, PANSP *52*: 157 [not figured] (West Florida). Lectotype, here selected, ANSP 79023; paralectotype ANSP 372504.

consuela A. H. Verrill, **Murex pulcher**
1950, MCCSC no. *101*: 7, fig. (off Soufriere, Dominica [Lesser Antilles], 40-50 fms.). Type in author's collection.

convexa Bush, **Lissospira** "?"
1897, TCAAS *10*: 132 [not figured] (1884, *Albatross* 2233, off Delaware Bay, 630 fms.). Holotype, only specimen [not located in USNM or YPM type collections].

cooperi S. I. Smith, **Caecum**
1860, ALNHNY *7*: 154 [not figured] (northern part of Gardiner's Bay [Long Island, Suffolk Co., New York]); 1870, *in* Smith and Prime, ALNHNY *9*: 393, fig. 3. Changed to: *Caecum costatum* Verrill, 1872, AJS (3): 283, pl. 6, fig. 6, non Carpenter 1864. Two syntypes [not located].

cordata Verrill and Bush, **Axinopsis**
1898, PUSNM *20*: 795, pl. 97, figs. 5, 6 (1880–84, *Fish Hawk*, *Albatross*, six stations between 40°N,14'30W" and 35°42'N, 74°54'30"W, 43–202 fms.). Figured syntypes USNM 159837, fig. 5, left valve, sta. 2307; fig. 6, right valve, sta. 1092; syntypes YPM 8793 sta. 2307.

cordata Verrill and Bush, **Lyonsiella**
1898, PUSNM *20*: 818, pl. 95, figs. 7, 8 (1884–86, *Albatross*, three stations between 39°15'N, 68°8'W and 37°38'40"N, 73° 16'30"W, 1423–1825 fms.). Figured holotype USNM 52540 sta. 2568.

costata Bush, **Neaera**
1885, ARUSCFF for 1883, p. 587 [85] (1883, *Albatross* 2108, off Hatteras [North Carolina], 48 fms.); 1885, TCAAS *6*: 472, pl. 45, fig. 21. Figured holotype USNM 35362.

costatum Verrill, **Caecum**
1872, AJS (3) *3*: 210, 283. New name for *Caecum cooperi* Smith 1860, non Carpenter 1864. See under: **cooperi** Smith, **Caecum**.

costellata Verrill and Bush, **Chlamys**
1897, *in* Verrill, TCAAS *10*: 75 (off the coast of Newfoundland, 67 to 72 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 835, pl. 86, fig. 6. Figured holotype USNM 52471 sta. 2465.

costulata Verrill, **Turbonilla**
1873, ARUSCFF, p. 658 [364, not figured] (Long Island Sound, near New Haven [Connecticut]); 1884, TCAAS *6*, pl. 32, fig. 2. Figured holotype YPM 15886. Non Risso 1826, changed to: *Turbonilla* (*Pyrgiscus*) *mighelsi* Bartsch (1909: 88, pl. 14, figs. 52, 54, Woods Hole [Barnstable Co., Massachusetts]), non *T.* (*P.*) *mighelsi*, changed to: *T. interrupta obesa* Bush (1909: 483, 484, fig. 3 [after Verrill]), with the note, "It [*mighelsi*] is a very stout form of *Turbonilla interrupta* and may be designated as variety *obesa*." Figured holotype USNM 203770.

crenulata Verrill, **Arca pectunculoides** Plate 6, fig. 2
1882, TCAAS *5*: 575 [not figured] (1880–81, *Fish Hawk* 871, 873, 874, 876, 949, off Martha's Vineyard [Massachusetts], 85–120 fms.). Lectotype, here

selected, USNM 74134 sta. 874; paralectotypes YPM 6687 sta. 871; YPM 6729 sta. 873; YPM 6731 sta. 874; YPM 6688 sta. 876 and YPM 6668 sta. 949.

crispum Verrill and Bush, **Caecum**
1900, TCAAS *10*: 539, pl. 65, fig. 3 (Bermuda). Figured holotype YPM 15666.

cryptospira Verrill, **Rotella** Plate 10, fig. 8
1884, TCAAS *6*: 241 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Lectotype, here selected, USNM 35731.

cuneata Verrill and Bush, **Montacuta**
1898, PUSNM *20*: 782, pl. 91, fig. 4; pl. 93, fig. 5 (1883–84, *Albatross* 2278, off Cape Hatteras, North Carolina, 15–16 fms.). Figured holotype USNM 77630; paratype YPM 8849.

curta Verrill, **Gymnobela**
1884, TCAAS *6*: 158, pl. 31, fig. 10 (1883, *Albatross* 2043, 1467 fms., 2076, 906 fms., 2077, 1255 fms., 2084, 1290 fms. largest number at this station, 2097, 1917 fms., 2115, 843 fms.). Figured holotype USNM 37795 sta. 2084; paratypes USNM 34854 sta. 2043; YPM 15694 sta. 2043; USNM 37812 sta. 2076; YPM 15692 sta. 2076; USNM 37798 sta. 2077; YPM 15693 sta. 2077; USNM 37795 sta. 2084; YPM 15696 sta. 2084; USNM 35227 sta. 2097 and USNM 37794 sta. 2115.

curta Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 868, pl. 97, fig. 8 (1883–86, *Albatross*, three stations between 41°11′30″N, 66°12′20″W and 39°38″N, 70°22′W, 499–1290 fms.). Figured holotype USNM 38457 sta. 2084.

curtus Verrill, **Stilifer**
1882, TCAAS *5*: 535 [not figured] (1881, *Fish Hawk* 1028, off Martha's Vineyard [Massachusetts], 410 fms.) [not in USNM or YPM type collections].

Cyclopecten Verrill, Genus
1897, TCAAS *10*: 70. Type species listed: *Pecten pustulosus* Verrill 1873, *Pecten imbrifer* Loven 1846.

Cyclostremella Bush, Genus
1897, TCAAS *10*: 140. Type species: *Cyclostremella humilis* Bush 1897, original designation.

dalli Bush, **Circulus**
1897, TCAAS *10*: 126, pl. 23, figs. 3, 3a, 6 (1886, *Albatross* 2655, 338 fms., YPM; 1884, *Albatross* 2307, off Cape Hatteras [North Carolina], 43 fms., USNM). Figured holotype YPM 15802; paratype USNM 44983.

dalli Verrill, **Cocculina** Plate 10, fig. 10
1884, TCAAS *6*: 203 [not figured] (1883, *Fish Hawk* 1096, 317 fms.). Holotype USNM 38081, only specimen.

dalli Verrill, **Cyclostrema**
1882, TCAAS *5*: 532, pl. 57, fig. 39 (1880, *Fish Hawk* 892, 894, off Martha's Vineyard [Massachusetts], 487, 365 fms.). New name for *Cyclostrema trochoides* Verrill 1880, non Friele, Sars 1876. Figured holotype USNM 38406, with smaller paratypes.

dalli Verrill, **Cylichna** (Provisional Genus)
1882, TCAAS *5*: 542 [not figured] (1881, *Fish Hawk* 997, 999 off Martha's Vineyard [Massachusetts], 335, 266 fms.); 1884, *Ibid. 6*: pl. 29, fig. 15. Figured holotype USNM 76279 sta. 999.

dalli Verrill and Smith, **Pleurotoma**
1882, *in* Verrill, TCAAS *5*: 451, pl. 57, figs. 1, 1a (1881, *Fish Hawk* 1035, 1036, 1039, off Martha's Vineyard [Massachusetts], 94-146 fms.; 1046, off Delaware Bay, 104 fms.). Figured holotype USNM 37860 sta. 1035.

dalli Bush, **Pleurotomella**
1893, BMCZ *23*: 208, pl. 2, figs. 2, 2a (1880, *Blake* 325, off Cape Fear [North Carolina], 647 fms.). Holotype MCZ 119126, only specimen.

dalli Bush, **Turbonilla** late 16, fig. 7
1899, PANSP *52*: 169, pl. 8, fig. 8 (Sarasota Bay [Florida], ANSP; Cape Hatteras [North Carolina], USNM; Egmont Keys, [Florida], YPM). Figured holotype ANSP [lost]. Lectotype, here selected, ANSP 72049; paralectotypes ANSP 372506, USNM 94804 and YPM 10310.

dalliana Verrill and Smith, **Scalaria**
1880, *in* Verrill, AJS (3) *20*: 395 [not figured] (1880, *Fish Hawk* 869-871, 873, off Delaware Bay, 105-192 fms.); 1882, TCAAS *5*: 527, fig. 33. Lectotype USNM 44792 sta. 869 selected by Clench and Turner (1951: 278, pl. 126, fig. 3); paralectotypes USNM 44749 sta. 1032; YPM 15734 sta. 1032 and MCZ 196608 ex. YPM.

debile Verrill and Bush, **Caecum** Plate 17, fig. 7
1900, TCAAS *10*: 538 [not figured] (Bermuda). Holotype YPM 15667.

decurrens Verrill and Bush, **Tornatina**
1900, TCAAS *10*: 523, pl. 64, fig. 1 (Bermuda). Figured holotype YPM 15775, with two paratypes.

delicatulum Verrill and Bush, **Caecum**
1900, TCAAS *10*: 538, pl. 65, fig. 4 (Bermuda). Probable figured holotype YPM 15668 [was originally glued down, and is now only a half shell (longitudinal) without septum, R. G. Moolenbeek, pers. comm.] and 10 paratypes.

Desmoteuthidae Verrill, Family
1881, TCAAS *5*: 300. Genera mentioned: *Desmoteuthis* Verrill 1881 and *Taonius* Steenstrup 1861.

Desmoteuthis Verrill, Genus
1881, TCAAS *5*: 300. Type species: *Lechia hyperborea* Steenstrup 1856, by monotypy.

diaphana Verrill, **Astyris**
1882, TCAAS *5*: 513, pl. 58, fig. 2 (1880–81, *Fish Hawk* [869], 870, 876, off Martha's Vineyard [Massachusetts], 65–487 fms.; off Chesapeake Bay, 300 fms.). Figured holotype USNM 45302 sta. 869; paratypes YPM 18694 sta. 870 and YPM 15760 sta. 876.

diaphana Verrill, **Leptoteuthis**
1884, TCAAS *6*: 141, pl. 32, fig. 1 (1883, *Albatross* 2037, 1731 fms.); 1885, ARUSCFF for 1883, pl. 22, fig. 62. Figured holotype USNM 38242, *teste* Roper and Sweeney (1978: 6).

diaphanum Verrill, **Cyclostrema**
1884, TCAAS *6*: 199, pl. 32, fig. 16 (1883, *Albatross* 2004, 98 fms.). Figured holotype USNM 38409.

didyma Verrill and Bush, **Odostomia (Cyclodostomia)**
1900, TCAAS *10*: 333, pl. 65, fig. 14 (Bermuda). Holotype YPM 15706, only specimen.

dilectus Verrill and Bush, **Hyalopecten**
1897, *in* Verrill, TCAAS *10*: 80 (1885, *Albatross* 2570, off Martha's Vineyard [Massachusetts] 1813 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 836, pl. 97, fig. 9. Holotype USNM 52539, only specimen.

diomedeae Verrill, **Margarita (Solariella) infundibulum**
In Bush, 1893, BMCZ *23*: 218, pl. 2, figs. 10, 11 (1884, *Albatross* 2221, south of Martha's Vineyard [Massachusetts], 1525 fms.). Figured holotype USNM 203083.

diomedeae Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 152, pl. 31, figs. 5, 5a (1883, *Albatross* 2037, 2038, 2041, 2042, 2043, 2048, 2096, 1290–2033 fms.). Figured holotype USNM 34828 sta. 2041; paratypes USNM 34827 sta. 2038; YPM 15721 sta. 2038; YPM 15722 sta. 2041 and YPM 15723 sta. 2096. Is *Pleurotomella bandella* (Dall 1881), *teste* Verrill, *Ibid.* p. 250.

dispar Verrill, **Sipho profundicola** Plate 12, fig. 5
1884, TCAAS *6*: 171 [not figured] (1883, *Albatross* 2042, 1555 fms.). Holotype [measured specimen] USNM 37955, *teste* Bouchet and Warén (1985: 211).

disparilis Verrill, **Odostomia** Plate 15, fig. 6
1884, TCAAS *6*: 196 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Holotype USNM 38042, only specimen.

dissimilis Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 872, pl. 78, fig. 8; pl. 82, fig. 7 (1883–86, *Albatross*, four stations between 39°49′N, 68°28′30″W and 36°47′N, 73°9′30″W, 1451–1685 fms.). Figured holotype USNM 38416 sta. 2043.

dominicana A. H. Verrill, **Astraea tuber**
1950, MCCSC no. *101*: 7, fig. (St. Thomas, Tortola [Virgin Islands]; Dominica [Lesser Antilles]). Type in author's collection.

Doridella Verrill, Genus
1870, AJS (2) *50*: 408. Type species: *Doridella obscura* Verrill 1870, by monotypy.

eburnea Verrill, **Cylichna**
1885, TCAAS *6*: 428, pl. 44, fig. 14 (1884, *Albatross* 2265, off Cape Hatteras [North Carolina], 70 fms.). Holotype USNM 44757, only specimen.

edentuloides Verrill, **Loripes** Plate 3, fig. 2
1870, AJS (2) *49*: 226 [not figured] (La Paz [Baja California]). Holotype YPM 8884, single valve.

edwardsii Verrill, **Scyllaea**
1878, AJS (3) *16*: 211 (Woods Hole, Massachusetts on eel-grass (*Zostera*) in the harbor, and in Vineyard Sound on floating *Sargassum*); 1882, TCAAS *5*: 550, pl. 42, fig. 10; 1885, ARUSCFF for 1883, pl. 28, fig. 109. Syntypes YPM [presumed lost].

electa Verrill and Bush, **Scala**
1900, TCAAS *10*: 536, pl. 64, fig. 11 (Bermuda). Figured holotype YPM 15777.

Eledonella Verrill, Genus
1884, TCAAS *6*: 144. Type species: *Eledonella pygmaea* Verrill 1884, by monotypy.

elegans Verrill, **Dendronotus**
1880, PUSNM *3*: 385 [not figured] (1879, *Speedwell* 330, off Cape Cod [Massachusetts], 26 fms.); 1882, TCAAS *5*: 551 [not figured] [not in USNM or YPM type collections].

elegans Verrill and Smith, **Fossarus**
1882, *in* Verrill, TCAAS *5*: 522, pl. 57, fig. 28 [*Fossarus latericeus* on plate caption] (1881, *Fish Hawk* 949, off Martha's Vineyard [Massachusetts], 100 fms.). Figured holotype USNM 45297.

elegans Verrill, **Propilidium**
1884, TCAAS *6*: 205 [not figured] (1883, *Albatross* 2105, 1395 fms.). Two syntypes USNM 38072, only specimens [only one now extant].

elegans Verrill, **Tivela** Plate 4, fig. 3
1870, AJS (2) *49*: 220 [not figured] (La Paz [Baja California]; Acajutla [Salvador]; Realejo [Nicaragua]). Lectotype, here selected, YPM 1843, single valve, Acajutla.

elegans Verrill, **Turbonilla**
1872, AJS (3) *3*: 210, 282, pl. 6, fig. 4 (USFC, Vineyard Sound [Massachusetts], 8–10 fms., shelly bottom). Syntypes YPM [not located].

ellipticus Verrill and Bush, **Axinodon**
1898, PUSNM *20*: 796, pl. 90, figs. 5, 6; pl. 92, fig. 1 (1883, *Albatross* 2096, 1451 fms.). Figured holotype USNM 35175; paratype YPM 8792, only two specimens.

Elysiella Verrill, Genus
1872, AJS (3) *3*: 283. Type species: *Placobranchus catulus* Gould 1870, by monotypy.

emertoni Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 154, pl. 31, fig. 6 (1883, *Albatross* 2097, 1917 fms.). Figured holotype USNM 35232.

emertoni Verrill, **Polycerella**
1880, PUSNM *3*: 387 [not figured] (Woods Hole, Massachusetts, at the surface, among eel-grass; on hydroids from the piles at Long Wharf, New Haven, Connecticut; Newport, Rhode Island on filamentous algae); 1882, TCAAS *5*: 548 [not figured]. Syntypes YPM [not located].

emertoni Verrill, **Turbonilla**
1882, TCAAS *5*: 536, pl. 58, figs. 14, 14a (1880, *Fish Hawk* 895, off Martha's Vineyard [Massachusetts], 238 fms.) Figured holotype USNM 153543; paratype YPM 15746.

engonia Verrill and Bush, **Eulima** Plate 16, fig. 1
1900, TCAAS *10*: 527, pl. 64, fig. 7 ([Ship Channel] Bermuda, 30–40 ft.). Lectotype, here selected, YPM 15688.

engonia Verrill, **Gymnobela** Plate 14, fig. 5
1884, TCAAS *6*: 157 [not figured] (1883, *Albatross* 2041, 1608 fms., 2084, 1290 fms.). Holotype [so labeled] USNM 34835 sta. 2041; paratype USNM 37818 sta. 2084.

engonia Bush, **Odostomia** Plate 15, fig. 3
1885, TCAAS *6*: 466 [not figured] ([1884] *Albatross* [2276], off Cape Hatteras [North Carolina], 15–16 fms.). Measured holotype USNM 44762; paratype YPM 16148.

ephamilla Bush, **Mangilia**
1885, ARUSCFF for 1883, p. 580 [78] (1883, *Albatross* 2108, off Cape Hatteras [North Carolina], 48 fms.); 1885, TCAAS *6*: 457, pl. 45, figs. 4, 4a. Figured holotype USNM 35404.

ephamilla Verrill, **Spirotropis** Plate 14, fig. 3
1884, TCAAS *6*: 162 [not figured] (1883, *Albatross* 2097, 1917 fms., 2098, 2221 fms.). Measured holotype USNM 35237 sta. 2098, only living specimen; paratype YPM 15739 sta. 2097, dead and much eroded.

equalis Verrill and Bush, **Cryptodon**
1898, PUSNM *20*: 788, pl. 91, figs. 5, 6 (1873, *Bache* 18 is 13°15.5′N, 69°06′W, SW from Jeffreys Bank, 100 fms.). Figured holotype USNM 74302; paratype USNM 149867.

eritima Bush, **Mangilia** Plate 13, fig. 4
1885, TCAAS *6*: 456 [not figured] ([1884] *Albatross* [2280], off Cape Hatteras [North Carolina], 14–17 fms.). Holotype USNM 44758.

eritima Verrill, **Seguenzia**
1884, TCAAS *6*: 189, pl. 31, fig. 15 (1883, *Albatross* 2038, off Nantucket Shoals, 2033 fms., 2084, 1290 fms., 2043, 1467 fms.). Holotype USNM 38092 sta. 2038; paratypes USNM 38249 sta. 2084 and USNM 38269 sta. 2043.

eritmeta Bush, **Leptogyra** Plate 10, fig. 4
1897, TCAAS *10*: 137 [not figured] (1884, *Albatross* 2174, off Delaware Bay, 1594 fms.). Holotype USNM 77625, only specimen.

eritmeta Verrill, **Puncturella (Fissurisepta)**
1884, TCAAS *6*: 204, pl. 32, figs. 19, 19a (1883, *Albatross* 2096, 1451 fms.). Holotype USNM 35174, only specimen.

fimbriata Verrill and Smith, **Torellia**
1882, TCAAS *5*: 520, pl. 57, figs. 27, 27a (1880–81, *Fish Hawk* 869, 878, 939, 1025, 1026, 1033, 1038, off Martha's Vineyard [Massachusetts], 142–258 fms; 1873, *Bache* 21B, is 42°49′N, 68°50W′ near Cashes Ledge, off the coast of Maine, 52–90 fms.). Figured holotype USNM 45415 sta. 878.

flava Verrill, **Elysia**
1901, TCAAS *11*: 30, pl. 4, fig. 1 (Castle Harbor, Waterloo [Bermuda], under stones at low tide). Holotype YPM [not located].

flexuosa Verrill and Smith, **Mytilimeria**
1881, *in* Verrill, AJS (3) *22*: 302 (1881, *Fish Hawk* 947, off Martha's Vineyard [Massachusetts], 312 fms.); 1882, TCAAS *5*: 567, pl. 58, fig. 38. Holotype USNM 46129, only specimen.

formosa Verrill and Bush, **Cuspidaria**
1898, PUSNM *20*: 803, pl. 74, fig. 6; pl. 79, fig. 9 (1886, *Albatross* 2706, 1188 fms.). Holotype USNM 78313, only specimen.

formosa Verrill, **Doto**
1875, AJS (3) *10*: 41, pl. 3, fig. 4 (1874, off Point Judith [Rhode Island] 10–14 fms.). Figured holotype YPM [presumed lost].

formosa Verrill and Smith, **Turbonilla**
1880, *in* Verrill, AJS (3) *20*: 398 [not figured] (1880, *Fish Hawk* 891, 892, about 100 miles south of Newport, Rhode Island, 487, 500 fms.); 1882, TCAAS *5*: 537, pl. 58, fig. 16, non [*Odostomia formosa*] Jeffreys [1848], changed to: *T. bushiana* Verrill 1882. Syntypes USNM 45470 and YPM 15747 sta. 891; syntypes USNM 45471 and YPM 154748 sta. 892.

fragilis Verrill and Bush, **Martesia (Martesiella)**
1898, PUSNM *20*: 777, pl. 79, fig. 10 (1885, *Albatross* near 2566, in floating wood). Figured holotype USNM 52543 selected as lectotype by Turner (1955: 111, pl. 65, fig. 1); paralectotype YPM 8844.

fragilis Verrill, **Crenella**
1885, TCAAS *6*: 444 [not figured] (1884, *Albatross* 2265, off Chesapeake Bay, 70 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 847, pl. 83, figs. 1, 2. Holotype USNM 41543, fig. 1; paratype YPM 8761 [formerly USNM 40676], fig. 2, with note, "hinge figured."

fragilis Verrill and Bush, **Montacuta bidentata**
1898, PUSNM *20*: 780, pl. 92, fig. 8 (1880, *Fish Hawk* 816, 817 near Bretons Reef Lightship, Narragansett Bay, [Rhode Island], 8.5–10 fms.). Holotype USNM 46134, only specimen.

fraterna Verrill and Bush, **Cuspidaria**
1898, PUSNM *20*: 803, pl. 71, figs. 7, 8; pl. 75, fig. 6 (1880, *Fish Hawk* 894, off Martha's Vineyard [Massachusetts and 29 other stations], 365 fms.). Figured holotype USNM 48962.

fraterna Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 867, pl. 80, fig. 5; pl. 82, fig. 8 (1873–86, *Bache*, *Fish Hawk*, *Albatross*, twenty stations between 47°40′N, 47°35′30″W and 37°8′N, 74°33′W, 90–1608 fms.). Figured holotype USNM 159714 sta. 947.

frielei Verrill, **Pleurotomella**
1885, TCAAS *6*: 413, pl. 44, fig. 5 (1884, *Albatross* 2208, 1178 fms.). Figured holotype USNM 44653; paratype YPM 15724, only specimens.

Gastranella Verrill, Genus
1872, AJS (3) *3*: 210, 286. Type species: *Gastranella tumida* Verrill 1872, by monotypy.

gemma Verrill and Bush, **Cardiomya**
1898, PUSNM *20*: 809, pl. 71, figs. 3, 4; pl. 74, fig. 11 (1884, [*Albatross*] off Cape Hatteras [North Carolina], 16, 17 fms.). Figured holotype USNM 41456 sta. 2292; paratypes YPM 8794 sta. 2275 and YPM 8795 sta. 2276.

gemma Verrill, **Diaphana (Utriculus)**
1880, AJS (3) *20*: 399 [not figured] (1880, *Fish Hawk* 871, 873, south of Martha's Vineyard [Massachusetts], 90 to 105 miles south of Newport, Rhode Island, 115, 100 fms.); 1882, TCAAS *5*: 543, pl. 58, fig. 22. Figured holotype USNM 76242 sta. 873; paratype YPM 15682 sta. 871.

gemma Verrill, **Lyonsiella**
1880, PUSNM *3*: 396 [not figured] (1880, *Fish Hawk* 893, off Martha's Vineyard [Massachusetts], 487 fms.); 1884, TCAAS *6*: 258, pl. 30, figs. 7, 8, genus changed to: *Pecchiolia*. Holotype USNM 48552, only specimen.

georgiense Henderson, **Dentalium (Antalis) occidentale**
See under: **sulcatum** Verrill, **Dentalium occidentale**.

gibbosa Bush, **Odostomia**
1909, AJS (4) *27*: 482. New name for *Odostomia modesta* Bartsch (1909: 108, pl. 13, fig. 50, Woods Hole [Barnstable Co., Massachusetts]) non Verrill 1875. Figured holotype USNM 203812.

gigantea Verrill, **Neaera**
1884, TCAAS *6*: 223 [not figured] (1883, *Albatross* 2097, off Chesapeake Bay [Maryland], 1971 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 811, pl. 76, figs. 4, 5, genus changed to: *Myonera*. Holotype USNM 35255, only specimen, damaged.

giganteus Verrill, **Octopus**
1897, AJS (4) *3*: 163 [not figured] ([beach, some miles south of] St. Augustine, Florida); 1897, The American Naturalist *31*: 364, pls. 7, 8. Fragment in USNM [lost] *teste* Gennaro (1971) who along with Mackel (1986) determined from a sample that it was an *Octopus*.

glabra Verrill, **Anomia**
1872, AJS (3) *3*: 211, 288 [not figured]. Based on *A. ephippium* Gould (1841: 136; 1870: 204), non Linnaeus 1758, and *A. electrica* Gould (1870: 205), non Linnaeus 1758. Verrill 1873, ARUSCFF, p. 696 [402], pl. 32, figs. 241, 242, 242a from Gould 1870.

Glomidae Verrill and Bush, Family
1898, PUSNM *20*: 847. Type genus: *Glomus* Jeffreys 1876.

Glominae Verrill and Bush, Subfamily
1897, AJS (4) *3*: 53, 59. Type genus: *Glomus* Jeffreys 1979.

glypta Bush, **Cardiomya**
1898 *in* Verrill and Bush, PUSNM *20*: 810, pl. 71, fig. 1; pl. 76, figs. 3, 7. New name for *Neaera costata* Bush 1885, non Sowerby 1834, Hinds, 1843, Proceedings of the Zoological Society of London *11*: 77. Figured holotype USNM 35362 sta. 2108.

glypta Bush, **Mangilia** "?"
1885, ARUSCFF for 1883, p. 582 [80] (1883, *Albatross* 2108, off Cape Hatteras [North Carolina], 48 fms.); 1885, TCAAS *6*: 461, pl. 45, figs. 5, 5a. Figured holotype USNM 35363 [labeled as lectotype].

glyptus Verrill, **Pecten**
1882, TCAAS *5*: 580 [not figured] (1880-81 *Fish Hawk* 871, 873, 874, 876, 949, off Martha's Vineyard [Massachusetts], 85-120 fms.); 1897, *Ibid. 10*: 76, pl. 16, figs. 7-11. Syntype USNM 48742 sta. 949, figured by Clench and Pulley (1952: 59, pl. A, fig. 2).

glyptus Verrill, **Sipho**
1882, TCAAS *5*: 505, pl. 57, fig. 22; pl. 58, figs. 1, 1a (1880-81, *Fish Hawk* 894, 895, 925, 928, 951, 1028, 1029, 1032, off Martha's Vineyard [Massachusetts], 219-458 fms.). Figured holotype USNM 38005 sta. 895; paratypes YPM 15300 sta. 894, YPM 15303 sta. 895, YPM 15302 sta. 951 and YPM 15229 sta. 1029.

goslingii Verrill, **Facelina**
1901, TCAAS *11*: 34, pl. 4, fig. 6 (Hungry Bay [Bermuda], in the mangrove swamp, on a filamentous green algae). Holotype YPM [not located].

gouldii Verrill, **Bela**

1882, TCAAS *5*: 465, pl. 57, figs. 6, 6a (1879, *Speedwell* 304, off Cape Cod [Massachusetts], 122 fms.; 1873, USFC, Casco Bay, Maine, 17–30 fms.; 1877 USFC, Halifax Harbor, Nova Scotia and Bedford Basin, 16–41 fms.). Figured holotype USNM 77435, off Nova Scotia; paratype YPM 15654 sta. 304.

gouldii Verrill, **Buccinum**

1882, TCAAS *5*: 497. New name for *Buccinum humphreysianum* Bennett 1825, non Stimpson 1865. Based on Gould (1841, fig. 209) non *Buccinum ciliatum* Gould, Fabricius 1780.

gouldii Verrill, **Lamellaria pellucida**

1882, PUSNM *5*: 329 [not figured] (1880, *Fish Hawk* 925, 938, 939, 946, 1029, off Martha's Vineyard [Massachusetts], 224–458 fms.; 1047, off Delaware Bay, 156 fms.); 1882, TCAAS *5*: 518, pl. 58, fig. 3. Figured holotype USNM 203248 sta. 946.

gouldii Verrill, **Montagua**

1873, ARUSCFF, p. 667 [373] [not figured] (off Thimble Island, Long Island Sound [Connecticut], 4–5 fms.). Syntypes YPM [not located].

gouldii Bush, **Odostomia (Odostomia)**

1909, AJS (4) *27*: 482. New name for *Odostomia dealbata* Gould (1870: 327, fig. 595, Boston Harbor [Massachusetts], 3 fms.) non Stimpson 1851. Figured holotype Boston Society of Natural History [lost].

gracilis Verrill, **Acirsa**

1880, PUSNM *3*: 377 [not figured] (1880, *Fish Hawk* 873, 894, off Martha's Vineyard [Massachusetts], 100–365 fms.); 1882, TCAAS *5*: 528, pl. 57, fig. 31. Holotype USNM 44813 sta. 894, refigured by Clench and Turner (1952: 326, pl. 157, fig. 2), non *Scalaria gracilis* Sowerby 1844, changed by them to: *Epitonium* (*Boreoscala*) *pandion*; paratype YPM 15778 sta. 894.

gracilis Verrill, **Octopus**

1884, TCAAS *6*: 236 [not figured] (1883, *Albatross* 2084, 1290 fms.). Holotype USNM 38431, only specimen, *teste* Roper and Sweeney (1978: 7).

grandis Verrill, **Cadulus**

1884, TCAAS *6*: 219 [not figured] (1883, *Albatross* 2052, 1098 fms.; 2076, 906 fms.; 2084, 1290 fms.; 2103, 1091 fms.; 2111, 938 fms.; 2115, 843 fms.; 2043, 1467 fms.); 1885, *Ibid.* pl. 44, fig. 20. Figured holotype USNM 34735 sta. 2076, *teste* Henderson (1920: 105, pl. 17, fig. 12); paratypes MCZ 186804 sta. 2076 and USNM 35184 sta. 2084.

grandis Verrill and Smith, **Cryptodon**

1885, *in* Verrill, TCAAS *6*: 436, pl. 44, fig. 22 (1883, *Albatross* 2111, off Cape Hatteras [North Carolina], 938 fms.; 1884, *Albatross* 2228, 1582 fms., 2231, 965 fms.). Figured holotype USNM 44824 sta. 2231; paratype USNM 35757 sta. 2111.

grandis Verrill and Bush, **Solemya**
1898, PUSNM *20*: 885, pl. 86, figs. 1-2 (1880-84 *Fish Hawk*, *Albatross*, four stations between 39°58'30"N, 70°30'W and 37°24'N, 74°17'W, 300-1600 fms.). Figured holotype USNM 51345, fig. 1, sta. 988; paratype USNM 40103, fig. 2, sta. 2072 and paratype YPM 5360 sta. 2137.

grandis Verrill, **Turbonilla** Plate 17, fig. 4
1885, TCAAS *6*: 427 [not figured] (1884, *Albatross* 2228, 1582 fms.). Holotype USNM 44791, only specimen.

granulifera Verrill and Bush, **Lyonsia**
1898, PUSNM *20*: 818, pl. 95, fig. 1 (1885, *Albatross* 2492, 75 fms.). Holotype USNM 52561, single valve.

granulifera Verrill, **Pecchiola**
1885, TCAAS *6*: 434 [not figured] (1884, *Albatross* 2229, off Chesapeake Bay [Maryland], 1423 fms.); 1898 *in* Verrill and Bush, PUSNM *20*: 816, pl. 87, fig. 2; pl. 95, figs. 2, 3, 4. Genus changed to: *Verticordia*. Holotype USNM 44838, only specimen.

granulosa Verrill, **Nucula**
1884, TCAAS *6*: 280 [footnote, not figured] (1880, *Fish Hawk* 892, off Martha's Vineyard [Massachusetts], 478 fms.; 1883, *Albatross* 2072, 858 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 853, pl. 81, fig. 2; pl. 88, fig. 8. Figured holotype USNM 38451 sta. 892.

Gymnobela Verrill, Genus
1884, TCAAS *6*: 157. Species listed: *Gymnobela engonia* Verrill 1884 and *G. curta* Verrill 1884. Type species: *G. engonia* Verrill subsequent designation, Cossmann (1896: 63).

Halopsyche Verrill, Genus
1880, PUSNM *3*: 393. New name for *Psyche* Rang 1825, non Schrank 1801. Type species: *Psyche globulosa* Rang, by monotypy.

hargeri Verrill, **Pleuropus**
1882, TCAAS *5*: 555 [not figured] (1872, *Bache* 84B is 41°25'N, 65°50'3"W; 85B is 41°25'N, 65°42'3"W east of Georges Bank, 65, 430 fms.) [not in USNM or YPM type collections].

harpa Verrill, **Rissoa (Cingula)**
1880, PUSNM *3*: 374 [not figured] (1877, *Speedwell* 34, off Massachusetts Bay, 160 fms.); 1880, *Fish Hawk* 892, 894 off Newport [Rhode Island], 487, 365 fms.); 1882, TCAAS *5*: 523, pl. 58, fig. 6, as *Cingula harpa* (Verrill). Figured holotype USNM 43693 sta. 34.

hebes Verrill, **Actaeon**
1885, TCAAS *6*: 428, pl. 44, fig. 15 (1884, *Albatross* 2224, 2574 fms.). Holotype USNM 44656; paratype YPM 15637.

hebes Verrill, **Bela**
1880, PUSNM *3*: 367 [not figured] (1880, *Fish Hawk* 891, 892, off Martha's Vineyard [Massachusetts], 500, 487 fms.); 1882, TCAAS *5*: 459, pl. 57, fig.

7. Figured holotype USNM 37847 sta. 891, mentioned by Bouchet and Warén (1980: 56); paratype YPM 15655.

hebes Verrill, **Sipho caelatus**
1884, TCAAS *6*: 172 [not figured] (1883, *Albatross* 2003, 640 fms., 2077, 1255 fms., 2103, 1091 fms.). Lectotype USNM 35425 sta. 2103, selected by Bouchet and Warén (1985: 212) [not figured, not seen]; paralectotypes YPM 15271 sta. 2003; USNM 38015 sta. 2077 and USNM 35424 sta. 2103.

heilprini Bush, **Turbonilla**
1899, PANSP *52*: 167, pl. 8, fig. 13 (Bermuda). Figured holotype ANSP 79009.

helenae A. H. Verrill, **Murex**
1953, MCCSC no. *132*: 10, 2 figs. (off Montserrat [Island], Lesser Antilles). Type and paratype [presumed to be in author's collection].

hemphilli Bush, **Turbonilla**
1899, PANSP *52*: 169, pl. 8, fig. 3 (Sarasota Bay [Florida], ANSP; West Florida, YPM). Figured holotype ANSP 79013; three paratypes YPM 10302.

henica Verrill and Bush, **Siphonaria**
1900, TCAAS *10*: 524, pl. 55, fig. 6; pl. 56, fig. 8 (Bailey Bay, Bermuda; shore). Holotype YPM 15738, only specimen.

Heterodoridae Verrill, Family
1882, TCAAS *5*: 549. Type genus: *Heterodoris* Verrill and Emerton 1882, with the statement, "This genus will probably have to be made a new family, *Heterodoridae*."

Heterodoris Verrill and Emerton, Genus
1882, *in* Verrill, TCAAS *5*: 548. Type species: *Heterodoris robusta* Verrill and Emerton 1882, by monotypy.

hispidulus Verrill, **Sipho** Plate 13, fig. 1
1884, TCAAS *6*: 239 [not figured] (1883, *Albatross* 2033, 379 fms.). Holotype USNM 34840, only specimen.

Histioteuthidae Verrill, Family
1881, TCAAS *5*: 431. Type genus: *Histioteuthis* Orbigny.

humilis Bush, **Cyclostremella**
1897, TCAAS *10*: 141, pl. 22, figs. 8, 8b (1883-84, *Albatross* 2112, 2274, 2277, 2278, off Cape Hatteras, North Carolina, 15.5-16 fms.). Figured holotype USNM 41634 sta. 2278; paratype YPM 15807 sta. 2078.

hyalina Verrill and Bush, **Limatula** Plate 9, fig. 2
1898, PUSNM *20*: 825 [not figured] (1885, *Albatross* 2367- 2374, 25-124 fms.). Holotype USNM 202850, figured by Stuardo (1968, pl. 8, fig. 18); paratypes YPM 8647; both stas. 2369-2374.

Hyalopecten Verrill, Genus
1897, TCAAS *10*: 71. Type species: *Hyalopecten undatus* Verrill 1897, original designation.

hyatti Verrill, **Rossia**
1878, AJS (3) *16*: 209 (Massachusetts Bay, 50 fms.; off Cape Sable, 88-92 fms., off Halifax, 57-100 fms., *both* [Nova Scotia]); 1880, AJS (3) *19*: 291, pl. 15, figs. 1, 2. Not mentioned as in USNM by Roper and Sweeney (1978). Specimen labeled "paratype" YPM 16078, *Speedwell* stas. 85-86.

hypsela Verrill and Bush, **Eulima** Plate 16, fig. 2
1900, TCAAS *10*: 526, pl. 64, fig. 9 (Bermuda). Figured holotype ANSP 103471; paratypes YPM 15689 with the note, "specimen depicted sent to Pilsbry [*i.e.* ANSP]."

incisa Bush, **Turbonilla** Plate 16, fig. 8
1899, PANSP *52*: 156, pl. 8, fig. 12 (West Florida). Figured holotype ANSP [lost]; lectotype, here selected, ANSP 62800; paralectotype ANSP 372503.

incisula Verrill, **Bela** Plate 11, fig. 1
1882, TCAAS *5*: 461, pl. 43, fig. 12; pl. 57, fig. 14 (Labrador; Eastport Harbor, Maine; Bay of Fundy, 5-10 fms.; Georges Bank, Casco Bay and Gulf of Maine, seven stations [subsequently numerous USFC stations, not individually listed here]). Figured holotype USNM 77165 *Fish Hawk* 899; paratypes YPM 15656, Labrador; YPM 15657 *Speedwell* stas. 98-99 and YPM 15658 *Fish Hawk* 987.

incisus Bush, **Cadulus**
1885, TCAAS *6*: 471, pl. 45, fig. 20 ([1884] *Albatross* [2272], off Cape Hatteras [North Carolina], 15 fms.). Figured holotype USNM 44860; two paratypes YPM 15865.

inclinata Bush, **Turbonilla** Plate 16, fig. 4
1899, PANSP *52*: 167 [not figured] (St. Thomas, West Indies). Holotype ANSP 72044, only specimen.

inconspicua Bush, **Leptogyra** Plate 18, figs. 1-3
1897, TCAAS *10*: 137 [not figured] (1884, *Albatross* 2174, off Delaware Bay, 1594 fms.). Holotype USNM 77624.

inconspicua Verrill, **Runcina**
1901, TCAAS *11*: 28, pl. 3, fig. 6 (Castle Harbor [Bermuda], at low tide under stones). Holotype and paratypes YPM [not located].

inconspicua Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 869, pl. 79, figs. 3, 5 (1878-86, *Speedwell*, *Fish Hawk*, *Atlantis*, fifteen stations between 42°33′N, 69°58.5′W and 35°12′10″N, 74°57′15″W, 100-705 fms.). Figured holotype USNM 48867 sta. 947.

inequalis Verrill and Bush, **Axinopsis orbiculata**
1898, PUSNM *20*: 795, pl. 92, figs. 5, 6 (Eastport, Maine, 1872; Bay of Fundy). Figured holotype USNM 159850, from Eastport, Maine.

inequalis Verrill and Bush, **Cryptodon (Axinulus)**
1898, PUSNM *20*: 791, pl. 90, figs. 1, 2 (1877, *Speedwell* 98, 99 [and nine other stations, not listed] midway between Sandwich Point and McNabs Island Light, Halifax Harbor [Nova Scotia], 18 fms.). Figured holotype

USNM 159850; paratypes YPM 8775 sta. 293.

inflata Boss, **Pandora (Pandorella)**
See under: **brevis** Verrill and Bush, **Kennerlia**.

inflata Verrill and Bush, **Yoldiella**
1897, AJS (4) *3*: 56, figs. 3, 4, 11 (1883-86, USFC, about 20 stations from south of Georges Bank to Cape Hatteras [North Carolina], 516-1608 fms.); 1898, PUSNM *20*: 864, pl. 80, fig. 8. Figured holotype USNM 38417, fig. 8, sta. 2041.

Inioteuthis Verrill, Genus
1881, TCAAS *5*: 417 [footnote]. Species listed: *Inioteuthis japonica* and *I. morsei*, both 1881. Type species: *I. japonica* Sasaki (1929: 140), subsequent designation.

inornata Verrill and Bush, **Clidiophora**
1898, PUSNM *20*: 819, pl. 95, figs. 5, 6 (1872-81, USFC, twenty-three stations, north of Cape Cod, off Stellwagen Bank, and off Chatham [Massachusetts], 10-43 fms.). Figured holotype USNM 49760, refigured by Boss (1965: 197, pl. 120, figs. 1, 2); paratype YPM 8837; both *Speedwell* 327, off south end of Stellwagen Bank, 17 fms.

insculpta Verrill, **Chlamys islandica**
1897, TCAAS *10*: 73, pl. 16, fig. 4-5b (Bay of Fundy and northward to Greenland and Iceland, down to 179 fms.; as far south as Cape Cod, 20-100 fms.; off Martha's Vineyard [Massachusetts], dead; 69-194 fms.) [not in USNM or YPM type collections].

insignis Verrill and Bush, **Cryptodon**
1898, PUSNM *20*: 785, pl. 91, figs. 1-2 (1885, *Albatross* [off Nova Scotia] 2499, 130 fms.). Figured syntypes USNM 52596, two left valves [not 52733 as published].

iris Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 863, pl. 80, fig. 2; pl. 82, fig. 11 (1872-86, *Bache*, *Fish Hawk*, *Albatross*, 45 stations between 47°40′N, 47°35′30″W and 35°12′10″N, 74°57′15″W, 20.5-781 fms.). Figured syntypes USNM 159722 sta. 895.

ischna Bush, **Turbonilla pupoides**
1899, PANSP *52*: 153, pl. 8, fig. 5 (Bermuda). Figured holotype ANSP 79014; three paratypes ANSP 372507.

isocardia Verrill, **Venus** Plate 4, fig. 1
1870, AJS (2) *49*: 221 [not figured] (near La Paz [Baja California]). Lectotype, here selected, YPM 4941.

japonica Verrill, **Inioteuthis**
1881, TCAAS *5*: 417 [footnote] (Bay of Yeddo, Japan, E. S. Morse) [not in YPM type collection].

jeffreysii Verrill, **Pleurotomella**
1885, TCAAS *6*: 411, pl. 44, fig. 3 (1884, *Albatross* 2222, 1537 fms., 2230, 1168 fms.). Figured holotype USNM 44649 sta. 2222; paratype USNM 44650 sta. 2230, only specimens.

jonesii Verrill and Bush, **Odostomia**
1900, TCAAS *10*: 531, pl. 64, fig. 13 (Bermuda). Figured holotype YPM 15707; paratype YPM 15708.

junonia Verrill, **Semele** Plate 5, fig. 1
1870, AJS (2) *49*: 217 [not figured] (near La Paz [Baja California]). Lectotype selected by Coan (1988: 28, fig. 49) YPM 4080.

Kelliposis Verrill and Bush, Genus
1898, PUSNM *20*: 783. Type species: *Montacuta elevata* Simpson 1851, original designation.

Koonsia Verrill, Genus
1882, TCAAS *5*: 545. Type species: *Koonsia obesa* Verrill 1882, by monotypy.

lacertosa Verrill, **Chiroteuthis**
1881, TCAAS *5*: 408, pl. 56, figs. 1-1f (1881, Browns Bank, off Nova Scotia, codfish stomach, W. Demsey to USFC; 1881, *Fish Hawk* 1048, off the Capes of Delaware, 435 fms.). Holotype USNM 574637, former locality; paratype [not found], latter locality, *teste* Roper and Sweeney (1978: 8).

lactea Verrill, **Lamellidoris**
1900, TCAAS *10*: 548 [not figured] (Bailey Bay Island [Bermuda], at low water mark among corallines); 1901, *Ibid. 11*: 32, pl. 4, figs. 8, 8a, 8b. Holotype YPM [not located], only specimen.

lamellosa Verrill and Smith, **Margarita**
1880, *in* Verrill, AJS (3) *20*: 397 [not figured] (1880, *Fish Hawk* 871, south of Martha's Vineyard [Massachusetts], 115 fms.); 1882, TCAAS *5*: 530, pl. 57, fig. 38. Figured holotype USNM 44738.

lamellosus Verrill, **Idas argenteus**
1882, TCAAS *5*: 579 [not figured] (1881, *Fish Hawk* 997, off Martha's Vineyard [Massachusetts], 335 fms.); 1884 *Ibid. 6*: pl. 30, fig. 16. Figured holotype USNM 38210; paratype YPM 8831 sta. 997.

laqueatum Verrill, **Dentalium**
1885, TCAAS *6*: 431, pl. 44, fig. 18 (1884, *Albatross* 2268, off Chesapeake Bay [Maryland], 68 fms.). Holotype USNM 44671, only specimen.

lata Verrill and Bush, **Tindaria** Plate 7, fig. 1
1898, PUSNM *20*: 882 [not figured] (1885, *Albatross* 2385, [Gulf of Mexico], 730 fms.). Measured holotype USNM 203000.

latericeus Verrill [?], **Fossarus**
1882, TCAAS *5*: 586, pl. 57 fig. 28. See under: **elegans** Verrill and Smith, **Fossarus**.

Ledella Verrill and Bush, Genus
1897, AJS (4) *3*: 54. New name for *Junonia* Seguenza 1877, non Hubner 1818. Type species: *Leda messanensis* Seguenza M. S., Jeffreys 1872, original designation. Changed to: *Ledella bushae* Warén 1978 *in* 1985, Bulletin of Zoological Nomenclature *42* (2): 146, Opinion 1306, *Ledella* name no. 2249, *L. bushae* name no. 2944.

leeana Verrill, **Scalaria (Cirsotrema)**
1882, TCAAS *5*: 526, pl. 57, fig. 34 (1881, *Fish Hawk* 1038, off Martha's Vineyard [Massachusetts], 146 fms.). Holotype USNM 44806, refigured by Clench and Turner (1952: 349, pl. 172.

lens 'Stimpson' Verrill, **Astarte**
1872, AJS (3) *3*: 213, 287 [not figured]. Based on *Astarte crebricostata* Gould (1870: 126, fig. 440), non Forbes 1847.

lens Verrill and Smith, **Loripes** Plate 5, fig. 3
1880, *in* Verrill, AJS (3) *20*: 400 [not figured] (1880, *Fish Hawk* 865-879 off the coast of southern New England, 65-142 fms.; 1879, off Cape Cod [Massachusetts], many places, 40-120 fms.). Probable measured syntype, here selected lectotype, USNM 64270 sta. 874; paralectotypes YPM 9104 sta. 870.

lentus Verrill, **Octopus**
1880, AJS (3) *19*: 138 [not figured] (near La Have Bank, off Nova Scotia, 120 fms.); 1881, TCAAS *5*: 375, pl. 35. Figured holotype USNM 34223, *teste* Roper and Sweeney (1978: 8). Subsequently figured specimen MCZ 3495, 1880, *Blake* 329, 603 fms.; Verrill, 1881, BMCZ *8*: 108, pl. 4, fig. 2.

Lepetella Verrill, Genus
1880, AJS (3) *20*: 396. Type species: *Lepetella tubicola* Verrill and Smith 1880, by monotypy.

leptalea Bush, **Choristella**
1897, TCAAS *10*: 139, figs. 8, 9; pl. 23, figs. 16, a (1885, *Albatross* 2547, off Martha's Vineyard [Massachusetts], 390 fms.). Holotype USNM 52504, only specimen.

leptalea Verrill, **Cingula**
1884, TCAAS *6*: 182, pl. 32, fig. 10 (1883, *Albatross* 2072, 858 fms.). Holotype USNM 38060, only specimen.

leptalea Verrill, **Cocculina**
1884, TCAAS *6*: 202, pl. 32, figs. 20, 20a, 20b (1883, *Albatross* 2036, 1735 fms., 2038, off Nantucket Shoals, 2033 fms., 2105, 1395 fms.). Holotype USNM 38079 sta. 2038; paratypes USNM 35128 sta. 2036 and USNM 35371 sta. 2105.

leptalea Bush, **Pleurotomella**
1893, BMCZ *23*: 208, pl. 2, figs. 5, 5a (1880, *Blake* 325, off Cape Fear [North Carolina], 647 fms.). Holotype MCZ 119127, only specimen.

leptalea Bush, **Scalaria**
1885, TCAAS *6*: 465 [not figured] ([1884] *Albatross* [2277], off Cape Hatteras [North Carolina], 14-16 fms.); 1893, BMCZ *23*: 240, pl. 1, fig. 17, genus changed to: *Scala*. Holotype USNM 44854 sta. 2277, refigured by Clench and Turner (1952: 293, pl. 133, fig. 1).

leptaleus Verrill, **Pecten**
1884, TCAAS *6*: 232 [not figured] (1883, *Albatross* 2109 off Cape Hatteras [North Carolina], 142 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 839, pl. 85, fig. 1. Holotype USNM 38413.

leptaleus Verrill, **Sipho**
1884, TCAAS *6*: 175, pl. 31, fig. 14 (1882, *Fish Hawk* 1143, off Martha's Vineyard [Massachusetts], 452 fms.). Holotype USNM 202879, only specimen.

Leptaxinus Verrill and Bush, Genus
1898, PUSNM *20*: 796. Type species: *Leptaxinus minutus* Verrill and Bush 1898, original designation.

Leptogyra Bush, Genus
1897, TCAAS *10*: 135. Type species: *Leptogyra verrilli* Bush 1897, original designation.

Leptopecten Verrill, Subgenus of **Chlamys** Bolton 1798
1897, TCAAS *10*: 69. Type species: *Pecten monotimeris* Conrad 1837, original designation.

Leptoteuthis Verrill, Genus
1884, TCAAS *6*: 140. Type species: *Leptoteuthis diaphana* Verrill 1884, by monotypy.

leptum Bush, **Dentalium**
1885, ARUSCFF for 1883, p. 586 [84] ([1884] *Albatross* [2276], off Cape Hatteras [North Carolina], 14-15 fms.); 1885, TCAAS *6*: 470, pl. 45, figs. 18, 18a. Figured holotype USNM 41562, refigured by Henderson (1920: 66, pl. 10, fig. 4).

Lestoteuthis Verrill, Genus
1880, TCAAS *5*: 251. Type species: [*Onychoteuthis*] *kamtschitica* Middendorff 1849, original designation.

leuca Bush, **Mangilia**
1893, BMCZ *23*: 209, pl. 1, fig. 2 (1880, *Blake* 329, off Cape Lookout [North Carolina], 603 fms.). Holotype MCZ 119075, only specimen.

leuca Bush, **Turbonilla**
1899, PANSP *52*: 167 [not figured] (Bermuda); 1900, *in* Verrill and Bush, TCAAS *10*: 529, pl. 64, fig. 18. Figured holotype YPM 15801.

leucoptera Verrill, **Sepiola**
1878, AJS (3) *16*: 378 (Gulf of Maine, 30 miles east from Cape Ann [Massachusetts] 110 fms.); 1880, AJS (3) *19*: 291, pl. 15, figs. 4, 5. Syntype USNM

729735, 1878, *Speedwell* 194, 110 fms. The disposition of the other two syntypes is unknown, *teste* Roper and Sweeney (1978: 8).

leucozonia A. H. Verrill, **Engina**
1950, MCCSC no. *104*: 3, fig. (Nevis [Island, Lesser Antilles]). Type in author's collection.

levicula Verrill, **Lunatia** Plate 10, fig. 7
1880, PUSNM *3*: 371 [not figured] (near Eastport, Maine, 1870; Casco Bay, Maine, USFC; 1880, *Fish Hawk* 812-814, off Block Island [Rhode Island], 26-28 fms.); 1882, TCAAS *5*: 516 [not figured]; 1884, TCAAS *6*: pl. 29, fig. 3. Lectotype, here selected, USNM 75840, Casco Bay, Maine.

limicola Verrill, **Trophon abyssorum**
1885, TCAAS *6*: 421 [not figured] (1883, *Albatross* 2038, 2033 fms., 2084, 1290 fms.; 1884, *Albatross* 2221, 1525 fms.); 1893, *in* Bush, BMCZ *23*: 240, pl. 1, fig. 15. Figured holotype USNM 38039 sta. 2084; paratypes USNM 34847 sta. 2038 and YPM 15745 sta. 2084.

lintoni Verrill and Smith, **Trophon**
1882, *in* Verrill, AJS (3) *24*: 365 [footnote, not figured] (1882, *Fish Hawk* 1118, off Martha's Vineyard [Massachusetts], 70 fms.); 1884, TCAAS *6*: 176, pl. 29, fig. 1. Holotype USNM 77269, only specimen.

lirata Verrill, **Omalaxis** "?"
1882, TCAAS *5*: 529 [not figured] (1880, *Fish Hawk* 770, off Newport, Rhode Island, 8¼ fms.); 1885, TCAAS *6*: 452, Additions and Corrections: *Skenea* "(?)" *lirata* V. = *Omalaxis* "(?)" V. "This species is common in 10 to 43 fathoms off Cape Hatteras, but has not been preserved with the animal, so that the genus is still uncertain." 1893 *in* Bush, BMCZ *23*: 240, pl. 1, fig. 11, 1884, off Cape Hatteras, North Carolina sta. 2278, figured specimen 44664. Holotype USNM 406741.

liratulus Verrill, **Sipho stimpsonii**
1882, TCAAS *5*: 500. New name for *Neptunea* (*Sipho*) *arata* Verrill 1880, non Gould 1860.

lissa Verrill, **Eulimella** (or **Menestho**)
1884, TCAAS *6*: 195, pl. 32, fig. 6 (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Figured holotype USNM 35433; paratypes YPM 15090.

Lissopecten Verrill, Subgenus of **Chlamys** Bolton 1798
1897, TCAAS *10*: 68. Type species: *Ostrea hyalina* Poli 1795, original designation.

Lissospira Bush, Genus
1897, TCAAS *10*: 129. Type Species: *Cyclostrema proxima* Tryon 1888, original designation.

lottae Bush, **Diaphana** "?"
1893, BMCZ *23*: 222, pl. 2, figs. 8, 9 (1880, *Blake* 329, off Cape Lookout [North Carolina], 603 fms.; 1882, *Fish Hawk* 1142, off Martha's Vineyard

[Massachusetts], 322 fms.). Figured holotype MCZ [not located]; syntype USNM 45604 sta. 1142.

lottae Verrill, **Pleurotomella**
1885, TCAAS *6*: 415, pl. 44, fig. 7 (1884, *Albatross* 2221, 1525 fms.). Figured holotype USNM 40498; paratype YPM 15724, only specimens.

lubrica Verrill and Bush, **Odostomia**
1900, TCAAS *10*: 532, pl. 64, fig. 15 (Bermuda). Figured holotype YPM 15709 [specimen missing].

lucida Verrill, **Eulimella**
1884, TCAAS *6*: 192, pl. 32, figs. 3, 3a (1883, *Albatross* 2038, off Nantucket Shoals, 2033 fms.). Holotype USNM 38218, only specimen.

macra Verrill, **Urosalpinx** Plate 10, fig. 9
1884, TCAAS *6*: 239 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Holotype USNM 35772, only specimen.

maculatus A. H. Verrill, **Murex**
1950, Nautilus *63*: 126, pl. 9, fig. 3 (off Dominica, Lesser Antilles, 40-50 fms.). Type and paratype in author's collection.

margaritana A. H. Verrill, **Voluta**
See under: **ornata** A. H. Verrill, **Voluta**.

Martesiella Verrill and Bush, Subgenus
1898, PUSNM *20*: 777. Type species: *Martesia* (*Martesiella*) *fragilis* Verrill and Bush 1898, by monotypy.

Mastigotheuthidae Verrill, Family
1881, TCAAS *5*: 430. Type genus: *Mastigoteuthis* Verrill 1881.

Mastigoteuthis Verrill, Genus
1881, BMCZ *8*: 100. Type species: *Mastigoteuthis agassizii* Verrill 1881, by monotypy.

media Verrill and Bush, **Cuspidaria**
1898, PUSNM *20*: 800, pl. 71, figs. 5, 6; pl. 75, fig. 6 (1880-84, *Fish Hawk*, *Albatross*, about fifteen stations off Martha's Vineyard [Massachusetts], 63-155 fms.). Figured holotype USNM 49018, pl. 71, fig. 6, sta. 849; figured paratype USNM 49020, pl. 71, fig. 5, sta. 949.

megalops Verrill, **Abralia**
1882, AJS (3) *24*: 364 [not figured] (1882, *Fish Hawk* 1137, off Martha's Vineyard [Massachusetts], 173 fms.); 1883, BMCZ *11*: 105, pl. 3, fig. 4; 1884, TCAAS *6*: 143, pl. 28, fig. 2. Holotype USNM 38022, only specimen, *teste* Roper and Sweeney (1978: 9).

megalopsis Verrill, **Benthoteuthis**
1885, TCAAS *6*: 402, pl. 44, fig. 1 (1884, *Albatross* 2189, 600 fms., 2205, 1073 fms.). Syntypes USNM 39967 sta. 2189; USNM 39968 sta. 2205, *teste* Roper and Sweeney (1978: 9).

megaptera Verrill, **Ancistrocheirus**
1885, TCAAS *6*: 399, pl. 42, figs. 1, 1a (1884, *Albatross* 2235, 707 fms.). Holotype USNM 40128, only specimen and no longer extant, *teste* Roper and Sweeney (1978: 9).

megaptera Verrill, **Aplysia**
1900, TCAAS *10*: 545, pl. 66, fig. 6 (Bailey Bay [Bermuda], on reefs). Syntypes YPM [not found].

megaptera Verrill, **Architeuthis**
1878, AJS (3) *16*: 207 [not figured] (Cape Sable, Nova Scotia); 1880, TCAAS *5*: 223, pl. 21, figs. 1-9, changed to: *Sthenoteuthis megaptera* (Verrill). Holotype now in National Museum of Natural Sciences, Ottawa, Canada, 92651.

megaptera Verrill, **Cirrhoteuthis**
1885, TCAAS *6*: 405, pl. 43, figs. 1, 2 (1884, *Albatross* 2225, 2512 fms.; 2224, 2574 fms.). Figured syntype USNM 39963, no longer extant; USNM 40131, macerated, both sta. 2225; USNM 40127, poor condition, USNM 39916, no longer extant, both sta. 2224, *teste* Roper and Sweeney (1978: 9).

megaptera Verrill, **Rossia**
1881, TCAAS *5*: 349, pl. 38, fig. 1; pl. 46, fig. 6 (1880, off the southern coast of Newfoundland, 150 fms., Capt. K. Markuson). Figured holotype YPM 17713, consists of "12th sucker of tentacular arm," only.

Megayoldia Verrill and Bush, Genus
1897, AJS (4) *3*: 55. Type species: *Nucula thraciaeformis* Storer 1838, original designation.

messanensis Verrill and Bush, **Ledella**
1897, AJS (4) *3*: 54, figs. 13, 18. Holotype USNM 52156 sta. 2566, refigured by Warén (1978: figs. 8, 9). Non *L. messanensis* Seguenza M. S., Jeffreys 1870, changed to: *Ledella bushae* Warén (1978: 213).

Microyoldia Verrill and Bush, Genus
1897, AJS (4) *3*: 56. Type species: *Yoldia regularis* Verrill 1884, original designation.

mighelsi Bartsch, **Turbonilla** (**Pyrgiscus**)
See under: **costulata** Verrill, **Turbonilla**.

miniata Verrill, **Lamellidoris**
1901, TCAAS *11*: 32, pl. 3, fig. 1 (Castle Harbor [Bermuda], under stones at low tide). Holotype YPM [not located].

minuscula Bush, **Pseudorotella**
1897, TCAAS *10*: 118, figs. 3a-c (1884, *Albatross* 2283, off Cape Hatteras, North Carolina, 14 fms.). Holotype USNM 41623, only specimen.

miniscula Verrill and Bush, **Rissoa** (**Manzonia**)
1900, TCAAS *10*: 540, pl. 65, fig. 16 (Bermuda). Holotype YPM 15732, only specimen.

minuscula Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 870, pl. 79, figs. 2, 7 (1883-85, *Fish Hawk*, *Albatross*, four stations between 41°53'N, 65°35'W and 38°27'N, 73°2'W, 705-1290 fms.). Figured holotype USNM 38415 sta. 2084.

minuta Bush, **Volvula**
1885, TCAAS *6*: 469, pl. 45, fig. 11 ([1883] *Albatross* [2113], off Cape Hatteras [North Carolina], 14-16 fms.). Holotype USNM 44773.

minutus Verrill and Bush, **Leptaxinus**
1898, PUSNM *20*: 797, pl. 89, figs. 3-5 (1881, *Fish Hawk* 949, off Martha's Vineyard [Massachusetts], 100 fms.). Holotype USNM 45686, only specimen, refigured by Scott (1986: 150, fig. 1c).

modesta Verrill, **Idalia**
1875, AJS (3) *10*: 41, pl. 3, fig. 3 (1874, off west end of Fishers Island [no depth]; Block Island Sound, 17-24 fms.; north of Little Gull Island, 40 fms.; [*all* New York]). Figured holotype and paratypes YPM [presumed lost].

modestus Verrill, **Angulus** Plate 7, fig. 2
1872, AJS (3) *3*: 210, 285, pls. 2, 2a (Vineyard Sound and Buzzards Bay [Massachusetts]), 6-10 fms.; Long Island Sound, off New Haven [Connecticut]; 1873, ARUSCFF, p. 667, [383], pl. 30, fig. 224, changed to: *A. tenellus* Verrill, non Carpenter 1864. Syntype, now paralectotype, YPM 76973, Vineyard Sound, figured by Boss (1968: 323, pl. 158, figs. 3, 4); lectotype, here selected, YPM 8758. "Type lot" in the USNM 76972 was not collected until 1875.

mohorteri A. H. Verrill, **Cymatium** (**Ranularia**)
1952, MCCSC no. *119*: 2, 2 figs. (Soufriere Bay, Dominica [Lesser Antilles], 75-100 fms.) Type and paratype in author's collection.

Molleriopsis Bush, Genus
1897, TCAAS *10*: 137. Type species: *Molleriopsis abyssicola* Bush 1897, original designation.

mollis Verrill, **Allopusus**
1880, AJS (3) *20*: 394 [not figured] (1880, *Fish Hawk* 880, 892, 893, 895; 225-487 fms., about 100 to 115 miles south of Newport, Rhode Island); 1881, BMCZ *8*: 113, pl. 4, fig. 4; pl. 8, figs. 1-2a; 1881, TCAAS *5*: 366, pl. 50, figs. 1, 1a, 2, 2a; pl. 51, fig. 4. Syntypes USNM 382470; USNM 574848; USNM 729164 and USNM 729737, *teste* Roper and Sweeney (1978: 9); "syntype" YPM 17711, though labeled sta. 881.

morio Verrill, **Tethys** (**Aplysia**)
1901, TCAAS *11*: 25, pl. 3, figs. 5, 5a (Castle Harbor [Bermuda]). Holotype YPM [not located], only specimen.

Moroteuthis Verrill, Genus
1881 [October], AJS (3) *22*: 298 [footnote]. Type species: *Ommastrephes robustus* 'Dall' Verrill 1876 original designation. Also 1881 [October],

TCAAS *5*: 393 as: *Onychoteuthis* (or *Lestoteuthis* "?") *robusta* 'Dall' Verrill 1876.

morsei Verrill, **Inioteuthis**
1881, TCAAS *5*: 417 [footnote] (Bay of Yeddo, Japan, E. S. Morse). Holotype YPM 9638A; paratype YPM 9638B.

multicostata Verrill and Smith, **Neaera**
1880, *in* Verrill, PUSNM *3*: 398 [not figured] (1880, *Fish Hawk* 871, 873, 874, south of Martha's Vineyard [Massachusetts], 85-120 fms.); 1882, TCAAS *5*: 559, pl. 58, fig. 4. Figured holotype USNM 48940 sta. 871; paratypes YPM 8800 sta. 871 and YPM 8801 sta. 874.

multistriata Verrill, **Ethalia** Plate 15, fig. 1
1884, TCAAS *6*: 242 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Lectotype, here selected, USNM 35733.

nanus Verrill and Bush, **Cyclopecten**
1897, *in* Verrill, TCAAS *10*: 85, pl. 16, figs. 12, 12a-c as *parvus* [*sic*] (off the eastern coast of the United States, opposite Chesapeake Bay and Cape Hatteras [North Carolina], 43 to 132 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 837, pl. 85, figs. 2-4. Figured holotype USNM 107789 sta. 2265 [paratypes in same lot].

Nectoteuthis Verrill, Genus
1883, BMCZ *11*: 108. Type species: *Nectoteuthis pourtalesii* Verrill 1883, by monotypy.

neglecta A. H. Verrill, **Cypraecassis testiculus**
1949, Mollusca *2* (5): 9, pl. 2, fig. 5 (Dominica, also Barbados and Virgin Islands [West Indies]). Type and paratypes [presumed to be] in author's collection.

nigrolabra Verrill, **Nassa**
1880, PUSNM *3*: 371 [not figured] (1880, *Fish Hawk* 870, off Martha's Vineyard [Massachusetts], 155 fms.); 1882, TCAAS *5*: 512, pl. 58, fig. 12. Holotype USNM 43846, only specimen.

nitida Verrill, **Avicula hirundo** "?"
1880, AJS (3) *20*: 392 [nude name]; 1881, PUSNM *3*: 402 [not figured] (1880, *Fish Hawk* 856-867, 869-873, south of Martha's Vineyard [Massachusetts], 65-192 fms.); 1882, TCAAS *5*: 582, pl. 58, fig. 43. USNM type card with the note, "cotype could not be located, lectotype in H. Hayes thesis, 3/72." Since no syntype is available, this selection would be invalid even if the thesis had been published.

nitida Verrill and Smith, **Delphinula**
1885, TCAAS *6*: 424, pl. 44, fig. 11 (1884, *Albatross* 2229, 1423 fms.). Holotype USNM 44648, only specimen.

nitida Verrill, **Eulimella**
884, TCAAS *6*: 194, pl. 32, fig. 5 (1883, *Albatross* 2038, off Nantucket Shoals, 2033 fms.). Holotype 38182, only specimen.

nitida Verrill, **Kelliella**
1885, TCAAS *6*: 438 [not figured] (1884, *Albatross* 2221, 1525 fms., 2038, 2033 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 778, pl. 91, fig. 8; pl. 93, fig. 10. Figured holotype USNM 37921 sta. 2221; paratypes USNM 40498 sta. 2221 and USNM 35217 sta. 2038.

nitida Verrill, **Ringicula** Plate 10, fig. 5
1872 [1873], AJS (3) *5*: 16 [not figured] (1872, *Bache* (O), 42°5′N, 67°49′W, (S) is 42°11′N, 67°15′W off northeast and northwest border of Georges Bank, 110, 150 fms.); 1874, *in* Smith and Harger, TCAAS *3*: 48, pl. 1, fig. 2. Figured holotype USNM 43766 [not located in USNM type collection], now YPM 15776 [stations not separated].

nitida Verrill, **Seguenzia formosa** Plate 15, fig. 4
1884, TCAAS *6*: 188 [not figured] (1883, *Albatross* 2038, off Nantucket Shoals, 2033 fms.). Measured holotype USNM 38078 [with note "figured" on USNM type card].

nitida Verrill, **Thracia**
1884, TCAAS *6*: 221, pl. 32, fig. 22 (1883, *Albatross* 2097, off Chesapeake Bay, 1917 fms.). Holotype USNM 35267, only specimen.

nitida Verrill, **Turtonia**
1872, AJS (3) *3*: 213, 286, pl. 7, figs. 4, 4a. Based on *Turtonia minuta* Gould (1870: 85, fig. 395), not of European authors.

nitidus Verrill, **Actaeon**
1882, TCAAS *5*: 540, pl. 58, fig. 21 (1880-81, *Fish Hawk*, 892, 947, off Martha's Vineyard [Massachusetts], 487, 312 fms.). Figured holotype USNM 45669 sta. 947; paratype YPM 15638 sta. 892.

niveus Verrill, **Placobranchopsis**
1901, TCAAS *11*: 27, pl. 4, fig. 10 (Harrington Sound, in shallow water on the under side of a coral (*Isophyllia dipsacea*); also in Castle Harbor [*both* Bermuda]). Holotype YPM [not located].

nobilis Verrill, **Coryphella**
1880, PUSNM *3*: 388 [not figured] (1879, *Speedwell* 326, off Cape Cod [Massachusetts], 75 fms.); 1882, TCAAS *5*: 552, pl. 42, fig. 15. Holotype YPM 15678, only specimen.

nobilis Verrill, **Omalaxis**
1885, TCAAS *5*: 423, pl. 44, fig. 12 (1884, *Albatross* 2265, 70 fms.). Holotype USNM 41481.

nobilis Verrill, **Scaphander**
1884, TCAAS *6*: 209, pl. 32, figs. 18, 18a-d (1883, *Albatross* 2052, 1098 fms., 2074, 1309 fms., 2076, 906 fms., 2077, 1255 fms., off Martha's Vineyard [Massachusetts]; 1883, *Albatross* 2102, 1209 fms., 2103, 1091 fms. off Delaware Bay). Figured holotype USNM 35641 sta. 2102; paratypes USNM 35374 sta. 2103 and YPM 15737 sta. 2101.

nodosa Verrill and Smith, **Admete**
1885, *in* Verrill, TCAAS *6*: 419, pl. 44, fig. 9 (1884, *Albatross* 2234, 816 fms., 2217, 924 fms.). Holotype USNM 44646 sta. 2234.

nodulosa Verrill and Bush, **Limatula** Plate 9, fig. 1
1898, PUSNM *20*: 824 [not figured] (1885, *Albatross* 2385 [Gulf of Mexico], 730 fms.). Holotype USNM 110618, single valve, figured by Stuardo (1968, pl. 15, fig. 75).

nux Verrill and Bush, **Lucina**
1900, TCAAS *10*: 518, pl. 63, figs. 12, 13 (Bermuda). Holotype YPM 8760, single valve.

obesa Verrill, **Koonsia**
1882, TCAAS *5*: 545 (1880-81 *Fish Hawk* 895, 939, 946, 1025, off Martha's Vineyard [Massachusetts], 216-258 fms.; 1881, *Fish Hawk* 1045, off Delaware Bay, 312 fms.); 1884, *Ibid. 6*: pl. 28, fig. 7. Holotype USNM 784665 figured by Gosliner (1985, figs. 4-8).

obesa Bush, **Turbonilla costulata**
See under: **costulata** Verrill, **Turbonilla**.

obesum Verrill and Bush, **Caecum**
1900, TCAAS *10*: 538, pl. 65, fig. 2 (Bermuda). Figured holotype YPM 15669 and a paratype.

obesus Verrill, **Cryptodon**
1872, AJS (3) *3*: 211, 287, pl. 7, fig. 2 (off Nomans Land [south of Martha's Vineyard, Massachusetts], 19 fms.; Labrador). Figured holotype USNM 74299 stas. 860-863 [not separated].

obesus Verrill, **Octopus**
1880, AJS (3) *19*: 137 (from stomach of halibut, taken 36 miles east from the N.E. Light of Sable Island [off Nova Scotia], 160-300 fms.); 1881, TCAAS *5*: 379, pl. 36, figs. 3, 3a. Holotype USNM 382469, *teste* Roper and Sweeney (1978: 10.

obesus Verrill, **Sipho** Plate 12, fig. 3
1884, TCAAS *6*: 168 [not figured] (1883, *Albatross* 2115, off Cape Hatteras [North Carolina], 843 fms.). The lot containing the holotype and several syntypes [*sic*] USNM 35600 mentioned by Bouchet and Warén (1985: 212) consists of a single specimen, smaller than the measured holotype and is, here selected, lectotype.

obliqua Bush, **Venericardia** Plate 5, fig. 4
1885, TCAAS *6*: 478 [not figured] (*Albatross* [no station given], off Cape Hatteras [North Carolina], 7-10 fms.). Lectotype, here selected, YPM 10781 sta. 2289, single valve; paralectotype YPM 10782 sta. 2290.

obscura Verrill, **Doridella**
1870, AJS (2) *50*: 408, text figs. 2a, b, 3 (Savin Rock, New Haven [Connecticut]); 1873, ARUSCFF, p. 664 [370], pl. 25, figs. 173a, b. Holotype YPM 15683, so marked.

obsoletus Verrill and Bush, **Cryptodon**
1898, PUSNM *20*: 789, pl. 89, figs. 1, 2 (1881, *Fish Hawk* 949, [and two other stations, not listed] (off Martha's Vineyard [Massachusetts], 100 fms.). Figured holotype USNM 159886, labeled "selected as lectotype by Ockelmann"; paratype YPM 8781 sta. 894.

olivacea Verrill, **Cithna** "?"
1884, TCAAS *6*: 185, pl. 29, fig. 5 (1882, *Fish Hawk* 1154, off Martha's Vineyard [Massachusetts], 193 fms.; 1883, *Albatross* 2084, 1290 fms.). Figured holotype USNM 38237 sta. 1154.

olivacea Verrill, **Doris** "?"
1900, TCAAS *10*: 548 [not figured] (Bailey Bay [Bermuda], among corallines); 1901, *Ibid. 11*: 38, pl. 4, fig. 7 [subsequently discovered specimen]. Syntypes YPM [not located].

Opisthoteuthidae Verrill, New Family
1896, AJS (4) *2*: 74. Type genus: *Opisthoteuthis* Verrill 1883, original designation.

Opisthoteuthis Verrill, Genus
1883, BMCZ *11*: 113. Type species: *Opisthoteuthis agassizii* Verrill 1882, by monotypy.

ornata Verrill, **Acanthodoris**
1879, AJS (3) *17*: 313 [not figured] (1872, USFC, Eastport, Maine, at low water); 1882, TCAAS *5*: 549, pl. 42, fig. 12. Figured holotype [not located in USNM or YPM].

ornata A. H. Verrill, **Voluta**
1953, MCCSC no. *132*: 9, fig. (Margarita [Island, Venezuela]; Curaçao [Netherlands Antilles]). Type [presumed to be] in author's collection. Non *Voluta ornata* Link 1807, non *Voluta musica ornata* A. H. Verrill 1950, changed to: *Voluta margaritana* A. H. Verrill, 1954, MCCSC no. *104*: 4.

ornata A. H. Verrill, **Voluta musica**
1950 MCCSC no. *102*: 5 (Bequia Island, Grenadines). Three types [presumed to be] in author's collection. Non *Voluta ornata* Link 1807.

ornatum Verrill, **Cyclostrema dalli**
1884, TCAAS *6*: 255, pl. 32, fig. 17 (1883, *Albatross* 2115, off Cape Hatteras [North Carolina], 843 fms.). Holotype USNM 35610, only specimen.

Orthoyoldia Verrill and Bush, Genus
1897, AJS (4) *3*: 55. Type species: *Yoldia scapina* [error for *scapania*] Dall 1890, original designation.

ovata Verrill and Bush, **Nucula proxima**
1898, PUSNM *20*: 852, pl. 81, fig. 6; pl. 88, fig. 5 (1880, *Fish Hawk* 863, off Cuttyhunk Light in Vineyard Sound [Massachusetts] 18 fms.). Holotype USNM 73467, only specimen.

ovatus Verrill and Bush, **Cryptodon (Axinulus)**
1898, PUSNM *20*: 793, pl. 91, fig. 7; pl. 93, fig. 1 (1881, *Fish Hawk* 949, off Martha's Vineyard [Massachusetts], 100 fms.). Figured holotype USNM 159887; also three specimens, not types, USNM 35531 (1883, *Albatross* 2113, 15 fms.), "of considerably larger size which agree closely with this species and are probably identical."

oxia Bush, **Mangilia melanitica**
1885, ARUSCFF for 1883, p. 580 [78] ([1883] *Albatross* [2113], off Cape Hatteras [North Carolina], 7-48 fms.); 1885, TCAAS *6*: 459, pl. 45, figs. 3, 3a. Figured holotype USNM 35360 [segregated from paratypes in the same lot].

oxytata Bush, **Mangilia**
1885, ARUSCFF for 1883, p. 582 [80] (1883, *Albatross* 2108, off Cape Hatteras [North Carolina], 48 fms.); 1885, TCAAS *6*: 400, pl. 45, fig. 1. Holotype USNM 35395, only specimen.

oxytata Bush, **Volvula**
1885, TCAAS *6*: 468, pl. 45, fig. 12 ([1883] *Albatross* [2112], off Cape Hatteras [North Carolina], 7-17 fms.). Holotype USNM 35871.

pachia Verrill and Bush, **Yoldiella** Plate 6, fig. 1
1898, PUSNM *20*: 868 [not figured] (1885, *Albatross* 2385, 730 fms.). Lectotype, here selected, USNM 203001, single valve.

packardii Verrill, **Pleurotomella**
1872 [1873], AJS (3) *5*: 15 [footnote, not figured] (1872, *Bache* (O) [off northwest border of Georges Bank] 110 fms.); is 42°5'N, 67°49'W; 1882, TCAAS *5* 453, pl. 43, fig. 9; pl. 57, fig. 5. Holotype USNM 37874, only specimen.

pallida Verrill, **Coryphella** "?"
1900, TCAAS *10*: 547 [not figured] (Bailey Bay [Bermuda], in corallines). Holotype YPM [not located], only specimen.

pallida Verrill, **Loligo**
1873, ARUSCFF, p. 441 [147], 635 [341], pl. 20, figs. 101, 101a (Long Island Sound [Connecticut]). Holotype YPM [not located].

pandion Clench and Turner, **Epitonium (Boreoscala)**
See under: **gracilis** Verrill, **Acirsa**.

pandionis Verrill and Smith, **Cadulus**
1880, *in* Verrill, AJS (3) *20*: 392, 399 [not figured] (1880, *Fish Hawk* 869-871, 873, 874, 876, 877, 891, off coast of southern New England, 85-192 fms.); 1882, TCAAS *5*: 558, pl. 38, figs. 30, 30a. Figured holotype USNM 38644 sta. 876; paratypes MCZ 186814 sta. 870.

pandionis Verrill, **Pleurotoma (Pleurotomella)**
1880, PUSNM *3*: 368 [not figured] (1880, *Fish Hawk* 895, off Martha's Vineyard [Massachusetts], 238 fms.); 1882, TCAAS *5*: 456, pl. 57, figs. 4, 4a. Holotype USNM 37873, only specimen.

papillosa Verrill, **Elysia**
1901, TCAAS *11*: 31, pl. 4, fig. 3 (Hungry Bay [Bermuda], under stones at a very low tide). Holotype YPM [not located].

Paramusium Verrill, Genus
1897, TCAAS *10*: 72. Type species: *Amusium dalli* Smith [Amussium] 1886, original designation.

parva Verrill and Bush, **Cuspidaria**
1898, PUSNM *20*: 801, pl. 74, fig. 9; pl. 77, fig. 7 (1884, *Albatross* 2203 [and six other stations, not listed], 705 fms.). Figured holotype USNM 159742; paratype YPM 8827 sta. 2115.

parva Verrill and Bush, **Ledella**
1897, AJS (4) *3*: 54 [footnote], fig. 18 (1886, *Albatross* 2689, off Martha's Vineyard [Massachusetts], 525 fms.); 1898, PUSNM *20*: 857, pl. 8, fig. 1. Holotype USNM 78365, single valve.

parvus Verrill and Smith, **Sipho**
1882, *in* Verrill, TCAAS *5*: 504, pl. 57, figs. 20, 20a, 20b (1881, *Fish Hawk* 937, 947, 994, 997, 1029, off Martha's Vineyard [Massachusetts], 312-506 fms.). Figured holotype USNM 38013 sta. 997; paratypes YPM 15329 sta. 947 and YPM 15327 sta. 997.

paucistriata 'Dall' Bush, **Neacera**
1885, TCAAS *6*: 473. Nude name.

Pectinella Verrill, Genus
1897, TCAAS *10*: 68. Type species: *Pecten* (*Pseudamusium*) *sigsbeei* Dall 1886, original designation.

pedersenii Verrill, **Enaeta** Plate 4, fig. 2
1870, AJS (2) *49*: 226 [not figured] (La Paz [Baja California]). Lectotype, here selected, YPM 8842.

pellucida Verrill, **Lamellaira**
1880, AJS (3) *20*: 395 [not figured] (1880, *Fish Hawk* 870-872, off Delaware Bay, 100-208 fms.); 1882, TCAAS *5*: 518, pl. 58, figs. 4, 5, 5a. Figured holotype USNM 202846 sta. 871.

penistoni Bush, **Turbonilla**
1899, PANSP *52*: 165, pl. 8, fig. 14 (Bermuda). Figured holotype ANSP 70024; paratype YPM 15800.

perlepida Verrill, **Turbonilla** Plate 17, fig. 5
1885, TCAAS *6*: 427 [not figured] (1884, *Albatross* 2265, off Chesapeake Bay [Maryland], 70 fms.). Holotype USNM 44790, only specimen [not in USNM type collection].

perversa Bush, **Eulima**
1909, AJS (4) *27*: 479 [footnote]. New name for *Eulima distorta* Verrill 1881, non Deshayes 1835.

picta Verrill, **Elysia**
1901, TCAAS *11*: 30, pl. 4, fig. 2 (Hungry Bay [Bermuda], under stones at low tide). Holotype and paratype YPM [not located], only specimens.

pictus Verrill, **Octopus**
1883, BMCZ *11*: 112, pl. 3, fig. 2 (1878-79, *Blake* 142, 278, Flannegan Passage, and off Barbados [Windward Islands], 27, 69 fms.); 1885, ARUSCFF for 1883, pl. 22, fig. 65. Two syntypes, presumed lost, not mentioned by Roper and Sweeney (1978).

pilsbryi Bush, **Turbonilla**
1899, PANSP *52*: 151, pl. 8, fig. 9 (St. Thomas, West Indies). Holotype ANSP 72045, only specimen.

piscatorum Verrill, **Octopus**
1879, AJS (3) *18*: 470 [not figured] (western part of La Have Bank, off Nova Scotia, 120 fms.); 1881, TCAAS *5*: 377, pl. 36, figs. 1, 2. Holotype USNM 574641, *tes e* Roper and Sweeney (1978: 11).

Placopecten Verrill, Subgenus of **Chlamys** Bolton 1798
1897, TCAAS *10*: 69. Type species: *Pecten clintonius* Say 1824, original designation.

plana Verrill, **Limopsis**
1885, TCAAS *6*: 441 [not figured] (1883, *Albatross* 2098, 2221 fms.); 1893, *in* Bush, *23*: 240, pl. 2, fig. 19; 1898, *in* Verrill and Bush, PUSNM *20*: 846, pl. 75, fig. 5. Holotype USNM 35238; paratype YPM 5771, only specimens.

planula Verrill, **Machaeroplax obscura** Plate 17, fig. 6
1882, TCAAS *5*: 531 [not figured] (south of Cape Cod [Massachusetts], 15-30 fms.). Holotype USNM 76067, off Block Island [Rhode Island]; paratype YPM 15955.

planulus Verrill, **Sipho pygmaeus**
1882, TCAAS *5*: 505 [footnote] (off Martha's Vineyard [Massachusetts], 20-350 fms.) [not in USNM type collection].

planus Verrill and Bush, **Cryptodon**
1898, PUSNM *20*: 788, pl. 88, figs. 3, 4 (1879, *Speedwell* 254, Cape Cod Bay, 21 fms.). Figured holotype USNM 159893.

plena Verrill, **Cirrhoteuthis**
1885, TCAAS *6*: 404, pl. 42, fig. 3 (1884, *Albatross* 2025, 1073 fms.). Holotype USNM 39908, *teste* Roper and Sweeney (1978: 11).

Pleurobranchopsis Verrill, Genus
1900, TCAAS *10*: 547. Type species: *Pleurobranchopsis aurantiaca* Verrill 1900, by monotypy.

Pleurotomella Verrill, Genus
1872 [1873], AJS (3) *5*: 15 [footnote]. Type species: *Pleurotomella packardii* Verrill 1872, by monotypy.

plicatus Verrill, **Cryptodon**
1885, TCAAS *6*: 437 [not figured] (1884, *Albatross* 2205, 2193, off Martha's Vineyard [Massachusetts], 1073, 1122 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 786, pl. 89, fig. 6. Figured holotype USNM 44825 sta. 2193.

polita Verrill, **Aclis**
1872, AJS (3) *3*: 210, 282, pl. 6, fig. 5 (Eastport Harbor [Maine], 20 fms., shelly bottom); 1882, TCAAS *5*: 538, fig. 4. Holotype YPM [not located], only specimen.

polita Verrill and Bush, **Malletia**
1898, PUSNM *20*: 876, pl. 82, fig. 10 (1886, *Albatross* 2718, 1569 fms.). Holotype USNM 78792, single valve.

polita Verrill and Smith, **Modiola** Plate 8, fig. 1
1880, *in* Verrill, AJS (3) *20*: 400 [not figured] (1880, *Fish Hawk* 895, south off Newport, Rhode Island, 238 fms.). Lectotype, here selected, USNM 51361 [with note selected by B. R. Wilson, Sept. 26, 1983, not published]; paralectotype USNM 64328.

Polycerella Verrill, Genus
1880, PUSNM *3*: 386. Type species: *Polycerella emertoni* Verrill 1880, by monotypy.

pourtalesii Verrill, **Nectoteuthis**
1883, BMCZ *11*: 108, pl. 3, figs. 1, 1a-b (1879, *Blake* 295, off Barbados [Windward Islands], 295 fms.). Holotype USNM 729734, only specimen, *teste* Roper and Sweeney (1978: 11).

pourtalesii Verrill and Smith, **Scalaria**
1880, *in* Verrill, AJS (3) *20*: 395 [not figured] (1880, *Fish Hawk* 873, 874, off southern New England, 85-100 fms.); 1882, TCAAS *5*: 527, pl. 57, fig. 32. Holotype USNM 44801 sta. 874, refigured by Clench and Turner (1952: pl. 149, figs. 1, 2); paratype YPM 15736 sta. 873.

pretiosa Verrill and Bush, **Myonera** "?"
1898, PUSNM *20*: 812, pl. 77, fig. 5 (1886, *Albatross* 2655, 338 fms.). Holotype USNM 110619, single valve.

princeps Verrill, **Architeuthis**
1875, AJS (3) *9*: 181, pl. 5, figs. 14-16 (sperm whale stomach taken in the north Atlantic; banks of Newfoundland). Two syntypes, probably YPM [not located].

profundicola Verrill and Smith, **Arca**
1885, TCAAS *6*: 439, pl. 44, figs. 23, 23a (1884, *Albatross* 2226, 2121 fms.). Holotype USNM 37999; paratype USNM 44501.

profundicola Verrill and Bush, **Limopsis**
1898, PUSNM *20*: 847 [no description] pl. 75, fig. 4; pl. 83, fig. 4. Described *in* Verrill, 1885, TCAAS *6*: 440 as *Limopsis aurita* "?" Jeffreys (1884-86, *Albatross*, ten stations between 41°7′N, 65°26′30″W and 36°47′N,

73°9′30″W, 1525-1859 fms.). Figured syntypes USNM 52410, pl. 75, fig. 4; USNM 38143, pl. 83, fig. 4, sta. 2221.

profundicola Verrill and Smith, **Sipho**
1884, *in* Verrill, TCAAS *6*: 170, pl. 31, fig. 13 (1883, *Albatross* 2037, 1731 fms., 2038, 2033 fms., 2097, 1917 fms., 2106, 1497 fms.). Holotype USNM 37999 sta. 2037, *teste* Bouchet and Warén (1985: 211); paratypes YPM 15313 sta. 2037 and YPM 15309 sta. 2097.

Protamusium Verrill, Genus
1897, TCAAS *10*: 71. Type species: *Pecten demissum* Philippi [is *demissus* Phillips 1839] original designation.

pseudointerrupta Bush, **Turbonilla**
1909, AJS (4) *27*: 481. New name for *Turbonilla* (*Pyrgiscus*) *interrupta* Bartsch (1909: 87, pl. 12, figs. 18, 23, Narragansett Bay [Rhode Island]) non Totten 1835. Holotype USNM 202889, only specimen.

psila Bush, **Mangilia**
1885, TCAAS *6*: 455, pl. 45, fig. 2 (1884, *Albatross* 2269, off Cape Hatteras [North Carolina], 48 fms.). Holotype USNM 44756, only specimen.

pubescens Verrill, **Sipho** Plate 12, fig. 2
1882, TCAAS *5*: 501, pl. 43, fig. 6; pl. 57, fig. 25 (1877, *Speedwell* [no station number], off Cape Sable, Nova Scotia, 88-91 fms. and off Halifax [Nova Scotia], 42 fms.; 1880-81, [*Fish Hawk*] 48 stations, 86-410 fms.; 1880, *Fish Hawk* 898 off Chesapeake Bay, 56-300 fms.; 1881, off Delaware Bay, 156, 435 fms.). Lectotype, here selected, USNM 37767 sta. 893; paralectotype YPM 15366 sta. 898.

pulchella Verrill, **Atlanta** Plate 19, figs. 1-3
1884, TCAAS *6*: 211 [not figured] (1883, *Atlantis* 2100, off Delaware Bay, surface; 2038, surface). Two syntypes USNM 38397 sta. 2100; syntypes YPM 15768 sta. 2100 and USNM 38410 sta. 2038.

pulchella Verrill, **Taranis**
1880, PUSNM *3*: 368 [not figured] 1880, (*Fish Hawk* 892, off Martha's Vineyard [Massachusetts], 487 fms.); 1882, TCAAS *5*: 487, pl. 57, fig. 17. Holotype USNM 37841, only specimen.

pura Verrill, **Astyris**
1882, TCAAS *5*: 515 [not figured] (1880-81 *Fish Hawk* 892, 894, off Martha's Vineyard [Massachusetts], 100-487 fms; off Chesapeake Bay, 300 fms.); 1893 *in* Bush, BMCZ *23*: 240, pl. 1, fig. 13. Holotype USNM 45260 sta. 894; paratype YPM 15764 sta. 892.

pusilla Verrill, **Bela decussata** Plate 11, fig. 4
1882, TCAAS *5*: 481 [not figured] (Casco Bay, Maine, 12-15 fms.; Halifax Harbor, [Nova Scotia], 18 fms.). Lectotype, here selected, USNM 77203, label with note "figured"; paralectotypes YPM 15652 [from USNM 77218 also with note "figured"] and YPM 15653; *all* from Halifax Harbor, paralectotype YPM 15657, Casco Bay.

pustulosus Verrill, **Pecten**
1872 [1873], AJS (3) *5*: 14 [footnote, not figured] (Gulf of Maine, near Georges Bank, 150 fms.; east of Georges Bank, 430 fms.); 1874, *in* Smith and Harger, TCAAS *3*: 50 [description]; 1882, TCAAS *5*: 581, pl. 42, figs. 22, 22a, changed to: *Pecten hoskynsi pustulosus* Verrill; 1884, *Ibid. 6*: 261, non *P. hoskynsi* Forbes 1843, changed to: *Pecten pustulosus* Verrill 1872; 1898, *in* Verrill and Bush, PUSNM *20*: 389, pl. 35, figs. 5, 6, 10, 11, changed to: *Cyclopecten pustulosus* (Verrill). Holotype USNM 48764, fig. 10, stas. 96B, 97B, off northeast border of Georges Bank, 150 fms.

pygmaea Verrill, **Bela**
1882, TCAAS *5*: 460, pl. 57, fig. 8 (1880-81, *Fish Hawk* 892, 894, 947, off Martha's Vineyard [Massachusetts], 487, 386, 312 fms.). Holotype USNM 37858 sta. 892, [includes smaller paratype] mentioned by Bouchet and Warén (1980: 68); paratype YPM 15694 sta. 894 label, also bearing USNM number 37854 with note, "best sent to Dall [*i.e.* USNM]."

pygmaea Verrill, **Eledonella**
1884, TCAAS *6*: 145, pl. 32, fig. 2 (1883, *Albatross* 2099, 2949 fms.); 1885, ARUSCFF for 1883, pl. 22, fig. 64. Figured holotype USNM 35268, *teste* Roper and Sweeney (1978: 12).

pygmaeus Verrill and Bush, **Cryptodon (Axinulus)**
1898, PUSNM *20*: 792, pl. 86, figs. 3, 4 (1886, *Albatross* 2697 [and two other stations, not listed] 206 fms.). Figured holotype USNM 78368; paratype YPM 8774 sta. 2547.

pygmaeus Bush, **Murex (Pteronotus)** [*sic*]
1893, BMCZ *23*: 213, pl. 1, figs. 3, 4 (1880, *Blake* 319, off Charleston [South Carolina], 262 fms.). Holotype MCZ 6918, only specimen, refigured by Clench and Farfante (1945: 36, pl. 20, figs. 7, 8). Non *Muricites pygmaeus* Schlotheim 1820, changed to: *Pterynotus* (*Pterynotus*) *bushae* Vokes (1970: 13).

pyrrha Bush, **Turbonilla** Plate 16, fig. 6
1899, PANSP *52*: 160, pl. 8, fig. 1 (St. Thomas [Virgin Islands]). Figured holotype ANSP [lost]; lectotype, here selected, ANSP 72050; paralectotypes ANSP 72054 and 372505.

quadrimaculata Verrill, **Lamellidoris** "?"
1900, TCAAS *10*: 549, pl. 66, fig. 3 (Castle Harbor [Bermuda], on dead corals). Holotype and paratype YPM [not located], only specimens.

ramosa Verrill and Emerton, **Issa**
1881, *in* Verrill, AJS (3) *22*: 301 [not figured] (1881, *Fish Hawk* 940, 949, off Martha's Vineyard [Massachusetts], 130, 100 fms.); 1882, TCAAS *5*: 547, pl. 58, figs. 36, 36a. Figured type [not located in USNM or YPM type collections].

rapax Verrill, **Cheloteuthis**
1881, BMCZ *8*: 110, pl. 2, figs. 1, 1a-f (1880, *Fish Hawk* 893 100 miles south of Newport, Rhode Island, 893 fms.). Holotype USNM 574639, only specimen, *teste* Roper and Sweeney (1978: 12).

rapax Verrill, **Chiloteuthis** [*sic*] **Cheloteuthis**
1881, TCAAS *5*: 293, pl. 49, figs. 1-1f (1880, *Fish Hawk* 893, about 100 miles south of Newport, Rhode Island, 372 fms., stomach of a fish). *Ibid.* p. 446 errata, genus changed to: *Cheloteuthis* (=*Lestoteuthis*). Holotype USNM 574639, only specimen, *teste* Roper and Sweeney (1978: 12).

rarinota Bush, **Lissospira** (**Ganesa** "?") Plate 10, fig. 2
1897, TCAAS *10*: 134 [not figured] (1884, *Albatross* 2150, 382 fms.). Holotype YPM 15804, only specimen.

rathbuni Verrill, **Bela**
1884, TCAAS *6*: 236 [not figured] (1883, *Albatross* 2105, off Chesapeake Bay, 1395 fms.). Holotype USNM 35704, only specimen.

rathbuni Verrill and Smith, **Turbonilla**
1880, *in* Verrill, AJS (3) *20*: 398 [not figured] (1880, *Fish Hawk* 869, 894, 895, off southern New England, 192-365 fms.); 1882, TCAAS *5*: 536, pl. 58, fig. 15. Figured holotype USNM 45459 sta. 895; paratypes YPM 15750 sta. 895.

regalis Verrill and Smith, **Margarita**
1880, *in* Verrill, AJS (3) *20*: 397 [not figured] (1880, *Fish Hawk* 865, 870, 871, 873, 880, 891-895, off southern New England, 65-500 fms.); 1882, TCAAS *5*: 530, pl. 57, fig. 37. Figured holotype USNM 44681 sta. 895.

regularis Verrill and Bush, **Limatula** Plate 9, fig. 3
1898, PUSNM *20*: 823 [not figured] (1884, *Albatross* 2265, 70 fms.). Lectotype USNM 40862, single valve selected by Stuardo (1968: 227, pl. 14, fig. 62).

regularis Verrill, **Yoldia**
1884, TCAAS *6*: 228 [not figured] (1882, *Fish Hawk* 1093, off Martha's Vineyard [Massachusetts], 349 fms.); 1897, *in* Verrill and Bush, AJS (4) *3*: 56, figs. 5, 6; 1898, PUSNM *20*: 860, pl. 78, figs. 5, 6. Holotype USNM 38420.

rehderi A. H. Verrill, **Cymatium**
1950, Nautilus *63*: 126, pl. 9, figs. 1, 1a (25-40 fms., off Dominica, Lesser Antilles). Holotype USNM 594095.

reticulata Verrill, **Cocculina**
1885, TCAAS *6*: 426 [not figured] (1884, *Albatross* 2265, off Chesapeake Bay [Maryland], 70 fms.); 1893, *in* Bush, BMCZ *23*: 240, pl. 2, fig. 6. Figured holotype USNM 44832.

reversa Verrill, **Calliteuthis**
1880, AJS (3) *20*: 393 [not figured] (1880, *Fish Hawk* 894, about 100 miles south of Newport, Rhode Island, 365 fms.); 1880, TCAAS *5*: 295, pl. 46, figs. 1-1b. Holotype USNM 574849, *teste* Roper and Sweeney (1978: 12).

robusta Verrill and Emerton, **Heterodoris**
1882, *in* Verrill, TCAAS *5*: 549, pl. 58, figs. 35, 35a, 35b (1881, *Fish Hawk* 1029, off Martha's Vineyard [Massachusetts], 458 fms.). Holotype, only specimen [not in USNM type collection].

robusta Verrill, **Xenophora**
1870, AJS (2) *49*: 226 [not figured] (near La Paz [Baja California]). Holotype YPM 8882, figured by Strong, Hanna, and Hertlein (1933: 124, pl. 5, figs. 8, 9).

robustus Verrill, **Dendronotus**
1870, AJS (2) *50*: 405, fig. 1 (Whale Cove, Grand Manan [Island, New Brunswick, Canada], on sea-weeds in a pool near low-water mark). Holotype YPM [lost], only specimen.

robustus 'Dall' Verrill, **Ommastrephes**
1876, AJS (3) *12*: 237 [not figured] (coast of Alaska); 1880, TCAAS *5*: 246, pls. 23, 24 (west shore of Amaknak Island, Captains Harbor; near Iliuliuk; *both* Unalashka Island, off the coast of Alaska), changed to: *Onychoteuthis robusta* (Dall) Verrill. Holotype USNM 576952, "species description based on three specimens. Portions of specimen two only saved by Dall," *teste* Roper and Sweeney (1978: 12).

roseopicta Verrill, **Chromodoris** "?"
1900, TCAAS *10*: 549, pl. 66, fig. 1 (Bailey Bay [Bermuda], just below tide mark on rocks); 1901, *Ibid. 11*: 33, figs. 2, 2a [subsequently discovered specimen]. Holotype YPM 15677, only specimen.

rubida A. H. Verrill, **Hemitona**
1950, Nautilus *63*: 126, pl. 9, figs. 2, 2a (reefs at Canefield Point, Dominica, Lesser Antilles). Five types in author's collection.

rushii Bush, **Turbonilla**
1899, PANSP *52*: 160, pl. 8, fig. 11 (Maldonado Bay, Uruguay, 3-6 fms.). Holotype ANSP 70535, only specimen.

ruthi A. H. Verrill, **Astraea**
1948, Mollusca *2* (3): 70, pl. (Barbardos [West Indies]). Holotype and paratype [presumed to be] in author's collection.

rutila Verrill, **Coryphella**
1879, AJS (3) *17*: 314 [not figured] (Eastport, Maine, at low water); 1882, TCAAS *5*: 552 [not figured]. Syntypes [not located in USNM or YPM].

saffordi Verrill and Smith, **Pleurotomella**
1884, *in* Verrill, TCAAS *6*: 151, pl. 31, figs. 4, 4a (1883, *Albatross* 2041, 2043, 2076, 2084, 2115, 906-1608 fms.). Figured holotype USNM 38308 sta. 2084.

sandersoni Verrill, **Buccinum** Plate 14, fig. 1
1882, TCAAS *5*: 490, pl. 58, fig. 9 (1881, *Fish Hawk* 939, 1032, off Martha's Vineyard [Massachusetts], 258, 264 fms.). Lectotype, here selected, USNM 202823 sta. 939 [soft parts in alcohol].

sandersoni Verrill, **Cingula**
1884, TCAAS *6*: 241 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.); 1893, *in* Bush, BMCZ *23*: 240, pl. 1, fig. 19. Figured holotype USNM 35447 [at YPM]; paratypes YPM 15770 [in the same USNM lot].

sandersoni Verrill, *Pleurotomella*
1884, TCAAS *6*: 149, pl. 31, figs. 3, 3a (1883, *Albatross* 2038, 2033 fms; 2043, 1467 fms.; 2084, 1290 fms.). Figured holotype USNM 34841 sta. 2038; paratypes USNM 34851 sta. 2043 and USNM 38315 sta. 2084.

sanguinea A. H. Verrill, **Voluta musica**
1950, MCCSC no. *102*: 5 (Bequia Island and Carriacou [Islands], Grenadines). Type [presumed to be] in author's collection.

sarsi Bush, **Eulima**
1909, AJS (4) *27*: 479 [footnote]. New name for *Eulima intermedia* Verrill 1881, non Cantraine 1835.

sarsii Verrill, **Bela**
1880, PUSNM *3*: 364. New name for *Bela cancellata* Sars 1858, non *Bela cancellata* (Mighels and Adams 1842).

Seguenzidae Verrill, Family
1884, TCAAS *6*: 186. Type genus: *Seguenzia* Jeffreys 1876.

Sepidea Verrill, Division
1881, TCAAS *5*: 432, 433. Family mentioned: Loliginidae H. and A. Adams 1853.

Sepiolidea Verrill, Division
1881, TCAAS *5*: 432, 434. Family mentioned: Sepiolidae Kefferstein 1866.

simplex Verrill and Bush, **Cryptodon (Axinulus)**
1898, PUSNM *20*: 791, pl. 92, figs. 3, 4 (1882, *Fish Hawk* 1093, off Martha's Vineyard [Massachusetts], 349 fms.). Figured holotype USNM 159888.

simplex Verrill, **Cyclopecten** Plate 8, fig. 3
1897, TCAAS *10*: 87, pl. 16, fig. 1; pl. 19, figs. 1-2 (West Indies, USFC). Lectotype, here selected, YPM 8763, with note "isolated left valve is potential lectotype, T. J. Waller 9/23/80"; 1884, *Albatross* 2150; 382 fms. [not in USNM type collection].

simplex Verrill, **Sipho (Mohnia)** Plate 12, fig. 4
1884, TCAAS *6*: 174 [not figured] (1883, *Albatross* 2115, off Cape Hatteras [North Carolina], 843 fms., 2055, 9915 fms.). The "holotype" USNM 35573 sta. 2115 mentioned by Bouchet and Warén (1985: 206) is much smaller than the original measured holotype and is here selected lectotype.

smithi Bush, **Circulus**
1897, TCAAS *10*: 126. New name for *Cyclostrema tricarinatus* Smith 1871, non Wood 1848.

smithii Verrill, **Marginella**
See under: **virginiana** Verrill, **Marginella**.

smithii Verrill, **Turbonilla**
1880, PUSNM *3*: 380 [not figured] (1880, *Fish Hawk* 871, 873, 876 off Martha's Vineyard [Massachusetts], 100-120 fms.); 1882, TCAAS *5*: 538,

pl. 58, fig. 10, genus changed to: *Eulimella*. Figured holotype USNM 45482 sta. 871; paratypes YPM 15752 sta. 871 and YPM 15753 sta. 876.

solidum Verrill, **Dentalium**
1884, TCAAS *6*: 215 [not figured] (1883, *Albatross* numerous stations between 2050 and 2115, 843-2084 fms.); non Hutton 1873, changed to: *Dentalium* (*Fissidentalium*) *meridionale verrilli* Henderson (1920: 2). Lectotype USNM 34687 sta. 2083, off Georges Bank, 956 fms., selected by Henderson, *Ibid.* pl. 9, fig. 3.

somersensis Verrill, **Phacoides pennsylvanicus**
1906, TCAAS *12*: 185 [141], fig. 63 (Devonshire formation [Cenozoic], near Hungry Bay [Bermuda]). Holotype YPM 15740, left valve [not located].

somersensis Verrill, **Succinea**
1906, TCAAS *12*: 171 [127] [not figured] (beach rock, Devonshire formation [Cenozoic], near Hungry Bay [Bermuda]). Holotype YPM 15740, only specimen. [The apex is missing, the aperture is broken and lodged in the matrix].

somersi Verrill and Bush, **Odostomia** (**Evalea**)
1900, TCAAS *10*: 533, pl. 65, fig. 7 (Bermuda). Four specimens YPM 15710, labeled "syntypes" are not this species. [They appear to be *Eulima*].

spectabilis Verrill, **Cadulus**
1885, TCAAS *6*: 432, pl. 44, fig. 19 (1883, *Albatross* 2043, 1467 fms.; 1884, *Albatross* 2174, 2221, 2222, 2228, 1525-1594 fms.). Holotype USNM 78626 sta. 2711, *teste* Henderson (1920: 107, pl. 17, fig. 9); station 2711 was made in 1886. The holotype is USNM 40498 sta. 2221, *teste* (Turner, 1955: 320); paratype USNM 38116 sta. 2043.

spectabilis A. H. Verrill, **Strombus costatus**
1950, Nautilus *63*: 127, pl. 9, fig. 4 (off Dominica, Lesser Antilles, 30-40 fms.). Type in author's collection.

spinulosa Bush, **Granigyra** Plate 10, fig. 1
1897, TCAAS *10*: 135 [not figured] (1886, *Albatross* 2655, 338 fms.). Holotype YPM 15805, only specimen.

Stauroteuthis Verrill, Genus
1879, AJS (3) *18*: 468. Type species: *Stauroteuthis syrtensis* Verrill 1879, by monotypy.

Sthenoteuthis Verrill, Genus
1880, TCAAS *5*: 222. Type species: *Architeuthis megaptera* Verrill 1878, original designation.

stimpsoni Verrill, **Cuthona**
1879, AJS (3) *17*: 314 [not figured] (Eastport, Maine); 1882, TCAAS *5*: 552, pl. 42, fig. 14, genus changed to: *Coryphella*. Two syntypes YPM 15679; syntype YPM 15680 [dried up].

stimpsoni Bush, **Turbonilla**
1899, PANSP *52*: 156, pl. 8, fig. 7 (Carolina Coast). Holotype ANSP 72042, only specimen.

stimpsoniana S. I. Smith, **Gundlachia**
1870, *in* Smith and Prime, ALNHNY *9*: 399, fig. 6 (three ponds at Greenport, Long Island; and one on Shelter Island *both* Suffolk Co., New York) Syntypes [not located].

stimpsonii Verrill, **Stylifera**
1872, AJS (3) *3*: 210, 283 (off the coast of New Jersey, on a bank in 32 fms., parasitic on *Euryechinus dröbachiensis* V.); 1874, *in* Smith and Harger, TCAAS *3*: 49, pl. 1, fig. 1. Syntypes YPM [not located].

Stoloteuthis Verrill, Genus
1881, TCAAS *5*: 417. Type species: *Sepiola leucoptera* Verrill 1878, original designation.

strausi A. H. Verrill, **Murex (Aaronia)**
1950, MCCSC no. *103*: 4, 2 text figs. (Soufriere Bay, Dominica [Lesser Antilles, 75-100 fms.]). Five types [presumed to be] in author's collection.

striata Verrill, **Aclis** Plate 11, fig. 7
1880, PUSNM *3*: 377 [not figured] (Bay of Fundy, near Eastport, Maine; 1880, *Fish Hawk* 873, off Newport, Rhode Island, 100 fms.); 1882, TCAAS *5*: 528, pl. 58, fig. 13. Lectotype, here selected, YPM 15757 from the former locality; paralectotype YPM 15704 from the latter locality, only specimens.

striata Bush, **Lissospirata**
1897, TCAAS *10*: 132, figs. 5, a (1884, *Albatross* 2213, off Martha's Vineyard [Massachusetts], 384 fms.). Holotype USNM 77626, only specimen.

striatella Verrill and Bush, **Halonympha**
1898, PUSNM *20*: 810, pl. 72, figs. 2, 3; pl. 77, fig. 10 (1886, *Albatross* 2655, 338 fms.). Holotype USNM 203003, single valve.

striatula Verrill and Bush, **Montacuta**
1898, PUSNM *20*: 780, pl. 93, fig. 9 (1883-84, *Albatross* 2273, 2276, off Cape Hatteras, North Carolina, 15-48 fms.). Figured holotype USNM 77634 sta. 2273 [not 41486 as published. This reserved USFC number was inadvertently used for another species].

stricta Verrill, **Turbonilla** Plate 16, fig. 5
1873, ARUSCFF, p. 658 [365] [not figured] (Long Island Sound, off New Haven [Connecticut]). Lectotype, here selected, YPM 12849.

stricta Verrill and Bush, **Yoldiella iris**
1898, PUSNM *20*: 864, pl. 80, fig. 1 (1877, *Speedwell* 43, off Cape Sable [Nova Scotia], 90 fms.). Holotype USNM 74325, only specimen.

subangulata Verrill, **Gymnobela curta** Plate 14, fig. 4
1884, TCAAS *6*: 159 [not figured] (1883, *Albatross* 2043, 1467 fms., 2084, 1290 fms., 2038, 2033 fms., 2096, 1451 fms.). [None of the four type lots with the published catalogue numbers mentioned as being in the USNM were located by Bouchet and Warén (1980: 56) or the present author]. Lectotype, here selected, YPM 15696 sta. 2043.

subangulata Verrill and Bush, **Yoldiella**
1898, PUSNM *20*: 865, pl. 77, fig. 3; pl. 79, fig. 6 (1874, *Bache* 46, off Agamenticus Mountain [York Co., Maine], 51 fms.). Holotype USNM 159728, only specimen.

subimbrifer Verrill and Bush, **Cyclopecten**
1897, *in* Verrill, TCAAS *10*: 84 (off the eastern coast of the United States, 121-312 fms.); 1882, TCAAS *5*: 581, pl. 44, fig. 11 as *Pecten hoskynsi* Verrill, non Forbes; 1898 *in* Verrill and Bush, PUSNM *20*: 840, pl. 85, figs. 8, 9. Figured syntypes USNM 48762, fig. 8; USNM 48766, fig. 9.

sublaevis Verrill, **Rossia**
1878, AJS (3) *16*: 209 (Massachusetts Bay); 1880, AJS (3) *19*: 291, pl. 15, fig. 3. Syntypes USNM 576701, 1877, *Speedwell,* 85, 86, 57-100 fms., *teste* Roper and Sweeney (1978: 13).

sublevis Verrill and Bush, **Ledella messanensis**
1898, PUSNM *20*: 856, pl. 81, fig. 7 (1883-86, *Albatross*, thirteen stations between 42°47′N, 61°4′W and 38°20′N, 70°8′30″W, 1188-2033 fms.). Figured holotype USNM 35212 sta. 2038.

sublevis Verrill, **Poromya**
1884, TCAAS *6*: 221, pl. 32, fig. 21 (1883, *Albatross* 2097, off Chesapeake Bay, 1917 fms.). Holotype USNM 35263, only specimen.

subornata Verrill, **Elysia**
1901, TCAAS *11*: 29, pl. 4, fig. 4 (Castle Harbor [Bermuda], under stones, rare). Holotype YPM [not located].

subovata Verrill and Bush, **Neilonella**
1897, AJS (4) *3*: 57 [footnote] figs. 7, 8, 22 (1883-87, *Albatross*, many stations from off Georges Bank to Cape Hatteras [North Carolina], 125-1731 fms.); 1898, PUSNM *20*: 878, pl. 80, fig. 10; pl. 82, figs. 3, 4. Figured holotype 34826 or 34326 [*sic*] [not in USNM type collection].

subovata Verrill and Bush, **Nucula**
1898, PUSNM *20*: 852, pl. 81, fig. 8; pl. 83, fig. 5 (1880-85, *Fish Hawk*, *Albatross*, four stations between 40°N, 71°14′30″W and 37°8′N, 74°33′W, 157-444 fms.). Holotype USNM 40474, fig. 5, sta. 2171.

subturgida Verrill, **Bela** Plate 11, fig. 2
1884, TCAAS *6*: 161 [not figured] (1883, *Albatross* 2115, off Cape Hatteras [North Carolina], 843 fms.). Measured holotype USNM 35602 [with note "figured" on USNM type card], two specimens only.

subvitrea Verrill, **Bela** Plate 11, fig. 3
1884, TCAAS *6*: 160 [not figured] (1883, *Albatross* 2115, off Cape Hatteras [North Carolina], 843 fms.). Measured syntype, here selected lectotype, USNM 37811 [published no. 35601, both numbers on USNM type card with note "figured"]; paralectotype YPM 16660 from USNM 37811.

sulcata Verrill and Bush, **Limopsis**
1898, PUSNM *20*: 845, pl. 92, fig. 2; pl. 95, fig. 9; pl. 96, fig. 1 (1880–84, *Fish Hawk*, *Albatross*, ten stations between 40°8′N, 68°45′W and 37°7′4″N, 74°35′40″W, 64–349 fms.). Figured syntypes USNM 44829 sta. 2029 and USNM 159785 sta. 2199; syntypes YPM 5765 sta. 865 and YPM 5766 sta. 871.

sulcata Verrill, **Odostomia (Menestho)**
1880, PUSNM *3*: 380 [not figured] (1880, *Fish Hawk* 871, 894, off Martha's Vineyard [Massachusetts], 115, 365 fms.); 1882, TCAAS *5*: 539, pl. 58, fig. 17, genus changed to: *Menestho* [not in USNM or YPM type collections].

sulcatum Verrill, **Dentalium occidentale**
1884, TCAAS: *6*: 217 [not figured] (1883, *Albatross* 2076, 906 fms., 2077, 1255 fms., 2079, 75 fms.); non Lamarck 1818, changed to: *Dentalium* (*Antalis*) *occidentale georgiense*, Henderson (1920: 43). Type lot USNM 35098 sta. 2077 [specimen lost], was not located by Henderson who figured a specimen from USNM 52742 sta. 2582, off Martha's Vineyard [Massachusetts], 137 fms., pl. 5, fig. 5.

sulcifera Bush, **Pleurotomella**
1893, BMCZ *23*: 207, pl. 2, fig. 4 (1880, *Blake* 325, off Cape Fear [North Carolina], 647 fms.). Holotype MCZ 119050, only specimen.

swiftii Bush, **Turbonilla**
1899, PANSP *52*: 166 [not figured] (St. Thomas, West Indies); 1900, *in* Verrill and Bush, TCAAS *10*: 529, pl. 64, figs. 21, 21a. Figured holotype ANSP 72055.

syngenes Verrill, **Cingula**
1884, TCAAS *6*: 180, pl. 32, fig. 11 (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Figured holotype USNM 35453; paratype YPM 15771.

syrtensis Verrill, **Stauroteuthis**
1879, AJS (3) *18*: 469 (43°54′N, 58°44′W, on Banquereau Bank about 30 miles E. of Sable Island [off Nova Scotia] 250 fms.); 1880, AJS *19*: 294, pl. 16, figs. 1–5. Holotype USNM 382471, *teste* Roper and Sweeney (1978: 13).

tanneri Verrill, **Fissurella**
1882, PUSNM *5*: 333 [not figured] (1881, *Fish Hawk* 1046, off Delaware Bay, 104 fms.); 1884, TCAAS *6*: 255, pl. 29, figs. 13, 13a. Holotype USNM 43765, only specimen.

tanneri Verrill and Smith, **Typhlomangelia**
1884, *in* Verrill, TCAAS *6*: 163, pl. 31, fig. 8 (1883, *Albatross* 2084, 1290 fms.). Holotype USNM 38067, only specimen.

Taonidea Verrill, Division
1881, TCAAS *5*: 427, 431. Family mentioned: Desmoteuthidae Verrill 1881.

tarda Verrill, **Pleurobranchaea**
1880, AJS (3) *20*: 398 [not figured] (1880, *Fish Hawk* 814, 865-888, 895; 28-350 fms.); 1882, TCAAS *5*: 546, pl. 58, fig. 26. Figured type [not located in USNM or YPM type collections].

tarda Verrill, **Tethys (Aplysia)**
1901, TCAAS *11*: 26, pl. 3, figs. 4, 4a, 4b (Coney Island [Bermuda]). Holotype YPM [not located].

tenellus Verrill, **Angulus**
1873, ARUSCFF, p. 667 [383]. New name for *Angulus modestus* Verrill 1872, non Carpenter 1864, see under: **modestus** Verrill, **Angulus**.

tenera Verrill, **Choristes elegans**
1882, TCAAS *5*: 541, pl. 58, figs. 27, 27a (1881, *Fish Hawk* 1031, off Martha's Vineyard [Massachusetts], 225 fms.); 1884, *Ibid. 6*: pl. 29, figs. 9, a-b (juvenile). Figured holotype USNM 45251; paratype YPM 15769.

tenera Verrill, **Desmoteuthis**
1881, TCAAS *5*: 412, pl. 55, figs. 2-2d; pl. 56, fig. 3 (*Fish Hawk* 952, off Martha's Vineyard [Massachusetts], 396 fms.). Syntypes USNM 574850, location of only other syntype unknown, *teste* Roper and Sweeney (1978: 13).

tenera Verrill, **Heteroteuthis**
1880, AJS (3) *20*: 392 [not figured] (1880, *Fish Hawk* 865-880, off southern New England 65-500 fms.); 1881, TCAAS *5*: 357, pl. 46, figs. 2-2d, 3-3b; pl. 47, figs. 5, 5a; 1881, BMCZ *8*: 103, pl. 3, figs. 5-5b; pl. 8, figs. 2-2d, 3-3b. About 200 syntypes [not located in USNM or YPM]. Subsequently collected specimen mentioned by Verrill YPM 16116, *Blake* sta. 321.

tenue Verrill and Bush, **Caecum**
1900, TCAAS *10*: 537, pl. 65, fig. 5 (Bermuda). Figured holotype YPM 15670.

tenuis Verrill, **Aclis**
1882, TCAAS *5*: 528, pl. 58, fig. 19 (1880, *Fish Hawk* 873, off Martha's Vineyard [Massachusetts], 100 fms.). Figured holotype USNM 44821.

tenuis Verrill and Bush, **Montacuta bidentata**
1898, PUSNM *20*: 779, pl. 92, fig. 7 (1884, *Albatross* 2277, off Cape Hatteras, North Carolina, 16-17 fms.). Figured holotype USNM 77635.

teres Bush, **Odostomia engonia**
1885, TCAAS *6*: 467, pl. 45, fig. 9 ([1884] *Albatross* [2276], off Cape Hatteras [North Carolina], 15-16 fms.). Figured holotype USNM 44951; paratype YPM 16149.

teres Bush, **Scalaria**
1885, TCAAS *6*: 465, pl. 45, fig. 8 (1884, *Albatross* 2275, 2276, off Cape Hatteras [North Carolina], 16 fms.). Holotype USNM 44842 sta. 2276.

Teuthidea Verrill, Division
1880, TCAAS *5*: 427. Family mentioned: Teuthidae Owen 1838.

Tharsiella Bush, Genus
1897, TCAAS *10*: 113. New name for *Tharsis* Jeffreys 1883, non Giebel 1847. Type species: *Oxystele romettensis* Seguenza (1877 *in* Grillo, p. 7), original designation by Jeffreys.

tiarella Verrill, **Torellia fimbriata** Plate 10, fig. 3
1882, PUSNM *5*: 331 [not figured] (1880–81, *Fish Hawk* 869, 878, 939, 1025, 1026, 1033, 1038; 142–258 fms.; 1873, *Bache* 21B, 42°49′N, 68°50′W, near Cashes Ledge, off the coast of Maine, 52–90 fms.); 1882, TCAAS *5*: 521 [not figured]. Lectotype, here selected, USNM 45431 sta. 1026.

tincta Verrill, **Philine** Plate 10, fig. 6
1882, TCAAS *5*: 544 [not figured] (1881, *Fish Hawk* 921, off Martha's Vineyard [Massachusetts], 67 fms.). Lectotype, here selected, USNM 45648, two specimens only.

tincta Verrill, **Pleurotomella**
1885, TCAAS *6*: 412, pl. 44, fig. 4 (1884, *Albatross* 2224, 2574 fms., 2225, 2512 fms.). Figured holotype USNM 44652 sta. 2225; paratype USNM 44651 sta. 2224, only specimens.

Tindarinae Verrill and Bush, Subfamily
1897, AJS (4) *3*: 58, 59. Type genus: *Tindaria* Bellardi 1875.

Tindariopsis Verrill and Bush, Subgenus of **Tindaria**
1897, AJS (4) *3*: 59. Type species: *Malletia* (*Tindaria*) *agathida* Dall 1890, original designation.

tobagoansis A. H. Verrill, **Voluta musica**
1953, MCCSC no. *134*: 5 (fig.) (Tobago [West Indies]). Type and paratype [presumed to be] in author's collection.

tornata Verrill, **Odostomia** Plate 15, fig. 5
1884, TCAAS *6*: 196 [not figured] (1883, *Albatross* 2109, off Cape Hatteras [North Carolina], 142 fms.). Holotype USNM 38033, only specimen [with note "pl. 85, fig. 3" on USNM type card].

tornatum Verrill and Bush, **Caecum**
1900, TCAAS *10*: 537, pl. 65, fig. 1 (Bermuda). Figured holotype YPM 15671 and 10 paratypes.

tornatus Verrill, **Taranis morchii** Plate 13, fig. 2
1884, TCAAS *6*: 251 [not figured] (1883, *Albatross* 2077, 1255 fms.). Holotype USNM 37807; paratype YPM 15741, only specimens.

trigona Verrill, **Nucula**
1885, TCAAS *6*: 438 [not figured] (1884, *Albatross* 2194, 1140 fms., 2228, 1582 fms., 2229, 1423 fms. [off Maryland]); non Bronn 1849, non Seguenza 1877 changed to: *Nucula verrilli* Dall 1886, BMCZ *12*: 284; 1893, *in* Bush, BMCZ *23*: 240, pl. 1, fig. 6; 1898, *in* Verrill and Bush, PUSNM *20*: 853, pl. 95, fig. 10. Figured holotype USNM 45752 sta. 2229.

trilix Bush, **Skenea**
1885, ARUSCFF for 1883, p. 584 [not figured] ([1883] *Albatross* [2113], off Cape Hatteras, [North Carolina], 7-17 [15] fms.); 1885, TCAAS *6*: 464, pl. 45, figs. 7, 7a; 1897, *Ibid. 10*: 127, pl. 22, figs. 6, 10, 10a, 12; pl. 23, figs. 10, 15, genus changed to: *Circulus*. Figured holotype USNM 35365.

triquetra Verrill and Bush, **Montacuta**
1898, PUSNM *20*: 782, pl. 91, fig. 3 (1884, *Albatross* 2307, off Cape Hatteras, North Carolina, 43 fms.). Figured holotype USNM 77627, right valve.

trochoides Verrill, **Cyclostrema**
See under: **dalli** Verrill, **Cyclostrema**.

tryoni Bush, **Vitrinella**
1897, TCAAS *10*: 123, pl. 22, figs. 11, 11a (1884, *Albatross* 2278, off Cape Hatteras, North Carolina, 16 fms.). Holotype USNM 41561, only specimen.

tubicola Verrill and Smith, **Lepetella**
1880, *in* Verrill, AJS (3) *20*: 396 [not figured] (1880, *Fish Hawk* 869, 894; off Martha's Vineyard [Massachusetts], 192, 365 fms.); 1882, TCAAS *5*: 534, pl. 58, figs. 29 and 29a. Numerous syntypes USNM 43723 sta. 869 and USNM 43726 sta. 894; radula of USNM 153171 figured by Hickman (1983: 78, figs. 11, 12b).

tumens Verrill, **Chione** Plate 3, fig. 3
1870, AJS (2) *49*: 222 [not figured] (La Paz [Baja California]). Lectotype, here selected, YPM 3021b.

tumida Verrill, **Gastranella**
1872, AJS (3) *3*: 210, 286, pl. 6, figs. 3, 3a (Long Island Sound near New Haven [Connecticut]). Figured syntypes YPM 8845.

turgida Verrill and Bush, **Cuspidaria**
1898, PUSNM *20*: 799, pl. 72, fig. 7; pl. 77, fig. 4 (1886, *Albatross* 2714, 1825 fms.). Holotype USNM 78789, only specimen.

turgida Verrill and Smith, **Diplodonta**
1881, *in* Verrill, AJS (3) *22*: 303 [not figured] (1881, *Fish Hawk* 950, 75 miles south of Martha's Vineyard [Massachusetts], 69 fms.); 1882, TCAAS *5*: 569, pl. 58, fig. 42. Holotype USNM 46143, single valve.

undata Verrill, **Neaera**
1884, TCAAS *6*: 223 [not figured] (1883, *Albatross* 2098, off Chesapeake Bay [Maryland], 2221 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 798, pl. 72, fig. 1; pl. 78, figs. 3, 4 [subsequently discovered specimen]. Holotype USNM 35256, fig. 1, single valve.

undatus Verrill and Smith, **Pecten**
1885, *in* Verrill, TCAAS *6*: 444, pl. 44, fig. 21 (1884, *Albatross* 2229, 1423 fms., 2221, 1525 fms.). Holotype USNM 44827 sta. 2229; paratype USNM 44828 sta. 2221, single preserved specimen and a fragment.

undulata Verrill, **Periploma**
1885, TCAAS *6*: 433 [not figured] (1885, *Albatross* 2234, 816 fms.); 1898, *in* Verrill and Bush, PUSNM *20*: 823, pl. 79, fig. 1; pl. 87, fig. 5. Holotype USNM 44840, only specimen.

unilirata Bush, **Turbonilla**
1899, PANSP *52*: 165, pl. 8, fig. 6 (St. Thomas [Virgin Islands]). Figured holotype ANSP 79010.

valida Verrill and Bush, **Turbonilla**
1900, TCAAS *10*: 528, pl. 64, fig. 20 (Bermuda). Holotype YPM 15754, only specimen.

ventricosa Verrill and Bush, **Cuspidaria**
1898, PUSNM *20*: 802, pl. 72, fig. 5; pl. 76, fig. 6 (1882–86, *Fish Hawk*, *Albatross*, three stations between 40°29′N, 66°4′W and 38°27′30″N, 70°54′30″W, 349–1769 fms.). Figured syntypes USNM 52548 fig. 5, right valve, sta. 2752; USNM 78783 fig. 6, left valve, sta. 2715; syntype YPM 8825 sta. 1093. Only four valves collected.

veriformis S. I. Smith, **Aeolis**
1860, ALNHNY *7*: 160 [not figured] ([Gardiner's Bay, Long Island, Suffolk Co., New York]). Holotype [not located], only specimen.

veronicae Verrill, **Cratena**
1880, PUSNM *3*: 389 [not figured] (1879, *Speedwell* 328, off Cape Cod [Massachusetts], 23 fms.); 1882, TCAAS *5*: 553 [not figured] [not in USNM or YPM type collections].

verrilli Tryon, **Cyclostrema**
See under: **cingulatum** Verrill, **Cyclostrema**.

verrilli Henderson, **Dentalium (Fissidentalium) meridionale**
See under: **solidum** Verrill, **Dentalium**.

verrilli Bush, **Leptogyra**
1897, TCAAS *10*: 136, pl. 23, figs. 13, 13a (1884, *Albatross* 2174, off Delaware Bay, 1594 fms.). Lectotype USNM 859033 selected by Marshall (1988: 959, figs. 2a–c); paralectotype, figured by Bush, USNM 77623; paralectotype YPM 15806.

verrilli Dall, **Nucula**
See under: **trigona** Verrill, **Nucula**.

verrillii Bush, **Trophon**
1893, BMCZ *23*: 214, pl. 1, fig. 16 (1880, *Blake* 325, off Cape Fear [North Carolina], 647 fms.). Figured holotype MCZ 119157.

verrilliana Bush, **Eulima**
1909, AJS (4) *27*: 479. New name for *Eulimella nitida* Verrill 1884, non *Melania nitida* Philippi 1840 nor *Eulima nitida* A. Adams 1866.

verrucosa Verrill, **Eledone**
1881, BMCZ *8*: 105, pls. 5, 6 (1880, *Blake* 305, 312, off northeastern extremity of Georges Bank, 810, 466 fms.); 1917, Berry, PSNSP *69*: 5, fig. 1 distal

portion of right third arm of type. Figured holotype MCZ 3489 sta. 305 [lost]; syntypes USNM 729732 sta. 305 and USNM 577583 sta. 312, *teste* Roper and Sweeney (1978: 14).

virens Verrill, **Dolabrifera**
1901, TCAAS *11*: 24, fig. 1; pl. 2, figs. 4a, 4b, 5a, 5b; pl. 4, fig. 11 (Hungry Bay [Bermuda], under stones at low tide). Figured holotype; five paratypes YPM [not located].

virginiana Verrill, **Marginella**
1885, TCAAS *6*: 420 [not figured] (1884, *Albatross* 2272, off Cape Hatteras [North Carolina], 15 fms., 2265, off Chesapeake Bay [Maryland], 70 fms.). Non *Prunum virginiana* Conrad 1868, changed to: *Marginella smithii* Verrill 1885, *Ibid.* p. 452; 1893, *in* Bush, BMCZ *23*: 240, pl. 1, fig. 18. Figured holotype USNM 44834 sta. 2272 [also paratypes under same number].

vitrea Verrill, **Pleurotomella**
1885, TCAAS *6*: 414, pl. 44, fig. 6 (1884, *Albatross* 2212, 428 fms., 2213, 384 fms.). Figured holotype USNM 44654 sta. 2212; paratypes USNM 40472 sta. 2213, three specimens only.

vitrea Verrill, **Styliola**
1872, AJS (3) *3*: 210, 284, pl. 6, fig. 7 (among *Salpae*, off Gay Head, Martha's Vineyard [Massachusetts]). Syntypes YPM [not located].

whiteavesii Verrill, **Lovenella**
1880, AJS (3) *20*: 396 [not figured] (1880, *Fish Hawk* 891, 894, off southern New England, 500, 365 fms.; Gulf of St. Lawrence, Whiteaves); 1882, TCAAS *5*: 522, pl. 42, fig. 7, genus changed to: *Cerithiella*, new name for *Lovenella* Sars 1878, non Hincks 1869. Syntypes National Museum of Natural Sciences, Ottawa, Canada, 161, from the latter locality, *teste* Smith (1981: 4).

Yoldiella Verrill and Bush, Genus
1897, AJS (4) *3*: 55. Type species: *Yoldia lucida* Loven 1846, original designation. Confirmed, 1985, Bulletin of Zoological Nomenclature *42* (2): 146, Opinion 1306, *Yoldiella* name no. 2250, *Y. lucida* name no. 2945.

zonatus Verrill, **Poecilozonites bermudensis**
1902, TCAAS *11*: 728 [316] footnote [as *zonata*]; 1906, *Ibid. 13*: 164 [120], pl. 26, figs. 1, 2; pl. 27, figs. 2a–l, types (Walsingham limestones at the quarries near the west and southwest shores of Castle Harbor; near Bailey Bay; near Coney Island; Devonshire and Paget formations, examples figured are all of the latter period). Syntypes YPM [not located by Gould (1969: 506)].

LITERATURE CITED

Bartsch, P. 1909. Pyramidellidae of New England and the adjacent region. Proceedings of the Boston Society of Natural History **34** (4): 67-113, pls. 11-14, February.

Berry, S. S. 1917. On *Moschites verrucosa* (Verrill) and its allies. Proceedings of the Academy of Natural Sciences of Philadelphia **69** (1): 2-6, figs. 1-2 January.

Boss, K. J. 1968. The subfamily Tellininae in the Western Atlantic the genera *Tellina* (Part II) and *Tellidora*. Johnsonia **4** (46): 273-344.

Boss, K. J. and A. S. Merrill. 1965. The family Pandoridae in the Western Atlantic. Johnsonia **4** (44): 181-215.

Bouchet, P. and A. Warén 1979. The abyssal molluscan fauna of the Norwegian Sea and its relation to other faunas. Sarsia **64**: 211-243.

_____ 1980. Revision of the Northeast Atlantic Bathyal and Abyssal Turridae (Mollusca, Gastropoda) [1]. The Journal of Molluscan Studies, Supplement 8: 1-119.

_____ 1985. Revision of the Northeast Bathyal and Abyssal Neogastropoda excluding Turridae (Mollusca, Gastropoda) [2]. Bollettino Malacologico, Supplemento 1: 123-296.

Clench, W. J. and I. P. Farfante 1945. The genus *Murex* in the Western Atlantic. Johnsonia **1** (17): 1-58.

Clench, W. J. and T. E. Pulley 1952. Notes on some marine shells from the Gulf of Mexico, with a description of a new species of *Conus*. The Texas Journal of Science **4**: 59-61, pl. A.

Clench, W. J. and R. D. Turner. 1951. The genus *Epitonium* in the Western Atlantic. Part I. Johnsonia **2** (30): 249-288.

_____ 1952. The genera *Epitonium* (Part II), *Depressiscala*, *Cylindriscala*, *Nystiella* and *Solutiscala* in the Western Atlantic. Johnsonia **2** (31): 289-356.

_____ 1960. The genus *Calliostoma* in the Western Atlantic. Johnsonia **4** (40): 1-80.

Coan, E. V. 1976. The availability of the taxa proposed in the Minutes of the Conchological Club of Southern California. The Veliger **18** (3): 326-331.

_____ 1988. Recent Eastern Pacific species of the bivalve genus *Semele*. The Veliger **31** (1/2): 1-42.

Cossmann, M. 1896. Essais de Paléoconchologie comparée. Paris. deuxième livraison, pp. 1-179, pls. 1-8.

Farfante, I. P. 1947. The genera *Zeidora*, *Nesta*, *Emarginula*, *Rimula* and *Puncturella* in the Western Atlantic. Johnsonia **2** (24): 93-148.

Gennaro, Jr., J. F. 1971. The creature revealed. Natural History. The Journal of the American Museum of Natural History. **80** (3): 24, 84.

Gosliner, T. M. 1985. Redescription and systematic position of *Pleurobranchaea obesa* (Verrill, 1882) (Opisthobranchia: Pleurobranchaeidae). The Veliger **28** (l): 109-114.

Gould, A. A. 1841. Report on the Invertebrata of Massachusetts, comprising the Mollusca, Annelida, and Radiata. Cambridge, Ma., pp. i-vi, 1-373, 15 plates comprising figs. 1-213.

_____ 1870. Report on the Invertebrata of Massachusetts. Second edition, comprising the Mollusca. Edited by W. G. Binney. Boston, Ma., pp. i-v [3] 1-524, text figs. 350-754, colored plates 16-27 comprising figs. 214-349.

Gould, S. J. 1969. An evolutionary microcosm: Pleistocene and Recent history of the land snail *P.* (*Poecilozonites*) in Bermuda. Bulletin of the Museum of Comparative Zoology **138** (7): 107-523, pls. 1-5.

Grillo, J. G. 1877. Descriptions de quelques especes nouvelles ou peu connues. Naples. 8vo. pp. 1-16.

Hayes, H. 1972. The recent Pteriidae (Mollusca) of the Western Atlantic and Eastern Pacific Oceans [Unpublished Ph.D. thesis]. Georgetown University, Washington, D.C. Dissertation Abstract International **33** B (8): 4039.

Henderson, J. B. 1920. A monograph of the east American Scaphopod mollusks. United States National Museum, Bulletin **111**, pp. vi, 177, pls. 1-20.

Hickman, C. E. 1983. Radula patterns, systematics, diversity and ecology of deep-sea limpets. The Veliger **26** (2): 73-92.

Marshall, B. A. 1988. Skeneidae, Vitrinellidae and Orbitestellidae (Mollusca: Gastropoda) associated with biogenic substrata from bathyal depths off New Zealand and New South Wales. Journal of Natural History **22**: 949-1004.

Mackel, R. P. 1986. Biochemical analysis of preserved *Octopus giganteus* tissue. Cryptozoology **5**: 55-62.

Radwin, G. E. 1972. The systematic position of *Urosalpinx carolinensis* Verrill, 1884 with comments on the genus *Mohnia* Friele, 1878. Transactions of the San Diego Society of Natural History **16** (16): 339-342.

Richards, M. C. and W. E. Old, Jr. 1969. A catalogue of molluscan type specimens in the Department of Living Invertebrates. The American Museum of Natural History, New York, New York. Issued by the Department of Living Invertebrates, 147 pp. [mimeographed].

Roper, C. F. E. and M. J. Sweeney. 1978. A catalog of the type-specimens of recent Cephalopoda in the National Museum of Natural History. Smithsonian Contributions to Zoology, no. **278**, pp. 19.

Sanders, H. L. and J. A. Allen. 1985. Studies on deep-sea Protobranchia (Bivalvia); the family Malletiidae. Bulletin of the British Museum of Natural History (Zoology) **49** (2): 195-238.

Sasaki, M. 1929. A monograph of the Dibranchiate Cephalopods of the Japanese and adjacent waters. Journal of the Faculty [College] of Agriculture, Hokkaido Imperial University, Sapporo **20** Supplementary number, pp. i-v, 1-357, pls. 1-30.

Scott, P. H. 1986. New species of *Adontorhina* (Bivalvia: Thyasiridae) from the Northeast Pacific, with notes on *Adontohrina cyclia* Berry, 1947. The Veliger **29** (2): 150-156.

Smith, M. F. I. 1981. Type specimens of molluscs in the National Museum of Natural Sciences, National Museums of Canada, Ottawa. Publications in Zoology, National Museum of Natural Sciences, Canada, no. **15**, pp. i-iv, 1-36.

Smith, S. I. and O. Harger. 1874. Report on the dredging in the region of St. Georges Bank in 1872. Transactions of the Connecticut Academy of Arts and Sciences **3** (1): 1-57, pl. 1-7 (1-32, July; 33-57, August).

Strong, A. M., G. D. Hanna and L. G. Hertlein 1933. The Templeton Crocker expedition of the California Academy of Sciences, 1932, no. 10. Marine mollusks from Acapulco, Mexico with notes on other species. Proceedings of the California Academy of Sciences (Ser. 4) **21** (10): 117-130, pls. 5-6.

Stuardo, J. R. 1968. On the phylogeny, taxonomy and distribution of the Limidae (Mollusca: Bivalvia) pp. 327, 26 pls, 44 figs., 24 maps. [Unpublished Ph.D. thesis]. Harvard University, Cambridge, Ma.

Turner, R. D. 1955. The family Pholadidae in the Western Atlantic and Eastern Pacific. (Part II) Martesiinae, Jouannetiinae and Xylophaginae. Johnsonia **3** (34): 65-160.

_____ 1955. Scaphopods of the *Atlantis* dredgings in the Western Atlantic with a catalogue of the Scaphopod types in the Museum of Comparative Zoology. Papers in Marine Biology and Oceanography, Pergamon Press Ltd., London, pp. 309-320.

Vokes, E. H. 1970. Cenozoic Muricidae of the Western Atlantic region. Part 5. *Pterynotus* and *Poirieria*. Tulane Studies in Geology and Paleontology **8** (1): 1-50, 8 pls.

Warén, A. 1978. The taxonomy of some north Atlantic species referred to *Ledella* and *Yoldiella* (Bivalvia). Sarsia **63** (4): 213-219.

DREDGING STATIONS MADE BY VESSELS OF THE UNITED STATES FISH COMMISSION AND UNITED STATES COAST SURVEY BETWEEN 1877-1886 WHICH ARE TYPE LOCALITIES OF SPECIES MENTIONED IN THE PRECEDING LIST.

DREDGINGS BY SPEEDWELL, 1877-79

STATION NO.	LONGITUDE	LATITUDE	DEPTH IN FATHOMS
18	42°29′	70°38′	45
34	42°37′	09°39′	160
43	43°05.5′	65°02′	90
46	43°05.5′	65°09′	90
52	43°26.5′	65°14′	47
56-58	not given	not given	16
	[Halifax Harbor]		
70	42°45.5′	62°43′	190
85	44°04′	63°27′	101
86	44°04′	63°27′	101
98	not given	not given	18
	[Halifax Harbor]		
99	not given	not given	18
	[Halifax Harbor]		
142	42°34′	70°32′	8.5
148	42°33′	70°41.5′	16
186	42°33′	69°55′	110
194	42°33.5′	69°58.5′	110
254	41°57′	70°17.5′	21
292	42°03.5′	70°18.5′	29
293	42°03.5′	70°19.5′	27
304	42°10′	69°45′	122
313	41°58′	70°09′	15
321	42°03′	70°15′	29.5
325	42°14.5′	70°00.5′	83
326	42°14.5′	70°02′	75
327	42°11′	70°12.5′	17
328	42°10′	70°13′	23
329	42°00′	70°12′	26
330	42°09.5′	70°13′	26
340	41°51′	70°27.5′	14

DREDGINGS BY BLAKE, 1878-80

STATION NO.	LONGITUDE	LATITUDE	DEPTH IN FATHOMS
142 Ag.	18°21′45″	64°37′50″	27
148 Ag.	17°17′12″	62°46′43″	208
245 Ag.	12°07′55″	61°50′45″	1010
260 Ag.	12°03′30″	61°47′10″	291
278 Ag.	13°04′50″	59°37′40″	69
295 Ag.	13°14′18″	59°41′12″	180
303 Ag.	41°34′30″	65°54′30″	306
305 Ag.	41°33′15″	65°51′25″	810
307 Ag.	41°29′45″	65°47′10″	980
312 Ag.	39°50′30″	70°11′00″	466
313 Ag.	32°31′50″	78°45′00″	75
319 Ag.	32°25′00″	77°42′30″	262
325 Ag.	33°35′20″	76°00′00″	647
326 Ag.	33°42′15″	76°00′50″	464
328 Ag.	34°28′45″	75°22′50″	1632
329 Ag.	34°49′40″	75°14′40″	603

DREDGINGS BY FISH HAWK, 1880-82

STATION NO.	LONGITUDE	LATITUDE	DEPTH IN FATHOMS
770	not given	not given	8.25
	[Narragansett Bay]		
812	not given	not given	28.5
	[Off Block Island]		
813	not given	not given	28.5
	[Off Block Island]		
814	not given	not given	27.5
	[Off Block Island]		
816	not given	not given	8.5
	[Narragansett Bay]		
817	not given	not given	10
	[Narragansett Bay]		
856	not given	not given	11
	[Narragansett Bay]		
857	not given	not given	19
	[Narragansett Bay]		
858	not given	not given	14
	[Narragansett Bay]		
859	not given	not given	17.5
	[Vineyard Sound]		
860	not given	not given	17.5
	[Vineyard Sound]		

Fish Hawk (continued)

861	not given	not given	17
	[Vineyard Sound]		
862	not given	not given	17
	[Vineyard Sound]		
863	not given	not given	18
	[Vineyard Sound]		
864	not given	not given	13
	[Vineyard Sound]		
865	40°05′	70°23′	65
866	40°05′18″	70°22′18″	65
867	40°05′42″	70°22′06″	64
868	40°01′42″	70°22′30″	162
869	40°02′18″	70°23′06″	192
870	40°02′36″	70°22′58″	155
871	40°02′54″	70°23′40″	115
872	40°05′39″	70°23′52″	86
873	40°02′	70°57′	100
874	40°00′00″	70°57′00″	85
875	39°57′00″	70°57′30″	126
876	39°57′00″	70°56′00″	120
877	39°56′00″	70°54′18″	126
878	39°55′00″	70°54′15″	142.5
879	39°49′30″	70°54′00″	225
880	39°48′30″	70°54′00″	252.5
881	39°46′30″	70°54′00″	325
882	not given	not given	12.5
	[Narragansett Bay]		
883	not given	not given	13
	[Narragansett Bay]		
884	not given	not given	5
	[Narragansett Bay]		
885	not given	not given	16
	[Narragansett Bay]		
886	not given	not given	19
	[Off Block Island]		
887	not given	not given	19
	[Off Block Island]		
888	not given	not given	19
	[Off Block Island]		
889	not given	not given	11
	[Off Block Island]		
890	not given	not given	11
	[Off Block Island]		
891	39°46′00″	71°10′00″	480"?"
892	39°46′00″	71°05′00″	487

Fish Hawk (continued)

893	39°52′20″	70°58′00″	372
894	39°53′00″	70°58′30″	365
895	39°56′30″	70°59′45″	238
896	37°26′00″	74°19′00″	56
897	37°25′00″	74°18′00″	157.5
898	37°24′00″	74°17′00″	300
899	37°22′00″	74°29′00″	57.5
921	40°07′48″	70°43′54″	67
925	39°55′00″	70°47′00″	229
928	not given	not given	10
	[Vineyard Sound]		
937	39°49′25″	69°49′00″	616
938	39°51′00″	69°49′15″	317
939	39°53′00″	69°50′30″	264
940	39°54′00″	69°51′30″	134
945	39°58′00″	71°13′00″	207
946	39°55′30″	71°14′00″	247
947	39°53′30″	71°13′30″	319
948	not given	not given	7
	[Buzzard's Bay]		
949	40°03′00″	70°31′00″	100
950	40°07′00″	70°32′00″	71
951	39°57′00″	70°31′30″	225
952	39°55′00″	70°28′00″	396
978	not given	not given	17
	[Off Chatham, Cape Cod]		
987	40°54′	70°48′30″	28
994	39°40′	71°30′	368
997	39°42′	71°32′	335
999	39°45′13″	71°30′	266
1025	39°49′	71°25′	216
1026	39°50′30″	71°23′	182
1028	39°57′	69°17′	410
1029	39°57′06″	69°16′	458
1031	39°57′	69°19′	255
1032	39°56′	69°22′	208
1033	39°56′	69°24′	183
1035	39°57′	69°28′	120
1036	39°58′	69°30′	94
1038	39°58′	70°06′	146
1039	39°59′	70°06′	130
1046	38°33′	73°18′	104
1048	38°29′	73°21′	435
1092	39°58′	69°42′	202
1093	39°56′	69°42′	349
1096	39°53′	69°47′	317

Fish Hawk (continued)

1097	39°54′	69°44′	158
1118	40°03′	70°45′	70
1124	40°01′	68°54′	640
1137	39°40′	71°52′	173
1142	39°32′	72°00′	322
1143	39°29′	72°01′	452
1154	39°55′31″	70°39′	193

DREDGINGS BY U. S. FISH COMMISSION STEAMER ALBATROSS, 1883–1986

STATION NO.	LONGITUDE	LATITUDE	DEPTH IN FATHOMS
2003	37°16′30″	74°20′36″	641
2004	37°19′45″	74°26′06″	102
2011	36°38′30″	74°40′10″	81
2012	36°41′15″	74°39′50″	66.5
2025	40°02′00″	70°27′00″	239
2033	39°32′30″	72°18′35″	379
2036	38°52′40″	69°24′40″	1735
2037	38°53′00″	69°23′30″	1731
2038	38°30′30″	69°08′25″	2033
2041	39°22′50″	68°25′00″	1608
2042	39°33′00″	68°26′45″	1555
2043	39°49′00″	68°28′30″	1467
2048	40°02′00″	68°50′30″	547
2050	39°42′59″	69°21′20″	1050
2051	39°41′00″	69°20′20″	1106
2052	39°40′05″	69°21′25″	1098
2055	42°32′00″	68°17′00″	99.5
2072	41°53′00″	65°35′00″	858
2074	41°43′00″	65°21′50″	1309
2076	41°13′00″	66°00′50″	906
2077	41°09′40″	66°02′20″	1255
2078	41°11′30″	66°12′20″	499
2079	41°13′00″	66°19′50″	75
2083	40°26′40″	67°05′15″	959
2084	40°16′50″	67°05′15″	1290
2092	39°58′35″	71°00′30″	197
2094	39°44′30″	71°04′00″	1022
2096	39°22′20″	70°52′20″	1451
2097	37°56′20″	70°57′30″	1917
2098	37°40′30″	70°37′30″	2221
2099	37°12′20″	69°30′00″	2949
2100	39°22′60″	68°34′30″	1628

Albatross (cont'd.)

2102	38°44′00″	72°38′00″	1209
2103	38°47′20″	72°37′00″	1091
2105	37°50′00″	73°03′50″	1395
2106	37°41′20″	73°03′20″	1497
2108	35°16′00″	75°02′30″	48
2109	35°14′20″	74°59′10″	142
2110	35°12′10″	74°57′15″	516
2111	35°09′50″	74°57′40″	938
2113	35°20′30″	75°19′00″	15
2114	35°20′00″	75°20′00″	14
2115	35°49′30″	74°34′45″	843
2132	19°55′39″	75°49′16″	478
2137	17°44′50″	75°39′20″	47
2150	13°34′45″	81°21′10″	382
2171	37°59′30″	73°48′40″	444
2174	38°15′00″	72°03′00″	1594
2189	39°49′30″	70°26′00″	600
2193	39°44′30″	70°10′30″	1122
2194	39°43′45″	70°07′00″	1140
2199	39°57′30″	69°41′10″	78
2203	39°34′15″	71°41′15″	705
2205	39°35′00″	71°18′45″	1073
2208	39°33′00″	71°16′15″	1178
2209	39°34′45″	71°31′30″	1080
2212	39°59′30″	70°30′45″	428
2213	39°58′30″	70°30′00″	384
2215	39°49′15″	70°31′45″	578
2217	39°47′20″	69°34′15″	924
2221	39°05′30″	70°44′30″	1525
2222	39°03′15″	70°50′45″	1537
2224	36°16′30″	68°21′00″	2574
2225	36°05′30″	69°51′45″	2512
2226	37°00′00″	71°54′00″	2045
2227	36°55′23″	71°55′00″	2109
2228	37°25′00″	73°06′00″	1582
2229	37°38′40″	73°16′30″	1423
2230	38°27′00″	73°02′00″	1168
2231	38°29′00″	73°09′00″	965
2233	38°36′30″	73°06′00″	630
2234	39°09′00″	72°03′15″	810
2235	39°12′00″	72°03′30″	707
2249	40°11′00″	69°52′00″	53

Albatross (cont'd.)

2262	39°54′45″	69°29′45″	250
2265	37°07′40″	74°35′40″	70
2268	35°10′40″	75°06′10″	68
2269	35°12′30″	75°05′00″	48
2272	35°20′10″	75°14′00″	15
2273	35°20′30″	75°17′30″	17
2274	35°20′35″	75°18′05″	16
2276	35°20′45″	75°19′15″	16
2277	35°20′50″	75°19′50″	16
2278	35°20′55″	75°20′20″	16
2283	35°21′15″	75°23′15″	14
2307	35°42′00″	74°54′30″	43
2367	22°38′00″	87°00′00″	124
2368	29°15′00″	85°32′00″	28
2369	29°16′30″	85°32′00″	26
2370	29°18′15″	85°32′00″	25
2371	29°17′00″	85°30′45″	26
2372	29°15′30″	85°29′30″	27
2373	29°14′00″	85°29′15″	25
2374	29°11′30″	85°29′00″	26
2375	29°10′00″	85°31′00″	30
2384	28°45′00″	88°15′30″	940
2385	28°51′00″	88°18′00″	730
2484	44°20′00″	57°11′15″	204
2492	45°22′00″	58°43′45″	75
2499	44°46′30″	59°55′45″	130
2547	39°54′30″	70°20′00″	390
2566	37°23′00″	68°08′00″	2620
2568	39°15′00″	68°08′00″	1781
2570	39°54′00″	67°05′30″	1813
2571	40°09′30″	67°09′00″	1356
2572	40°29′00″	66°04′00″	1769
2574	41°02′30″	65°08′15″	1791
2582	39°50′00″	71°43′00″	137
2655	27°22′00″	78°07′30″	338
2689	39°42′00″	71°15′30″	525
2697	47°40′00″	47°35′30″	206
2706	41°28′30″	65°35′30″	1188
2713	38°20′00″	70°08′30″	1859
2714	38°22′00″	70°17′30″	1825
2718	38°24′00″	71°52′00″	1569
2723	36°47′00″	73°09′30″	1685

PAPERS ON MOLLUSKS BY ADDISON EMERY VERRILL (1839-1926)

This bibliography is extracted from the very complete one by Coe (1930: See under Relevant Literature, p. 13) and his reference numbers are included. Mentioned here are only works which in some way relate to mollusks. Coe did not include book reviews in his work, but those that were located are mentioned below. Only one significant molluscan work was overlooked, "The Cephalopods of the northeastern coast of America" (1882), which seems strange since I have Coe's copy of this work.

1862 Notes on the natural history of Anticosti. Proceedings of the Boston Society of Natural History **9**: 132-135. Coe 2.

1870 Recent explorations of the deep-sea faunae. American Journal of Science and Arts (2) **49**: 129-134 (January). Coe 25.

1870 Descriptions of shells from the Gulf of California. American Journal of Science and Arts (2) **49**: 217-227 (March). Coe 246.

1870 [Review] *Mollu can fauna of New Haven, A critical review of all of the marine, fresh water, and land mollusca of the region, wi descriptions of many of the living animals and of tu new species;* by George H. Perkins. 1869, Proceedings of the Boston Society of Natural History. American Journal of Science and Arts (2) **49**: 276-277 (March). Not in Coe.

1870 [Review] *Report on the Invertebrata of Massachusetts, second edition, comprising the Mollusca*; by Augustus A. Gould, edited by W. G. Binney. Boston, 1870. American Journal of Science and Arts (2) **49**: 423-426 (May). Not in Coe.

1870 Descriptions of some New England Nudibranchiata. American Journal of Science and Arts (2) **50**: 405-408, figs. 1-3 (November). Coe 247.

1871 On the distribution of marine animals on the southern coast of New England. American Journal of Science and

Arts (3) **2**: 357-362 (November). Reprinted: Annals and Magazine of Natural History **9**: 92-97, 1872. Coe 29.

1871 Smith, S. I. and A. E. Verrill. Notice of the Invertebrata dredged in Lake Superior in 1871, by the United States Lake Survey, under the direction of General C. B. Comstock, S. I. Smith, naturalist. American Journal of Science and Arts (3) **2**: 448-454 [Mollusca, pp. 448-449; also repaged: 1-7] (December). Not in Coe.

1871 Marine fauna of Eastport, Maine. Bulletin of The Essex Institute **3**: 2-6. Coe 30.

1872 Recent additions to the molluscan fauna of New England and the adjacent waters, with notes on other species. American Journal of Science and Arts (3) **3**: 209-213 (March); pp. 281-290, pls. 6-8 (April). Coe 248.

1873 Report upon the invertebrate animals of Vineyard Sound and the adjacent waters, with an account of the physical characters of the region. First Annual Report of the United States Commissioner of Fish and Fisheries, pp. 295-778, pls. 1-38; author's edition, 1874, with altered title page, pp. i-vi, 1-478. Coe 36.

1873 Verrill, A. E., S. I. Smith and Oscar Harger. Catalogue of the marine invertebrate animals of the southern coast of New England, and adjacent waters. In the preceding: pp. 537-746; author's edition, pp. 243-453.

1873-1874 Results of recent dredging expeditions on the coast of New England. American Journal of Science and Arts (3) **5**: 1-16 (January). (1873) Separate copies distributed December 13, 1872; 98-106 (February); **6**: 435-441 (December). Coe 34. 1873, **7**: 38-46 (January); 131-138 (February); 1874, 405-414, pls. 4-5 (April); 498-505, pls. 6-8 (May). Coe 38.

1873 Remarks on certain errors in Mr. Jeffreys' article on *The Mollusca of Europe compared with those of Eastern North America*. American Journal of Science and Arts (3) **5**: 465-472 (June). Reprinted: Annals and Magazine of Natural History **11**: 206-213. Coe 249.

1873 Discovery of an *Octopus* inhabiting the coast of New England. American Naturalist **7**: 394–397 (July). Coe 250.

1874 Occurrence of gigantic cuttle-fishes on the coast of Newfoundland. American Journal of Science and Arts (3) **7**: 158– 161 (February). Coe 252.

1874 The giant cuttle-fishes of Newfoundland and the common squids of the New England coast. American Naturalist **8**: 167–174 (March). Coe 253.

1874 Explorations of Casco Bay, Maine, by the United States Fish Commission, in 1873. Proceedings of the American Association for the Advancement of Science, Portland Meeting, August 1873, 22B, 340–395, pls. 1–6 (June). Coe 40.

1874 Notice of some dredgings made near Salem [Massachusetts] by Dr. A. S. Packard, Jr. and C. Cooke in 1873. Sixth Annual Report of the Peabody Academy of Science, Salem, pp. 58–60 (July). Coe 39.

1875 The colossal Cephalopods of the North Atlantic. American Naturalist **9**: 21–86, text figs. 1–28 (February). Coe 254.

1875 The gigantic Cephalopods of the North Atlantic. American Journal of Science and Arts (3) **9**: 123–130, pls. 2–4 (February); pp. 177–185, pl. 5 (March). Coe 255.

1875 Results of dredging expeditions off the New England coast in 1874. American Journal of Science and Arts (3) **9**: 411–415, pl. 7 (June); **10**: 36–43, pls. 3, 4 (July); 196–202 (September). Coe 41.

1875 Notice of the occurrence of another gigantic Cephalopod (*Architeuthis*) on the coast of Newfoundland, in December, 1874. American Journal of Science and Arts (3) **10**: 213–214 (September). Reprinted: Annals and Magazine of Natural History **16**: 266. Coe 256.

1875 On the Post-Pliocene fossils of Sankoty Head, Nantucket Island; with a note on the geology; by S. H. Scudder. American Journal of Science and Arts (3) **10**: 364–375 (November). Coe 42.

1876 Note on gigantic Cephalopods,—a correction. American Journal of Science and Arts (3) **12**: 236-237 (September). Coe 257.

1877 Occurrence of another gigantic Cephalopod on the coast of Newfoundland. American Journal of Science and Arts (3) **14**: 425-426 (November). Coe 258.

1878 Notice of recent additions to the marine fauna of the eastern coast of North America. American Journal of Science and Arts (3) **16**: 207-215 (September); 371-378 (November). Coe 44.

1878 Occurrence of fossiliferous Tertiary rocks on the Grand Bank and Georges Bank. American Journal of Science and Arts (3) **16**: 323-324 (October). [Mollusks mentioned]. Coe 45.

1879 Notice of recent additions to the marine fauna of the eastern coast of North America. American Journal of Science and Arts (3) **17**: 239-243 (March); 309-315 (April); **18**: 468-470 (December). Coe 47.

1879 Preliminary check-list of the marine Invertebrata of the Atlantic Coast, from Cape Cod to Gulf of St. Lawrence, pp. 1-32 (June) Special edition only; first supplement pp. 1-2, 1881; second supplement, pp. 1-2, 1882. Coe 48.

1879 Notice of recent additions to the marine Invertebrata, of the northeastern coast of America, with descriptions of new genera and species and critical remarks on others. Part 1-Annelida, Gephyraea, Nemertina, Polyzoa, Tunicata, Mollusca, Anthozoa, Echinodermata, Porifera. Proceedings of the United States National Museum **2**: 165-205 [Mollusca, pp. 197-198] (November). Coe 52.

1879-1880 The Cephalopods of the northeastern coast of America. Part 1—The gigantic squids (*Architeuthis*) and their allies, with observations on similar large species from foreign localities. Transactions of the Connecticut Academy of Arts and Sciences **5**: 177-257, pls. 13-25, 16a (1879, December-1880, February). Coe 260.

1880 List of marine Invertebrata from the New England coast, distributed by the United States Commission of Fish and Fisheries. Proceedings of the United States National Museum **2**: 227-232 (January). Coe 51.

1880 Notice of recent additions to the marine fauna of the eastern coast of North America. American Journal of Science (3) **19**: 137-140 (February). Coe 49.

1880 Synopsis of the Cephalopoda of the northeastern coast of America. American Journal of Science (3) **19**: 284-295, pls. 12-16 (April). Coe 261.

1880-1881 The Cephalopods of the northeastern coast of America. Part 2—The smaller Cephalopods, including the "squids" and the Octopi, with other allied forms. Transactions of the Connecticut Academy of Arts and Sciences **5**: 259-466, pls. 26-56 (1880, June-1881, December). Coe 266.

1880 Occurrence at Newport, Rhode Island of two littoral species of European shells not before recorded as American. American Journal of Science (3) **20**: 250 (September). Coe 263.

1880 Rapid diffusion of *Littorina littorea* on the New England coast. American Journal of Science (3) **20**: 251 (September). Coe 264.

1880 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, [no. 1]. American Journal of Science (3) **20**: 390-403 (November). Coe 54.

1880 Notice of recent additions to the marine Invertebrata, of the northeastern coast of America, with descriptions of new genera and species and critical remarks on others. Part 2—Mollusca, with notes on Annelida, Echinodermata, etc., collected by the United States Fish Commission. Part 3—Catalogue of Mollusca recently added to the fauna of southern New England. Proceedings of the United States National Museum **3**: 356-409 (December). Coe 53 and 262.

1881 Reports on the results of dredging, under the supervision of Alexander Agassiz, on the east coast of the United States, during the summer of 1880, by the United States coast survey steamer "Blake,"... Report on the Cephalopods, and some additional species dredged by the United States Fish Commission steamer "Fish Hawk" during the season 1880. Bulletin of the Museum of Comparative Zoology **8**: 99-116, pls. 1-8 (March). Coe 265.

1881 Giant Squid (*Architeuthis*) abundant in 1875, at the Grand Banks. American Journal of Science (3) **21**: 251-252 (March). Coe 267.

1881 Regeneration of lost parts in the squid, *Loligo peali*. American Journal of Science (3) **21**: 333-334 (April). Coe 268.

1881 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, no. 2. American Journal of Science (3) **22**: 292-303 (October). Coe 58.

1881 Recent papers on the marine Invertebrata of the Atlantic coast of North America. American Journal of Science (3) **22**: 411-414 (November). Coe 55.

1882 Occurrence of an additional specimen of *Architeuthis* at Newfoundland. American Journal of Science (3) **23**: 71-72 (January). Coe 271.

1882 [Review] *Descriptions of some new and rare Cephalopoda*, Pt. 2, by Richard Owen. (Additional notes on giant Cephalopods). American Journal of Science (3) **23**: 72-75 (January). Coe 270.

1882 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, no. 3. American Journal of Science (3) **23**: 135-142 (February). [Echinoderms and additional dredging stations occupied by the "Fish Hawk," in 1881]. Coe 59.

1882 Catalogue of marine Mollusca added to the fauna of the New England region, during the past ten years. Transactions of the Connecticut Academy of Arts and Sciences **5**:

447-588 (Index, pp. 589-599), pls. 42-44, 57-58 (May-July). Coe 272.

1882 Notice of recent additions to the marine Invertebrata of the northeastern coast of America, with descriptions of new genera and species and critical remarks on others. Part 4—Additions to the deep-water Mollusca, taken off Martha's Vineyard, in 1880 and 1881. Proceedings of the United States National Museum **5**: 315-343 (September). Coe 269.

1882 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, no. 7, and of some additions to the fauna of Vineyard Sound. American Journal of Science (3) **24**: 360-371 (November), no. 8, pp. 447-451 (December). [Additional stations occupied in 1882]. Coe 63.

1882 [Review] *Description of new Cephalopoda*; by T. W. Kirk. Notes on two gigantic Cephalopods from New Zealand. American Journal of Science (3) **24**: 477 (December). Coe 273.

1882 The Cephalopods of the northeastern coast of America. Part 1—The gigantic squids (*Architeuthis*) and their allies, with observations on similar large species from foreign localities. [A revision of paper with the same title, 1879-80]. Part 2—Monographic revision of the Cephalopods of the Atlantic coast from Cape Hatteras to Newfoundland. Annual Report of the United States Commissioner of Fish and Fisheries for 1879, pp. 211-455, pls. 1-46; also repaged: 1-244. Not in Coe.

1883 [Review] *Structural and systematic conchology*; by George W. Tryon, Jr. American Journal of Science (3) **25**: 397 (May). Not in Coe.

1883 Reports on the results of dredging, under the supervision of Alexander Agassiz, in the Gulf of Mexico, and in the Caribbean Sea (1878-79), by the United States coast survey steamer "Blake," . . . Supplementary Report on the "Blake" Cephalopods. Bulletin of the Museum of Comparative Zoology **11**: 105-115, pls. 1-3 (October). Coe 274.

1883 Descriptions of two species of *Octopus* from California. Bulletin of the Museum of Comparative Zoology **11**: 117-124, pls. 4-6 (October). Coe 275.

1884 Second catalogue of Mollusca recently added to the fauna of the New England coast and the adjacent parts of the Atlantic, consisting mostly of deep-sea species, with notes on others previously recorded. Transactions of the Connecticut Academy of Arts and Sciences **6**: 139-294, pls. 28-32 (Index, pp. 507-517) (April-July). Coe 276.

1884 List of deep-water and surface Mollusca taken off the east coast of the United States by the United States Fish Commission steamers, "Fish Hawk" and "Albatross," 1880-1883. Transactions of the Connecticut Academy of Arts and Sciences **6**: 263-289 (July). Coe 277, part of preceding item, Coe 276.

1884 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and some additions to the fauna of Vineyard Sound. Annual Report of the United States Commissioner of Fish and Fisheries for 1882, **10**: 641-669; also repaged: 1-29 [Mollusca, pp. 644-649; 4-9]. Coe 71.

1884 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, no. 9. American Journal of Science (3) **28**: 213-220 (September) [Partial list of stations occupied by the "Albatross" in 1883]. Coe 73. no. 10, pp. 378-384 (November). [Work of the steamer "Albatross" in 1884]. Coe 74.

1885 Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, no. 11. American Journal of Science (3) **29**: 149-157 (February). [Work of the steamer "Albatross" in 1884, continued; list of stations occupied in 1884]. Coe 75.

1885 Results of the explorations made by the steamer "Albatross" off the northern coast of the United States, in 1883. Annual Report of the United States Commissioner of Fish and Fisheries for 1883, pp. 503- 699, pls. 1-44; also repaged: 1-197. Coe 76.

1885 Third catalogue of Mollusca recently added to the fauna of the New England coast and the adjacent parts of the Atlantic, consisting mostly of deep-sea species, with notes on others previously recorded. Transactions of the Connecticut Academy of Arts and Sciences **6**: 395-452, pls. 42-44 (Index, pp. 507-517) (April-June). Coe 278.

1885 How long will oysters live out of water? Bulletin of the United States Fish Commission **5**: 161. Coe 279.

1896 The Opisthoteuthidae. A remarkable new family of deep sea Cephalopoda, with remarks on some points in molluscan morphology. American Journal of Science (4) **2**: 74-80, text figs. 1-8 (July). Coe 280.

1896 The Molluscan archetype considered as a veliger-like form, with discussions of certain points in molluscan morphology. American Journal of Science (4) **2**: 91-98, text figs. 1-15 (August). Coe 281.

1897 and K. J. Bush. Revision of the genera of Ledidae and Nuculidae of the Atlantic coast of the United States. American Journal of Science (4) **3**: 51-63, text. figs. 1-22 (January). Coe 284.

1897 A gigantic Cephalopod on the Florida Coast. American Journal of Science (4) **3**: 79 (January); Additional information concerning the giant Cephalopod of Florida, *Ibid.* 162-163 (February); The supposed great *Octopus* of Florida; certainly not a Cephalopod, *Ibid.* 335-356 (April). *All* Coe 283.

1897 Nocturnal and diurnal changes in the colors of certain fishes and of the squid (*Loligo*), with notes on their sleeping habits. American Journal of Science (4) **3**: 135-136 (February). Coe 80.

1897 The Florida monster. Science, n.s. **5**: 392; The Florida sea-monster, *Ibid.* 476 (*both* March). Not in Coe.

1897 The Florida sea-monster. The American Naturalist **31**: 304-307, pls. 7-8 (April). Coe 81.

1897 A study of the family Pectinidae, with a revision of the genera and subgenera. Transactions of the Connecticut

Academy of Arts and Sciences **10**: 41–96, pls. 16–21 (June–July). Coe 282.

1898 and K. J. Bush. Revision of the deep-water Mollusca of the Atlantic coast of North America, with descriptions of new genera and species, Part 1—Bivalvia. Proceedings of the United States National Museum **20**: 775–901, pls. 71–97 (June). Coe 285.

1900 and K. J. Bush. Additions to the marine Mollusca of the Bermudas. Transactions of the Connecticut Academy of Arts and Sciences **10**: 513–544, pls. 63–65 (September). Coe 286.

1900 The Nudibranchs and naked Tectibranchs of the Bermudas. Transactions of the Connecticut Academy of Arts and Sciences **10**: 545–550, pl. 66 (September). Coe 287.

1901 Additions to the fauna of the Bermudas from the Yale expedition of 1901, with notes on other species. Transactions of the Connecticut Academy of Arts and Sciences **11**: 15–62, pls. 1–9 (December). [Mollusca, pp. 23–35, pls. 2–5]. Coe 85.

1902 The Bermuda Islands: Their scenery, climate, productions, physiography, natural history and geology, with sketches of their early history and changes due to man. Transactions of the Connecticut Academy of Arts and Sciences **11**: 413–911, pls. 65–104, 245 text figs.; author's edition, 1903, pp. i–x, 1–548 [Introduction of land snails and slugs], pp. 727–735 [315–323], text figs. 67a–79e (September). Coe 89.

1905–1906 The Bermuda Islands: Part 4. Geology and paleontology. Transactions of the Connecticut Academy of Arts and Sciences **12**: 45–204, 345, pls. 16–27, 60 text figs.; author's edition, 1907, 1–160, 301 [Mollusca, pp. 158–172 114–128], pls. 25–27, text figs. 45–55b; pp. 179–187 [135–143] text figs. 59–63, 1906 (February); pp. 189–198 [145–154] text figs. 60, 66–70, 1906 (March). Coe 94.

PAPERS ON MOLLUSKS BY KATHERINE JEANNETTE BUSH (1885-1937)

This bibliography is extracted from the complete one by Remington (1977: See under Relevant Literature, p. 13) with minor additions.

1883 Catalogue of Mollusca and Echinodermata dredged on the coast of Labrador by the expedition under the direction of Mr. W. A. Stearns, in 1882. Proceedings of the United States National Museum **6**: 236-247, pl. 9; also *in* Stearns, W. A. [no date or printer]. Notes on the natural history of Labrador, pp. 60-74, figs. 1-12.

1885 Additions to the shallow-water Mollusca of Cape Hatteras, N[orth] C[arolina] by the United States Fish Commission steamer "Albatross" in 1883 and 1884. Transactions of the Connecticut Academy of Arts and Sciences **6**: 453-480, pl. 45 (June).

1885 List of the shallow-water Mollusca dredged off Cape Hatteras by the "Albatross" in 1883. Annual Report of the United States Commissioner of Fish and Fisheries for 1883, part 2, pp. 579-590; also repaged: 77-88.

1885 List of deep-water Mollusca dredged by the United States Fish Commission steamer "Fish Hawk" in 1880, 1881, 1882, with their range in depth. Annual Report of the United States Commissioner of Fish and Fisheries for 1883, part 2, pp. 701-727; also repaged: 1-27.

1893 Reports on the results of dredging, under the supervision of Alexander Agassiz, in the Gulf of Mexico (1877-78), and the Caribbean Sea (1879-80), and along the Atlantic coast of the United States (1880) by the United States coast survey steamer "Blake".... Report on the Mollusca dredged by the "Blake" in 1880, including descriptions of several new species. Bulletin of the Museum of Comparative Zoology **23**: 197-244, pls. 1-2 (January).

1897 Verrill, A. E. and K. J. Bush. Revision of the genera of Ledidae and Nuculidae of the Atlantic coast of the United States. American Journal of Science (4) **3**: 51-63, text figs. 1-22 (January).

1897 Revision of the marine gastropods referred to *Cyclostrema, Adeorbis, Vitrinella,* and related genera; with descriptions of some new genera and species belonging to the Atlantic fauna of America. Transactions of the Connecticut Academy of Arts and Sciences **10**: 97-144, pls. 22, 23 (June and July).

1898 Verrill, A. E. and K. J. Bush. Revision of the deep-water Mollusca of the Atlantic coast of North America, with descriptions of new genera and species, Part 1—Bivalvia. Proceedings of the United States National Museum **20**: 775-901, pls. 71-97 (June).

1899 Descriptions of new species of *Turbonilla* of the western Atlantic fauna, with notes on those previously known. Proceedings of the Academy of Natural Sciences of Philadelphia **52**: 145-177, pl. 8 (April).

1899 [Reviews] (1) *Synopsis of the Recent and Tertiary Leptonacea of North America and the West Indies*, by William H. Dall. (2) *The Mollusca of Funafuti*, Part 1, *Gastropoda*, by Charles Hedley. Science n.s. **10**: 249-251 (August).

1900 Verrill, A. E. and K. J. Bush. Additions to the marine Mollusca of the Bermudas. Transactions of the Connecticut Academy of Arts and Sciences **10**: 513-544, pls. 63-65 (September).

1909 Notes on the family Pyramidellidae. American Journal of Science (4) **27**: 475-484 (June).

1909 A new *Bela* from Frenchman's Bay, Maine. The Nautilus *23*: 61-62, fig. 1 (October).

1910 On the variation of *Aplustrum amplustre* Linné. The Nautilus **24**: 1-2 (May).

PAPERS ON MOLLUSKS AND LISTS OF DREDGING STATIONS BY SANDERSON SMITH (1832-1915)

1859 Depth of Molluscs of Peconic and Gardiner's Bays, Long Island, New York. American Journal of Science and Arts (2) **27**: 281-283 (March).

1860 On the Mollusca of Peconic and Gardiner's Bays, Long Island, New York. Annals of the Lyceum of Natural History of New York **7**: 147–168, folding table (April).

1865 Notice of a Post-Pliocene deposit of Gardiner's Island, Suffolk County, New York. Annals of the Lyceum of Natural History of New York **8**: 149–151 (May).

1865 Hubbard, J. W. and S. Smith. Catalogue of the Mollusca of Staten Island, New York. Annals of the Lyceum of Natural History of New York **8**: 151–154 (May).

1865 Catalogue of the Mollusca of Little Gull Island, Suffolk County, New York. Annals of the Lyceum of Natural History of New York **8**: 184–195 (November).

1870 and Temple Prime. Report on the Mollusca of Long Island, New York, and its dependencies. Annals of the Lyceum of Natural History of New York **9**: 377–407 (377–392, June; 393–407, July).

1882 and R. Rathbun. Lists of the dredging stations of the United States Fish Commission from 1871 to 1879 inclusive, with temperature and other observations. Annual Report of the United States Commissioner of Fish and Fisheries for 1879, pp. 559–601.

1888 [1889]. Lists of dredging stations in North American waters from 1867 to 1887. Annual Report of the Commissioner of Fish and Fisheries for 1886, app. E, pp. 871–1017, 9 folding charts; also repaged: 1–145.

1892 Notes on the shells of the John J. Crooke collection. Proceedings of the Natural Science Association of Staten Island [New York] **3**: 13–14.

BOOKS AND PAPERS ON MOLLUSKS BY ALPHEUS HYATT VERRILL (1871–1954)

1936 Strange sea shells and their stories. L. C. Page and Company, Boston. pp. xvi, 211, col. frontispiece, pls. 1–5, 8vo.

1947 *Strombus samba* Clench in Florida. The Nautilus **60**: 102 (January).

1947 Additional *Strombus samba* Clench from Florida. The Nautilus **61**: 32 (July).

1947 Additions to the Mollusca of Lake Worth, Florida. The Nautilus **61**: 47-48 (October).

1947 *Ensis directus* in Lake Worth, Florida. The Nautilus **61**: 72 (October).

1947 Unrecorded habit of *Cymatium cynocephalum*. The Nautilus **61**: 72 (October).

1948 Some new West Indian shells. A new *Astraea* from Barbados. *Cypraea carneola* in the West Indies. *Cypraea carneola barbadensis*. Mollusca, Paul H. Reed, Tavares, Florida **2** (3): 70, pl. (June) [August].

1948 The status of *Strombus samba* Clench. The Nautilus **62**: 1-3 (July).

1949 *Murex argo* Clench and Farfante. The Nautilus **63**: 36 (July).

1949 Our collecting trip to the Caribbees including a list of shells collected. Mollusca, Paul H. Reed, Tavares, Florida **2** (5): 1-14, pls. 1-2 (August).

1949 Some additional notes. Mollusca, Paul H. Reed, Tavares, Florida **2** (6): 8 (August).

1950 Shell collector's handbook. G. P. Putnam's Sons, New York. pp. xv, 228, pls. 1-16, text figs. 8vo.

1950 New subspecies from the West Indies. Minutes of the Conchological Club of Southern California, no. **101**: 5-7; 7 text figs. (June).

1950 *Voluta musica*, its forms, distribution and operculum. Minutes of the Conchological Club of Southern California, no. **102**: 3-7, text figs. (July).

1950 A new *Murex* from the West Indies. Minutes of the Conchological Club of Southern California, no. **103**: 4-5, text figs. (August).

1950 Two new West Indian shells. Minutes of the Conchological Club of Southern California, no. **104**: 3, 2 text figs. (September).

1952 A new *Cymatium* from the West Indies. Minutes of the Conchological Club of Southern California, no. **119**: 2, 2 text figs. (April).

1953 A new *Murex* from West Indies. Minutes of the Conchological Club of Southern California, no. **128**: 2, 1 text fig. (June).

1953 New Volutes from the West Indies. Minutes of the Conchological Club of Southern California, no. **132**: 9, 1 text fig. (October).

1953 A new West Indian *Murex*. Minutes of the Conchological Club of Southern California, no. **132**: 10, text fig. (October).

1953 Two new subspecies of *Voluta musica* from Tobago. Minutes of the Conchological Club of Southern California, no. **134**: 4–5, 2 text figs. (December).

1954 *Pleurotomaria* (*Pterotrochus*) *adansoniana*. Minutes of the Conchological Club of Southern California, no. **137**: 34, text figs. (March–April).

1954 [Communication from Mr. A. Hyatt Verrill] Minutes of the Conchological Club of Southern California, no. **140**: 4 (July).

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The index is for users of this catalogue who may want to see the species originally described, by the several authors, under the genus. Since the species are listed alphabetically in the catalogue, no page numbers are given.

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Plate 1
Addison Emery Verrill
1839–1926
(From Verrill, 1958)

A. E. Verrill

Plate 2

Katharine Jeannette Bush
1855–1937

Katharine J. Bush (back row, left) in a photograph taken in the 1880s at the Woods Hole Laboratory of the Bureau of Fisheries. Her sister, Charlotte Bush, who married Wesley R. Coe, Yale Professor and Peabody Curator, is seated next to her. In the front row are M. J. Rathbun (left), known for her work on Crustacea at the United States National Museum, and Eloise Edwards (right) about whom there is no other information. This only known likeness of K. J. Bush appeared in Discovery (1978: *13*(2), p. 43) and was kindly supplied for publication here by Dr. Deborah Jean Warner, Curator, History of Physical Sciences, National Museum of American History, who originally found it in the Baird-Fish Commission Papers in the Smithsonian Archives.

Plate 3

Fig. 1. *Papyridea bullata californica* Verrill. La Paz [Baja California]. Lectotype YPM 4072. Length 38, height 30, width 12 mm.

Fig. 2. *Loripes edentuloides* Verrill. La Paz [Baja California]. Holotype YPM 8884 [single valve]. Length 42, height 39, width 26 [estimated] mm.

Fig. 3. *Chione tumens* Verrill. La Paz [Baja California]. Lectotype YPM 3021b. Length 39, height 37, width 28 mm.

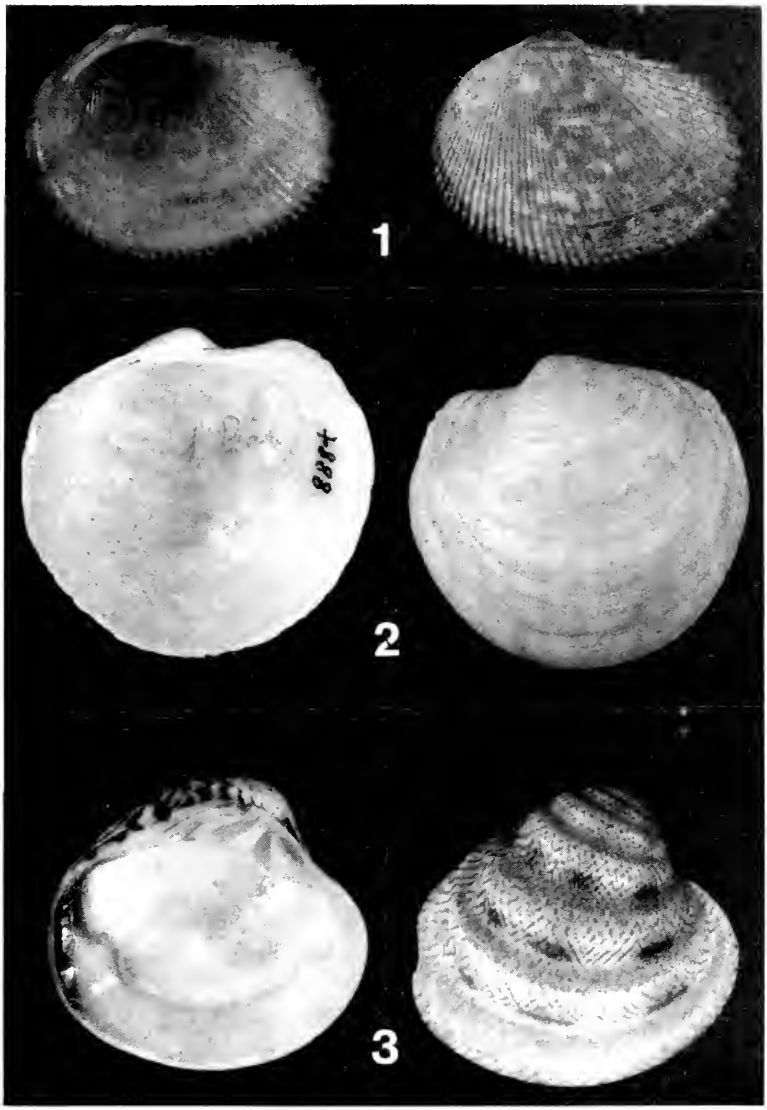
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Plate 4

Fig. 1. *Venus isocardia* Verrill. La Paz [Baja California]. Lectotype YPM 4941. Length 60, height 77, width 64 mm.

Fig. 2. *Enaeta pedersenii* Verrill. La Paz [Baja California]. Lectotype YPM 8842. Length 33, width 18 mm.

Fig. 3. *Tivela elegans* Verrill. Acajutla [Salvador]. Lectotype YPM 1843 [single valve]. Length 25, height 19, width 14 [estimated] mm.

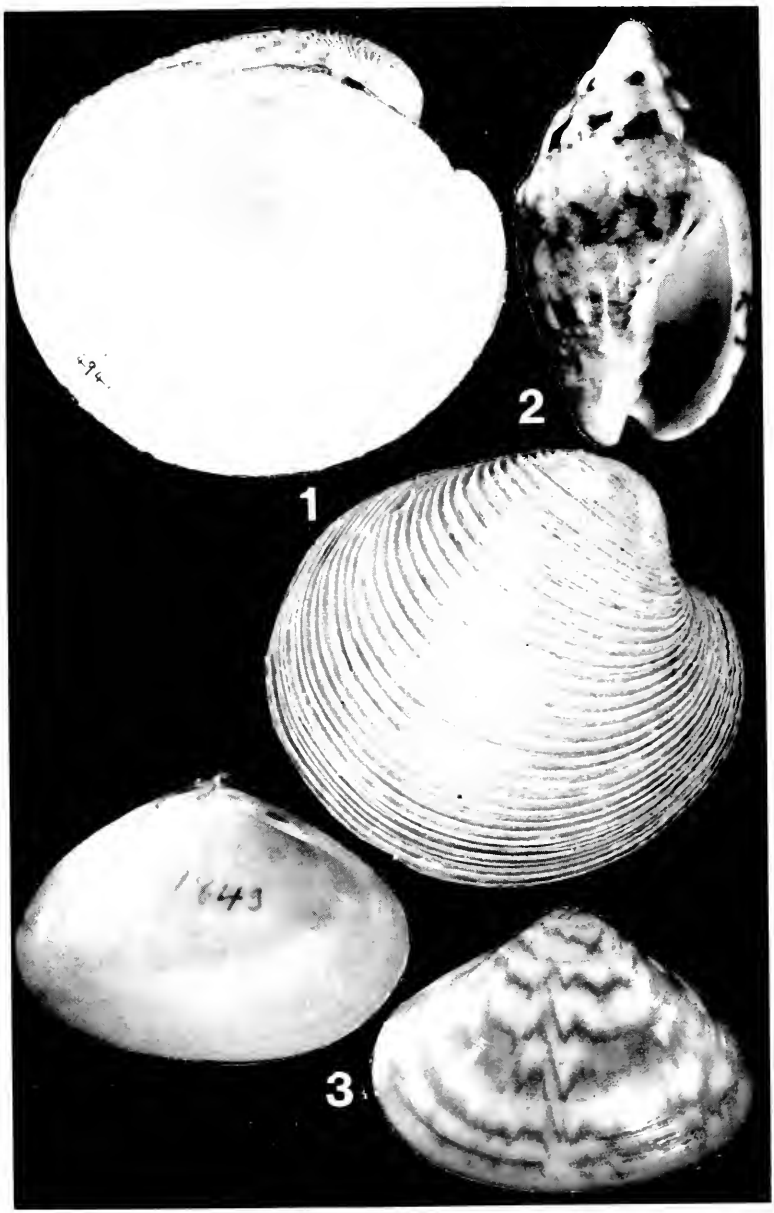
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Plate 5

Fig. 1. *Semele junonia* Verrill. Near La Paz [Baja California]. Lectotype YPM 4080. Length 65, height 56, width 28 mm.

Fig. 2. *Lasaea bermudensis* Bush. Bermuda. Lectotype YPM 8885. Length 3, height 2.9, width 2 mm.

Fig. 3. *Loripes lens* Verrill and Smith. 1880, *Fish Hawk* sta. 874, 40°N, 70°57′W [off Newport, Rhode Island], 85 fms. Lectotype USNM 64270. Length 14, height 12.5, width 5.5 mm.

Fig. 4. *Venericardia obliqua* Bush. 1884, *Albatross* sta. 2289, 35°22′50″N, 75°22′W off Cape Hatteras [North Carolina], 7 fms. Lectotype YPM 10781 [single valve]. Length 5.6, width 2.6 [estimated] mm.

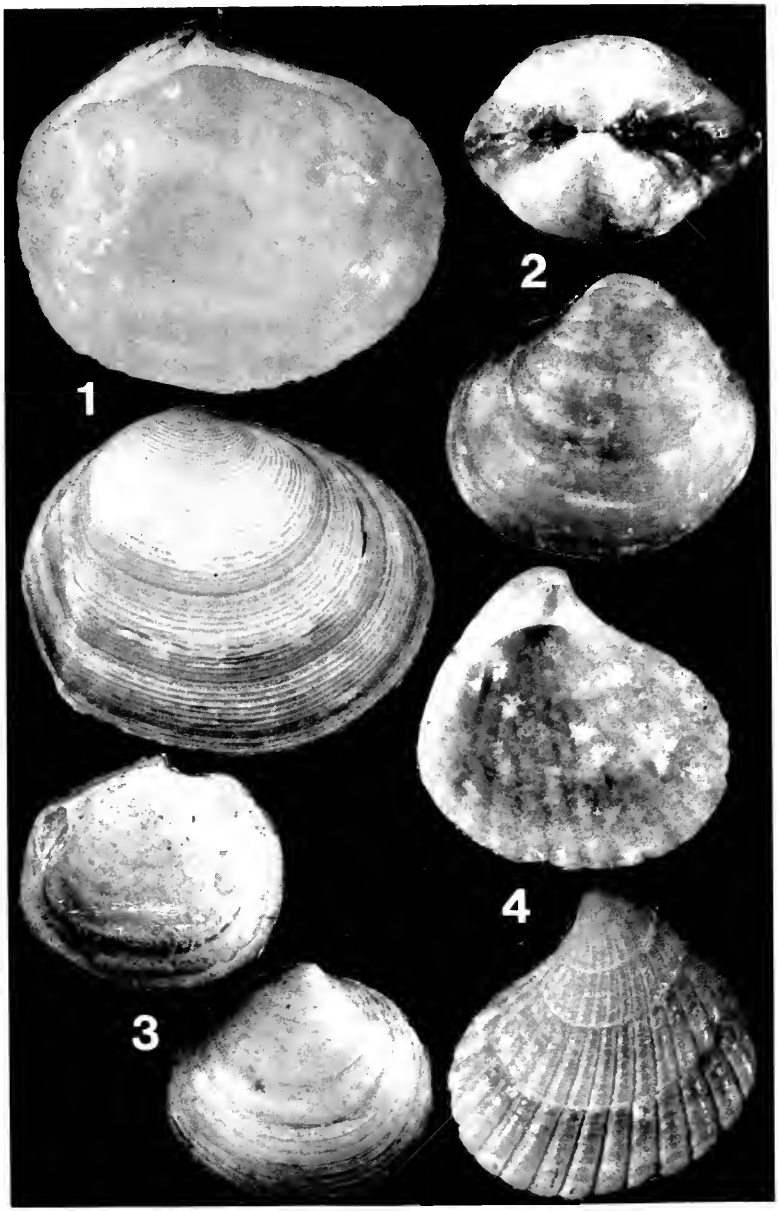
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Plate 6

Fig. 1. *Yoldiella pachia* Verrill and Bush. 1885, *Albatross* sta. 2385, 28°51′N, 88°18′W, 730 fms. Lectotype USNM 203001 [single valve]. Length 4.6, height 4.8 [after Verrill and Bush]. Photograph courtesy of Dr. Anders Warén.

Fig. 2. *Arca pectunculoides crenulata* Verrill. 1880, *Fish Hawk* sta. 874, 40°N, 70°57′W off Martha's Vineyard [Massachusetts], 85 fms. Lectotype USNM 74134. Length 4.2, height 4, width 2.2 mm.

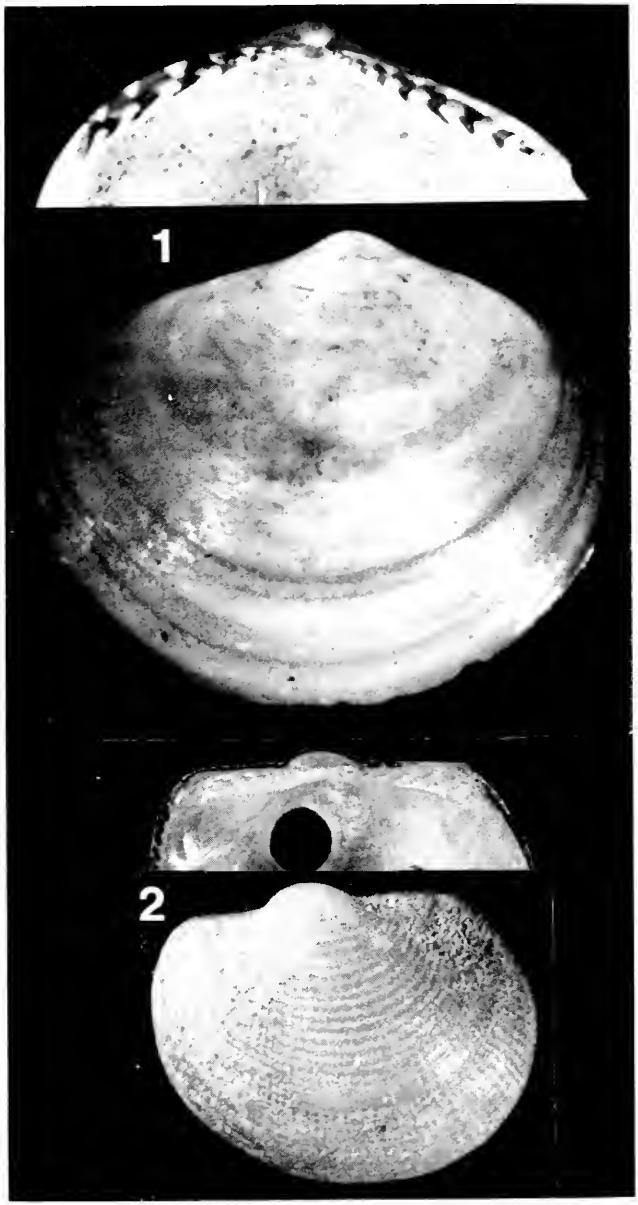
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Plate 7

Fig. 1. *Tindaria lata* Verrill and Bush. 1885, *Albatross* sta. 2385, 28°51′N, 88°18′W [Gulf of Mexico], 730 fms. Holotype USNM 203000. Length 7, height 5.5, width 4 mm.

Fig. 2. *Angulus modestus* Verrill. Vineyard Sound [Massachusetts], 10 fms. Lectotype YPM 8758. Length 9.8, height 5.6 width 3 mm.


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Plate 8

Fig. 1. *Modiola polita* Verrill and Smith. 1880, *Fish Hawk* sta. 895, 39°56′30″N, 70°59′45″W off Newport, Rhode Island, 238 fms. Lectotype USNM 51361. Length 32, height 12, width 9 mm.

Fig. 2. *Cetoconcha atypha* Verrill and Bush. 1884, *Albatross* sta. 2229, 37°38′40″N, 73°16′30″W, 1423 fms. Lectotype USNM 48703 [single broken valve]. Length 15 [estimated], height 12, width 4 [of valve] mm.

Fig. 3. *Cyclopecten simplex* Verrill. 1884, *Albatross* sta. 2150, 13°34′45″N, 81°21′10″W [West Indies], 382 fms. Lectotype YPM 8763 [single valve]. Length 4.5, height 5, width 6 [of valve] mm.

Fig. 4. *Chlamys benedicti* Verrill and Bush. 1885, *Albatross* stas. 2369-2374, 29°11′15″N, 85°29′32″W south of Panama City, Florida, 25-27 fms. Lectotype YPM 8833 [single valve]. Length 5.5, height 6.2, width 1 [of valve] mm.

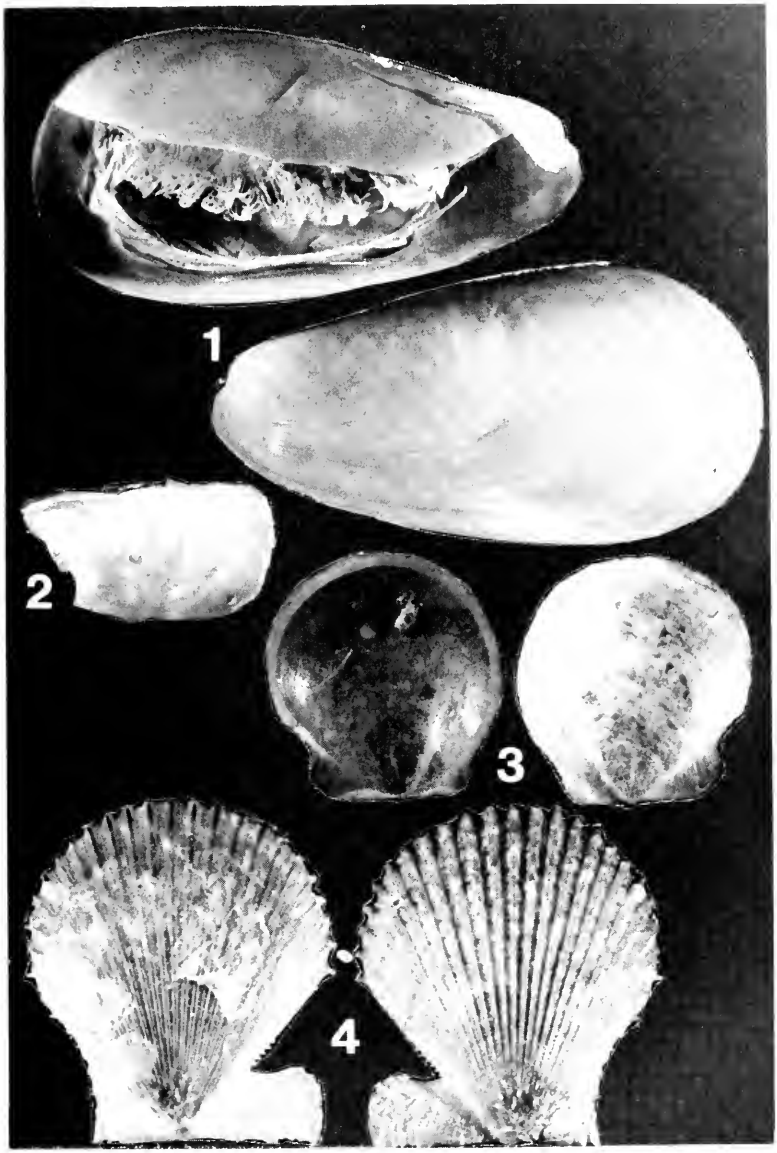
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Plate 9

Fig. 1. *Limatula nodulosa* Verrill and Bush. 1885, *Albatross* sta. 2385, 28°51′N, 88°18′W [Gulf of Mexico], 730 fms. Holotype USNM 110618 [single valve]. Length 7, height 4.5, width 4 [estimated] mm.

Fig. 2. *Limatula hyalina* Verrill and Bush. 1885, *Albatross* stas. 2367–2374, 29°N, 85°W, 25–124 fms. Holotype USNM 202850. Length 7.5, height 4.5, width 3 mm.

Fig. 3. *Limatula regularis* Verrill and Bush. 1884, *Albatross* sta. 2265, 37°7′40″N, 74°35′40″W [Chesapeake Bay], 70 fms. Lectotype USNM 40862 [single valve]. Length 7.7, height 5, width 3 [estimated] mm.

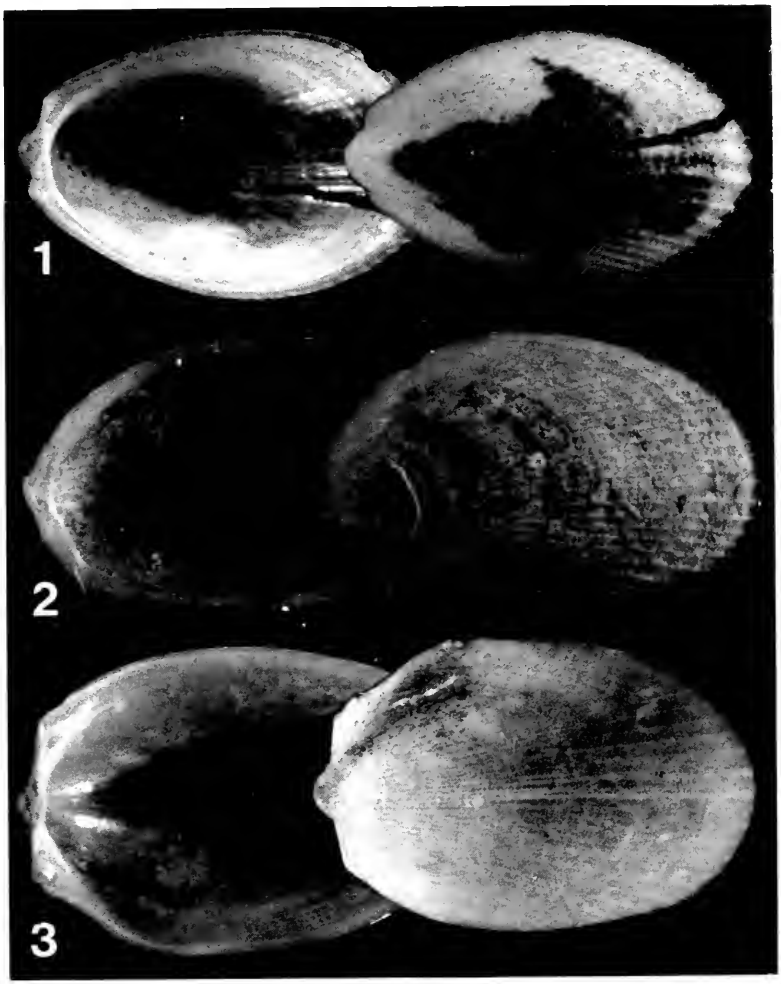
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Plate 10

Fig. 1. *Granigyra spinulosa* Bush. 1886, *Albatross* sta. 2655, 27°22′N, 78°07′30″W off Grand Bahama Island [West Indies], 338 fms. Holotype YPM 15805. Length 2.5, width 2.5 mm.

Fig. 2. *Lissospira* (*Ganesa* "?") *rarinota* Bush. 1884, *Albatross* sta. 2150, 13°34′45″N, 81°21′10″W [off Nicaragua], 382 fms. Holotype YPM 15804. Length 1.9, width 1.9 mm.

Fig. 3. *Torellia fimbriata tiarella* Verrill. 1881, *Fish Hawk* sta. 1026, 39°50′30″N, 71°23′W off Martha's Vineyard [Massachusetts], 182 fms. Lectotype USNM 45431. Length 9.5, width 9 mm.

Fig. 4. *Leptogyra eritmeta* Bush. 1884, *Albatross* sta. 2174, 38°15′N, 73°03′W [off Delaware Bay], 1594 fms. Holotype USNM 77625. Length 1, width 2 mm.

Fig. 5. *Ringicula nitida* Verrill. 1872, *Bache* stas. O, S, 42°5′N, 67°49′W; 42°11′N, 67°15′W [off northwest and northeast border of Georges Bank], 110, 150 fms. Holotype YPM 15776. Length 4.2, width 2.7 mm.

Fig. 6. *Philine tincta* Verrill. 1881, *Fish Hawk* sta. 921, 40°07′48″N, 70°43′54″W off Martha's Vineyard [Massachusetts], 67 fms. Lectotype USNM 45648. Length 10.7, width 8 mm.

Fig. 7. *Lunatia levicula* Verrill. Casco Bay, Maine. Lectotype USNM 75840. Length 13, width 12 mm.

Fig. 8. *Rotella cryptospira* Verrill. 1883, *Albatross* sta. 2109, 35°14′20″N, 74°59′10″W off Cape Hatteras [North Carolina], 142 fms. Lectotype USNM 35731. Length 1.5, width 2.5 mm.

Fig. 9. *Urosalpinx macra* Verrill. 1883, *Albatross* sta. 2109, 35°14′20″N, 74°59′10″W off Cape Hatteras [North Carolina], 142 fms. Holotype USNM 35772. Length 13, width 5.5 mm.

Fig. 10. *Cocculina dalli* Verrill. 1882, *Fish Hawk* sta. 1096, 39°53′N, 69°47′W, 317 fms. Holotype USNM 38081. "Length of aperture 6, breadth 4.3, height 3, length of anterior slope 6 mm." Actual measurements: length 5.8, width 4, height 2.4 mm. Photograph courtesy of Dr. James H. McLean.

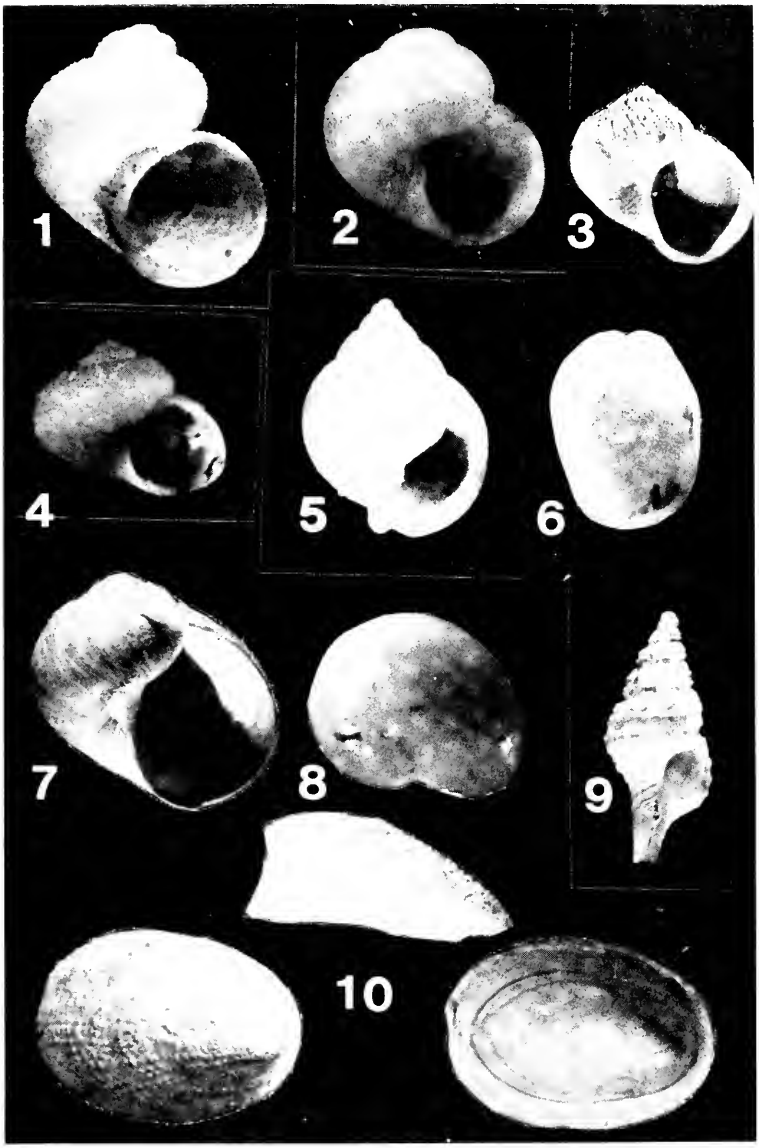
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Plate 11

Fig. 1. *Bela incisula* Verrill. 1880, *Fish Hawk* sta. 899, 37°22′N, 74°29′W off Chesapeake Bay, 57.5 fms. Holotype USNM 77165. Length 6.5, width 3.5 mm.

Fig. 2. *Bela subturgida* Verrill. 1883, *Albatross* sta. 2115, 35°49′30″N, 74°34′45″W off Cape Hatteras [North Carolina], 843 fms. Holotype USNM 35602. Length 9, width 5 mm.

Fig. 3. *Bela subvitrea* Verrill. 1883, *Albatross* sta. 2115, 35°49′30″N, 74°34′45″W off Cape Hatteras [North Carolina], 843 fms. Lectotype 37811. Length 13.5, width 6 mm.

Fig. 4. *Bela decussata pusilla* Verrill. 1877, *Speedwell* stas. 56–58, Halifax Harbor, off Herring Cove, between Mars Rock and Neverfail Shoal [Nova Scotia], 18 fms. Lectotype USNM 77203. Length 7.8, width 3.9 mm.

Fig. 5. *Bela blakei* Verrill. 1884, *Albatross* sta. 2226, 37°N, 71°54′W, 2021 fms. Holotype USNM 44655. Length 16, width 8 mm.

Fig. 6. *Bela cancellata canadensis* 'Verrill and Bush' Whiteaves. Murray Bay, Quebec. Lectotype YPM 16623. Length 15.3, width 6.2 mm.

Fig. 7. *Aclis striata* Verrill. Bay of Fundy, Eastport, Maine. Lectotype YPM 15757. Length 2.9, width 1.4 mm.


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Plate 12

Fig. 1. *Neptunea* (*Sipho*) *arata* Verrill, non Gould. Changed to: *Sipho stimpsonii liratulus* Verrill. Off Newport, Rhode Island. Lectotype USNM 158833. Length 80, width 31 mm.

Fig. 2. *Sipho pubescens* Verrill. 1880, *Fish Hawk* sta. 893, 39°52′20″N, 70°58′W, 372 fms. Lectotype USNM 37767. Length 67, width 26 mm.

Fig. 3. *Sipho obesus* Verrill. 1883, *Albatross* sta. 2115, 35°49′30″N, 74°34′45″W off Cape Hatteras [North Carolina], 843 fms. Lectotype USNM 35600. Length 17, width 10 mm.

Fig. 4. *Sipho* (*Mohnia*) *simplex* Verrill. 1883, *Albatross* sta. 2115 35°49′30″N, 74°34′45″W off Cape Hatteras [North Carolina], 843 fms. Lectotype USNM 35573. Length 6, width 3.5 mm.

Fig. 5. *Sipho profundicola dispar* Verrill. 1883, *Albatross* sta. 2042, 39°33′N, 68°26′45″W, 1555 fms. Holotype USNM 37955. Length 30, width 17 mm.

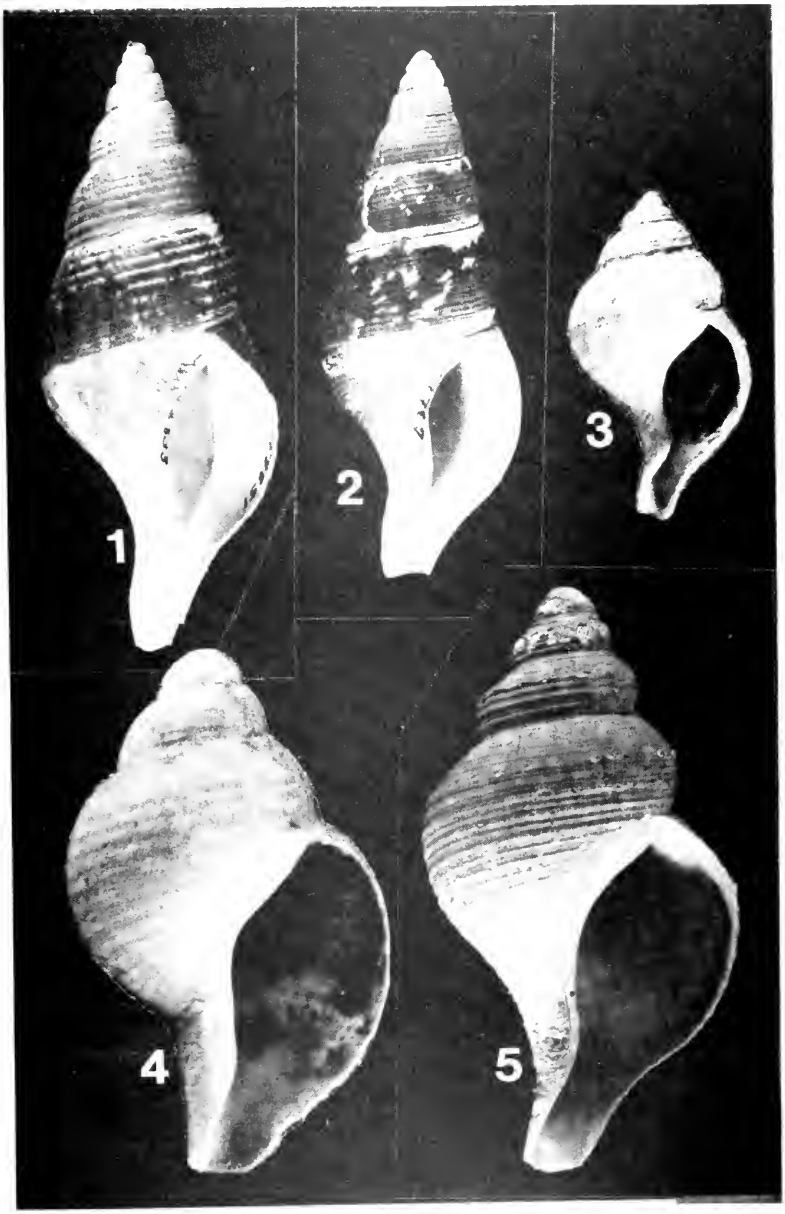
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Plate 13

Fig. 1. *Sipho hispidulus* Verrill. 1883, *Albatross* sta. 2033, 39°32′30″N, 72°18′35″W [Nantucket Shoals, Massachusetts], 379 fms. Holotype USNM 34840. Length 7.5, width 4 mm.

Fig. 2. *Taranis morchii tornatus* Verrill. 1883, *Albatross* sta. 2077, 41°09′40″N, 6°02′20″W [off Georges Bank], 1255 fms. Holotype USNM 37807. Length 5, width 3 mm.

Fig. 3. *Mangilia ceroplasta* Bush. [1884], *Albatross* [sta. 2290, 35°23′N, 75°24′30″W] off Cape Hatteras [North Carolina], 9.75 fms. Holotype USNM 44757. Length 5.5, width 3 mm.

Fig. 4. *Mangilia eritima* Bush. 1884, *Albatross* sta. 2280, 35°21′N, 75°21′30″W off Cape Hatteras [North Carolina], 16 fms. Holotype USNM 44758. Length 8, width 3 mm.

Fig. 5. *Marginella borealis* Verrill. 1883, *Albatross* sta. 2011, 36°38′30″N, 74°40′10″W off Norfolk, Virginia, 81 fms. Lectotype USNM 35375. Length 14, width 7.5 mm.

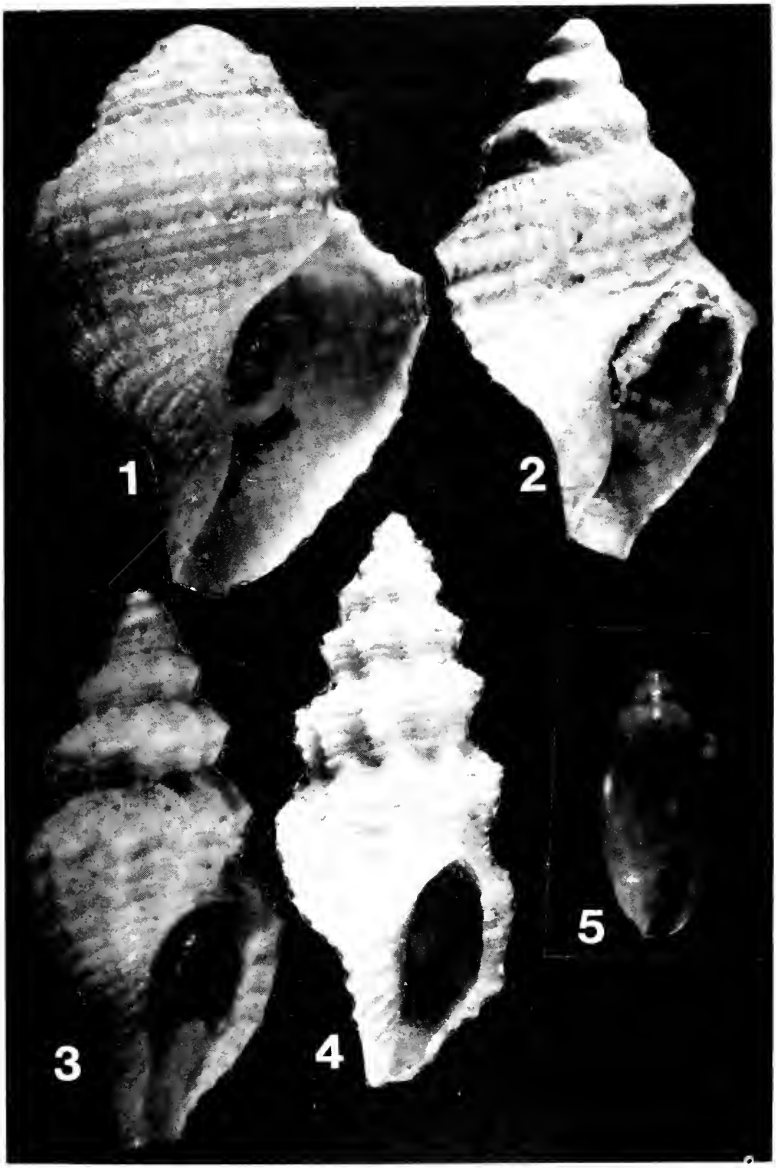
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Plate 14

Fig. 1. *Buccinum sandersoni* Verrill. 1881, *Fish Hawk* sta. 939, 39°53′N, 69°50′30″W off Martha's Vineyard [Massachusetts], 264 fms. Lectotype USNM 202823. Length 24, width 14 mm.

Fig. 2. *Buccinum abyssorum* Verrill and Smith. 1883, *Albatross* sta. 2111, 35°09′50″N, 74°57′40″W off Cape Hatteras [North Carolina], 938 fms. Lectotype USNM 35644. Length 32, width 20.5 mm.

Fig. 3. *Spirotropis ephamilla* Verrill. 1883, *Albatross* sta. 2097, 37°56′20″N, 70°57′30″W off Chesapeake Bay, 2221 fms. Holotype USNM 35237. Length 25, width 10 mm.

Fig. 4. *Gymnobela curta subangulata* Verrill. 1883, *Albatross* sta. 2043, 39°49′N, 68°28′30″W, 1467 fms. Lectotype YPM 15696. Length 4.2, width 2.7 mm.

Fig. 5. *Gymnobela engonia* Verrill. 1883, *Albatross* sta. 2041, 39°22′50″N, 68°25′W, 1608 fms. Holotype [so labeled] USNM 34835. Length 12.9, width [not supplied] mm. Photographed at the USNM, courtesy of Dr. Anders Warén.

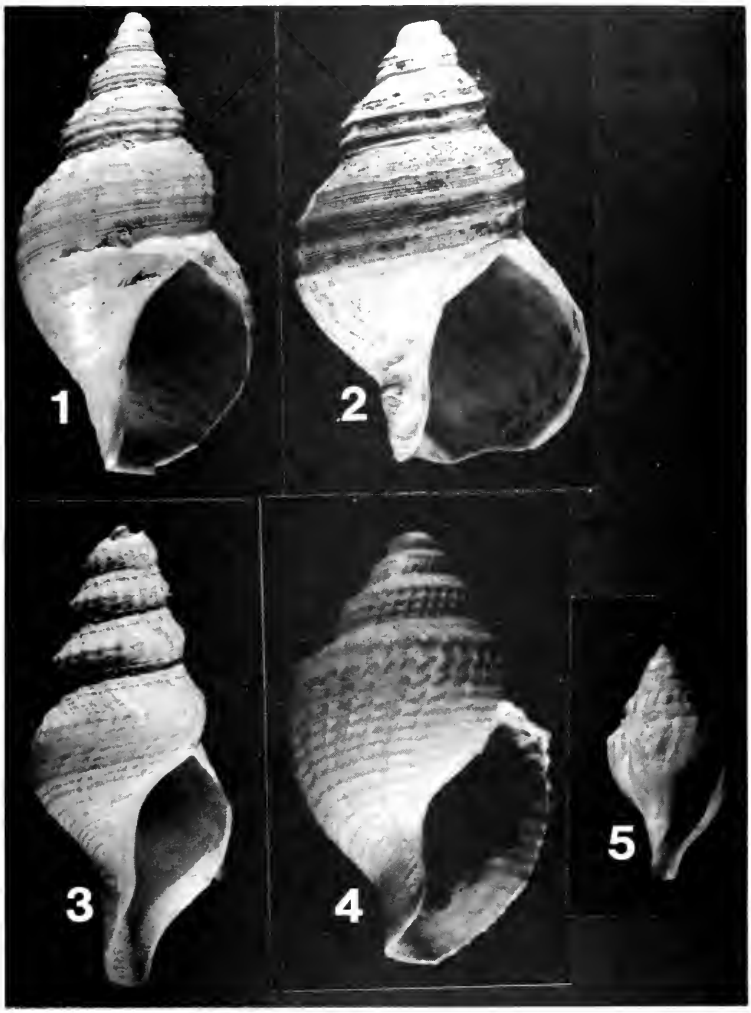
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Plate 15

Fig. 1. *Ethalia multistriata* Verrill. 1883, *Albatross* sta. 2109, 35°14′20″N, 74°59′10″W off Cape Hatteras [North Carolina], 142 fms. Lectotype USNM 35733. Length 2.5, width 4.5 mm.

Fig. 2. *Machaeroplax obscura carinata* Verrill. 1881, *Fish Hawk* sta. 997, 39°42′N, 71°32′W off Martha's Vineyard [Massachusetts], 335 fms. Lectotype USNM 44748. Length 4, width 6 mm.

Fig. 3. *Odostomia engonia* Bush. 1884, *Albatross* sta. 2276, 35°20′45″N, 75°19′15″W off Cape Hatteras [North Carolina], 16 fms. Holotype USNM 44762. Length 5, width 2 mm.

Fig. 4. *Seguenzia formosa nitida* Verrill. 1883, *Albatross* sta. 2038, 38°30′30″N, 69°08′25″W off Nantucket Shoals [Massachusetts], 2033 fms. Holotype USNM 38078. Length 5, width 4 mm.

Fig. 5. *Odostomia tornata* Verrill. 1883, *Albatross* sta. 2109, 35°14′20″N, 74°59′10″W off Cape Hatteras [North Carolina], 142 fms. Holotype USNM 38033. Length 3, width 1.5 mm.

Fig. 6. *Odostomia disparilis* Verrill. 1883, *Albatross* sta. 2109 35°14′20″N, 74°59′10″W off Cape Hatteras [North Carolina], 142 fms. Holotype USNM 38042. Length 3.2, width 1 mm.

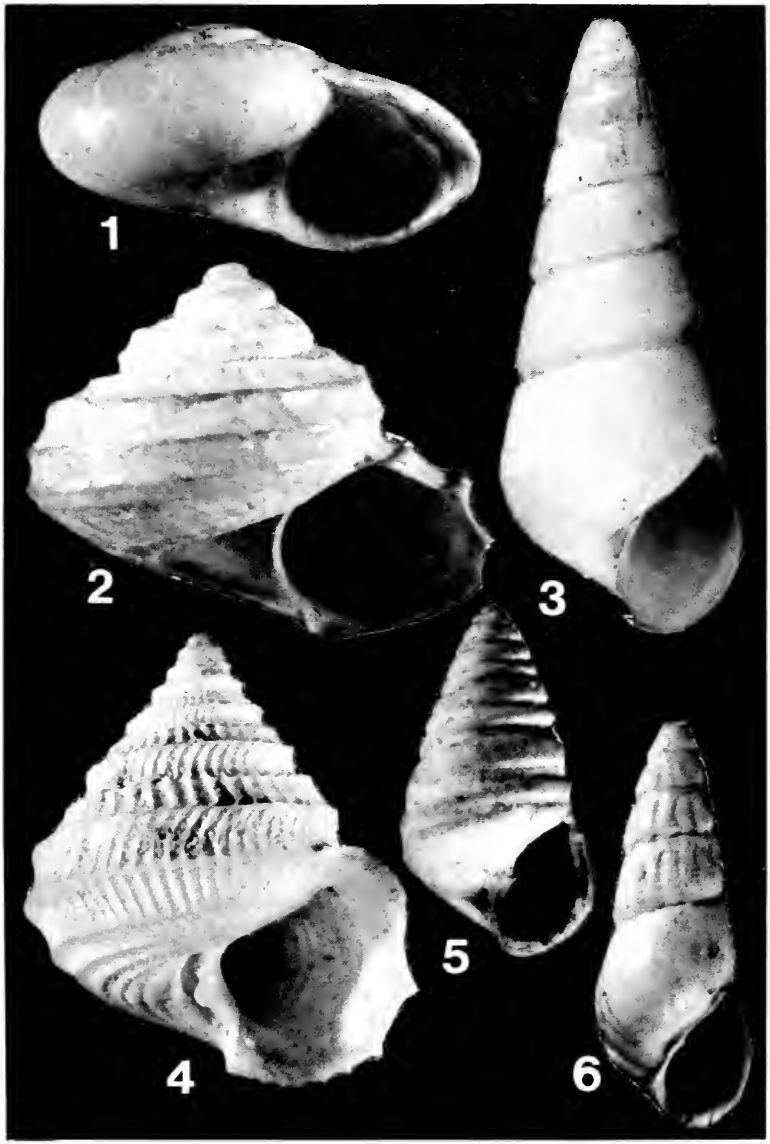
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Plate 16

Fig. 1. *Eulima engonia* Verrill and Bush. Ship Channel, Bermuda. Lectotype YPM 15688. Length 7.5, width 2 mm.

Fig. 2. *Eulima hypsela* Verrill and Bush. Bermuda. Paratype YPM 15689. Length 7.6, width 1.8 mm.

Fig. 3. *Eulima atypha* Verrill and Bush. Bermuda. Lectotype YPM 15886. Length 2, width .74 mm.

Fig. 4. *Turbonilla inclinata* Bush. St. Thomas [Virgin Islands]. Holotype ANSP 72044. Length 3.5, width .45 mm.

Fig. 5. *Turbonilla stricta* Verrill. Long Island Sound [off Connecticut]. Lectotype YPM 12849. Length 4.2, width 1.1 mm.

Fig. 6. *Turbonilla pyrrha* Bush. St. Thomas [Virgin Islands]. Lectotype ANSP 72050. Length 5.8, width 1.3 mm.

Fig. 7. *Turbonilla dalli* Bush. Sarasota Bay, Florida. Lectotype ANSP 72049. Length 8, width 2.3 mm.

Fig. 8. *Turbonilla incisa* Bush. West Florida. Lectotype ANSP 62800. Length 6.2, width 1.6 mm.

Fig. 9. *Turbonilla incisa constricta* Bush. West Florida. Lectotype ANSP 79023. Length 6.6, width 1.5 mm.

Fig. 10. *Turbonilla atypha* Bush. Maldonado Bay, Uruguay, 3–6 fms. Lectotype ANSP 70537. Length 7.4, width 1.8 mm.


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Plate 17

Fig. 1. *Turbonilla asperula* Bush. Bermuda. Lectotype ANSP 78253. Length 2.5, width 1 mm.

Fig. 2. *Turbonilla composa* Bush. [no locality given], R. Swift. Since Swift spent much of his life as a resident of St. Thomas in the Virgin Islands, it is probably the locality. Holotype ANSP 79015. Length 3.4, width 1 mm.

Fig. 3. *Turbonilla areolata* Verrill. Long Island Sound, near New Haven [Connecticut]. Holotype YPM 12848. Length 3.4, width 1.3 mm.

Fig. 4. *Turbonilla grandis* Verrill. 1884, *Albatross* sta. 2228, 37°25′N, 73°06′W, 1582 fms. Holotype USNM 44791. Length 18, width 6 mm.

Fig. 5. *Turbonilla perlepida* Verrill. 1884, *Albatross* sta. 2265, 37°07′40″N, 74°35′40″W off Chesapeake Bay [Maryland], 70 fms. Holotype USNM 44790. Length 7, width 1.5 mm.

Fig. 6. *Machaeroplax obscura planula* Verrill. Off Block Island [Rhode Island] 13–15 fms. Holotype USNM 76067. Length 6, width 7 mm.

Fig. 7. *Caecum debile* Verrill and Bush. Bermuda. Holotype YPM 15667. Length 2.3, width 0.6 mm. Photograph courtesy of Dr. Robert G. Moolenbeek.

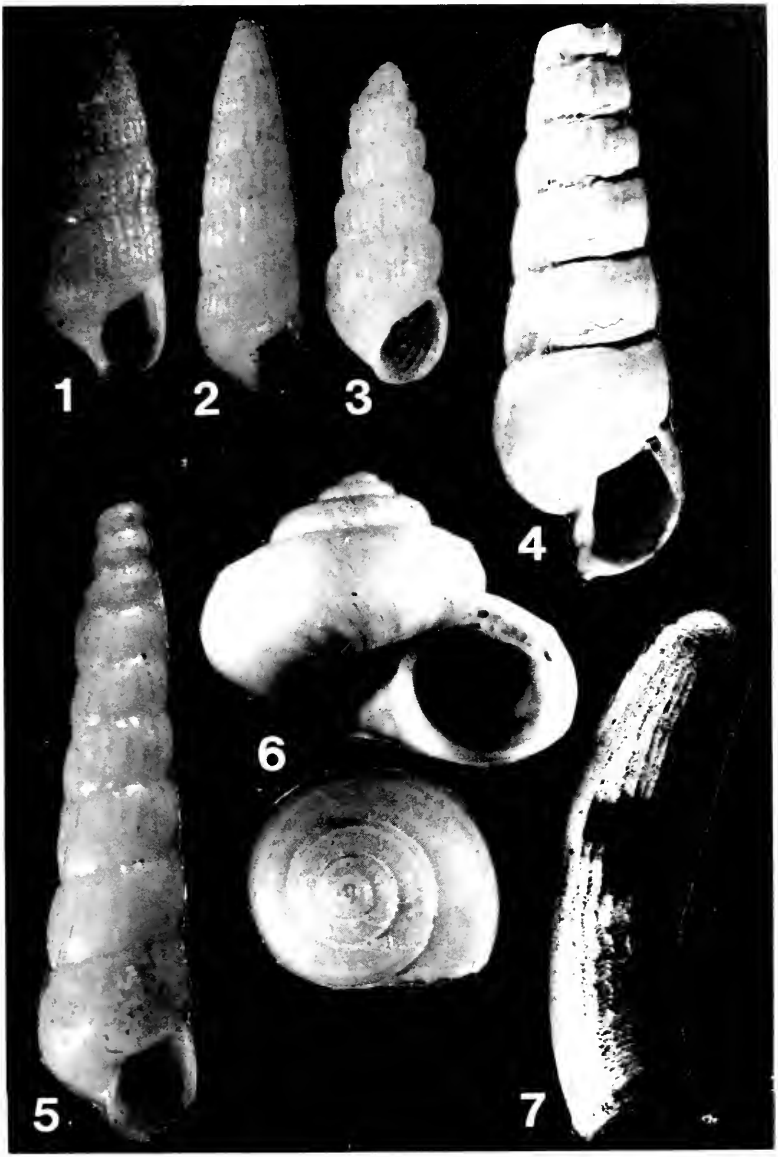
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Plate 18

Figs. 1–3. *Leptogyra inconspicua* Bush. 1884, *Albatross* sta. 2174, 38°15'N, 72°03'W off Delaware Bay, 1594 fms. Holotype USNM 77642. Length 0.8, width 1.3 mm. Delineated by Dr. Ruth D. Turner who noted, "specimen decalcified and in poor condition."

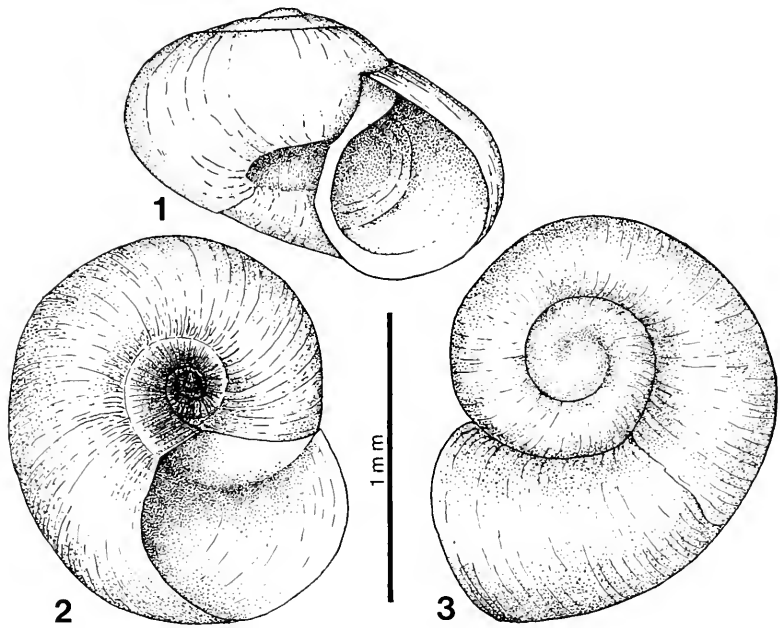
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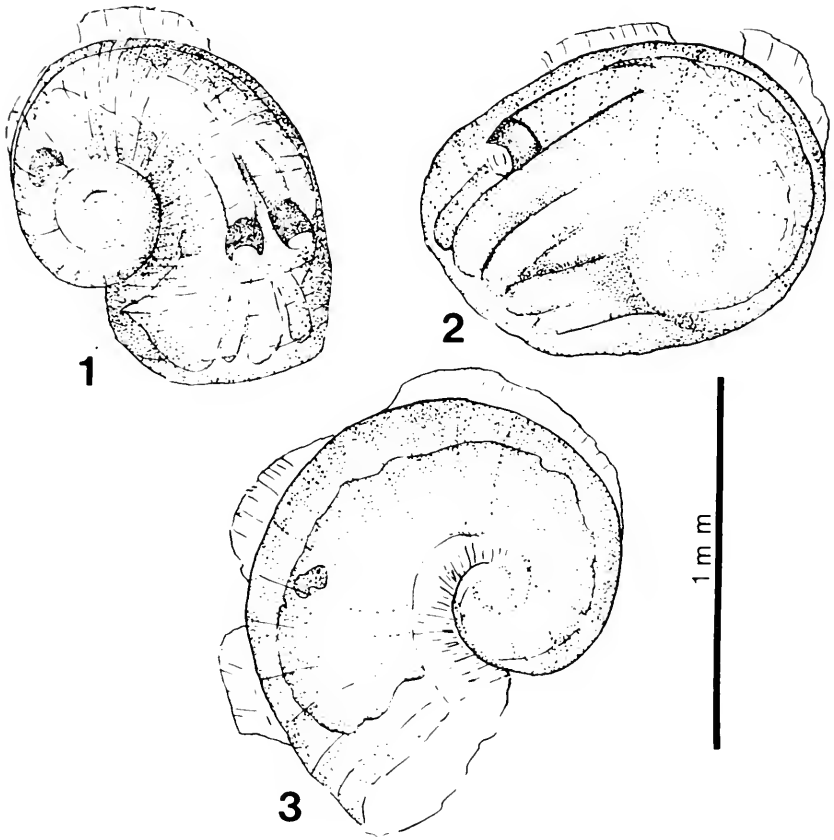
Plate 19

Figs. 1-3. *Atlanta pulchella* Verrill. 1883, *Albatross* sta. 2100, 39°22′60″ N, 68°34′30″ W off Delaware Bay, surface. Diameter about 0.25 mm. Two syntypes USNM 38397, in alcohol. Delineated by Dr. Ruth D. Turner who noted, "shells decalcified, grapeskin-like, only fragment of keel remaining. Without the soft parts it would probably have been impossible to define the shells at all; particularly the one in fig. 2 which was soft and deformed."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Occasional Papers on Mollusks

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SEARLES V. WOOD'S "MONOGRAPH OF THE CRAG MOLLUSCA" (1848-1882), WITH NOTES ON THE GENERIC NAME *ASTARTELLA*

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Abstract. Searles V. Wood's "Monograph of the Crag Mollusca" was issued in parts and the exact publication dates have not been generally known. As a result, some taxa have been misdated in the subsequent literature. We give the dates of publication for the individual parts, note the various titles used for this work, and establish the status of *Astartella* Wood 1853.

INTRODUCTION

Wood's "Monograph of the Crag Mollusca" constitutes an early, important, and comprehensive monograph of the Neogene mollusks of the northeastern Atlantic. It synthesized much of the then available knowledge and provided

extensive descriptions and figures of numerous taxa, many of them new. Additionally, this work serves as a valuable basis for comparison with other fossil and Recent faunas. Researchers, however, might encounter difficulties in accurately citing and dating the various portions of this work for which reason we present the following discussion.

Copies of Wood's complete work in the libraries of the first author and the Museum of Comparative Zoology contain bound-in printed instructions for binding, which were produced in 1874 and 1879 and which give the publication dates of each part. All parts were issued by the Palaeontographical Society whose publications were, at that time, designated as "annual volumes". The actual publication dates are seldom shown on the covers. Wood designated the various parts of his monograph as "volumes" and these should not be confused with the differently numbered Society "volumes".

The following data on publication dates are taken from the aforementioned printed "directions to the binder" except in the case of the final part (1882). The title of Wood's work, which will be discussed later, is listed here simply as a "A Monograph of the Crag Mollusca".

Wood, Searles V., 1848-82. *A Monograph of the Crag Mollusca*. Palaeontographical Society, London.

Volume I. Univalves. Pp. v-xii, 1-209, pls. I-XXI [March, 1848].

Volume II. Bivalves. Pp. 1-150, pls. I-XII [June, 1851]. Pp. 151-216, pls. XIII-XX [December, 1853]. Pp. 217-342, pls. XXI-XXXI [February, 1857]. [note], Pp. 1-2 [March, 1861].

Volume III. Supplement, Univalves. With the Geology of the Crag District. Pp. i-xxxi, 1-99, Map of Crag District, pls. I-VII (Pp. ii-xxxi and map authored by S. V. Wood, junior and F. W. Harmer). [June, 1872].

Supplement, Bivalves. Pp. 99-231, pls. VIII-XI and Addendum Plate. [February, 1874].

Volume IV. Second Supplement. Title page; preface; Pp. 1- 58, pls. I-VI. [May, 1879].

Third Supplement (edited by his son, Searles V. Wood [junior]). Title Page; Preface; Pp. 1-24, pl. I. [June 1882].

The apparent duplication of page 99 in Volume III is not an error. Publication of pages 1-99 resulted in the verso of page 99 as being blank. When the next part was published, page 99 was reprinted as the recto of page 100, and the instructions to binders point out that the original page 99 is to be removed and destroyed. The instructions also call for removal of the title page for Volume II issued in the Society volume for 1855 and substitution of a replacement title page provided in the volume for 1873.

The title varied with different issues. The original title of Volume I was "A Monograph of the Crag Mollusca, or, descriptions of shells from the Middle and Upper Tertiaries of the East of England". A revised title page was issued at an unknown later date with the title rendered as "A Monograph of the Crag Mollusca, with descriptions of shells from the Upper Tertiaries of the British Isles".

The original title page for Volume II is "A Monograph of the Crag Mollusca, with descriptions of shells from the Upper Tertiaries of the British Isles"; it bears the dating 1850-1856. A second or replacement title page, issued in 1874, carries the same title but has the dating 1851-1861.

The title of Volume III is "Supplement to the Monograph of the Crag Mollusca, with descriptions of shells from the Upper Tertiaries of the East of England". The title of Volume IV is identical to that of Volume III except for being the "Second Supplement to ...". The posthumous Third Supplement is entitled "Third Supplement to the Crag Mollusca, comprising Testacea from the Upper Tertiaries of the East of England."

The change of title is explained by Wood (1857:302) who stated: "When the present work was begun, I had proposed to call it simply 'A Monograph of the Crag Mollusca;' but this title had to be submitted to the Council of the Palaeontogra-

phical Society for their approval, when the term 'Crag' was thought by some of the members of that body to be of too local or technical significance, and would not be fully understood by foreign geologists; and the explanatory addition of 'Descriptions of Shells from the Middle and Upper Tertiaries of England' was then suggested, and acceded to by myself. A more complete examination of these Deposits, during the progress of the work, has induced me to believe the term 'Middle' to have been incorrectly introduced, there being no remains of a Formation in Great Britain referable to that Period. . . ; it is therefore requested to erase the words Middle and Miocene from the title-pages and other parts of the work formerly given, as I believe the Formations I have been attempting to illustrate belong with more propriety to the Upper Tertiaries." Another note about the title (Wood, 1857: 326) seems to explain the change from the "East of England" to "the British Isles".

It appears that due to the varied titles used that it would be advantageous to cite the work simply by Wood's original title, "A Monograph of the Crag Mollusca", as this is how it has been referred to orally and in print by succeeding generations of paleontologists.

Volume II, stated to be on bivalves, also contains an appendix (pp. 303-328) in which Cephalopoda and Gastropoda are treated. The two page "note", which is part of Volume II, appeared in the Society Volume for the year 1858 and bears a printed date of May, 1860 (probably the date written) and was actually published, *fide* the "instructions to binders", in March, 1861. This note concerns Wood's misidentification of an *Anomia* valve as an *Aplysia*, an error he wished to correct immediately.

Various references have been consulted to determine if the correct publication dates have usually been cited for this work. Only one (Anderson, 1964:365) has been located, although a few authors seem to have arrived at the correct

dates for some taxa. Radwin & Coan (1976) referred to Wenz (1941[sic]:1594) and the "Cat. Lib. Brit. Mus. Nat. Hist. 4:1502" for dating. Both of these references give the date of Volume II as "1850–56" and Volume III as "1872–74", and the dates for the various parts of these volumes are not given. Ruhoff (1980:118) cited only "Part II" (*i.e.*, Volume II) with the composite date of 1850–1856, this volume being the only portion of the work within the 1850–1870 time frame dealt with by her. However, this resulted in misdating of numerous taxa by Ruhoff, and she also omitted many others. Some of these omissions are attributable to the fact that Wood earlier published a series of papers (Wood, 1840–42) listing Crag species in which he described some new species and also introduced a number of manuscript names. These manuscript names were cited in synonymy when the species were actually described and Ruhoff evidently assumed that the names had been validly proposed earlier.

The nude names published in 1840–42 present nomenclatural problems since many were used and illustrated by other authors between their first appearance as *nomina nude* and their much later validation by Wood. Although the nude names are listed as such by Sherborn (1922–33), he does not list many of the later validations.

Note on the generic name *Astartella*

Three independent usages of the nomen *Astartella* occur in the literature. These homonyms are:

Astartella Wood, 1853:170 (introduced as a junior synonym, see text), *non* Hall and Whitney, 1858 (Mollusca) *nec* Filatova, 1957 (Mollusca).

Astartella Hall in Hall and Whitney, 1858:715 (type species, by monotypy, *Astartella vera* Hall in Hall and Whitney, 1858), *non* Wood, 1853 (Mollusca) *nec* Filatova, 1858 (Mollusca).

Astartella Filatova, 1957:298 (type species, by monotypy, *Astarte ioani* Filatova, 1957), replaced by *Filatovaella* Merklin, 1959:4671, new name for *Astartella* Filatova, 1957 *non* Wood, 1853 (Mollusca)*nec* Hall in Hall and Whitney, 1858 (Mollusca).

The introduction by Wood (1853:170) of the name *Astartella* has been completely overlooked and consists of the earliest usage of this nomen. To obviate any future difficulties involving this name and to preserve *Astartella* Hall in Hall and Whitney, 1858, which is widely used in the paleontological literature (Chavan, 1969; Shimer and Shrock, 1944), we adopt the view that Wood introduced *Astartella* as a junior synonym.

Wood's (1853:170) introduction of the name is made in a discussion of *Erycinella* Conrad, 1845 and is ambiguous in the extreme. He resurrected his own manuscript name by which a shell was known to him in his private collection; the text is so garbled with the mention of several different generic names, some accompanied by question marks, that one cannot be certain to what *Astartella* pertains. He stated that he "would now lay claim [to the name *Astartella*], provided no regular diagnosis has previously been given to the one Mr. Conrad has employed [*i.e.*, for *Erycinella* Conrad]". Further, no type-species is designated.

Arguments could be made for Wood's usage being either a conditional proposal of the name (see I.C.Z.N. Articles 11(d)(i) and 15) or an introduction as a junior synonym (I.C.Z.N. Article 11(e)). The former interpretation would make the nomen available and in the latter interpretation it would be unavailable.

In accordance with I.C.Z.N. Article 24, the Principle of the First Reviser, we take the position that Wood introduced the name *Astartella* as a junior synonym of *Erycinella* Conrad. Under I.C.Z.N. Article 11(e) it is therefore not an available

name and does not compete in homonymy with any later usage of *Astartella*.

We appreciate critical readings of the manuscript by Mr. Alan R. Kabat and Mr. Richard I. Johnson, who also allowed us to examine his personal copy of Wood.

References Cited

Anderson, H. -J. 1964. Die miocäne Reinbek-Stufe in Nord- und Westdeutschland und ihre Mollusken-Fauna. Fortschritte in der Geologie von Rheinland und Westfalen, 14:31-368, 52 pls.

Catalogue of the Books, Manuscripts, Maps and Drawings of the British Museum (Natural History). London, Hazell, Watson and Viney, Ld., Vol. I. A-D (1903), pp. viii, 1-500; Vol. II. E-K (1904), pp. [vi], 501-1038; Vol. III. L-O (1910), pp. [vi], 1039-1494; Vol. IV. P-Sn (1913), pp. [vi], 1495-1956; Vol. V. So-Z (1915), pp. [vi], 1957-2403; London, William Clowes and Sons, Vol. VI. Supplement A-I (1922), pp. [vi], 1-512; Addenda and Corrigenda to Vols. I and II. A-Hooker, pp. 1-48; Oxford, University Press, Vol. VII. Supplement J-O (1933), pp. [vi], 513-968; Vol. VIII. Supplement P-Z (1940), pp. [vi], 969-1480.

Chavan, A. 1969. Superfamily Crassatellacea Férussac, 1822, pp. N562-N583 [*in*] Moore, R., (ed.). Treatise on Invertebrate Paleontology, (N) Mollusca 6. Geological Society of America, Inc. and University of Kansas Press, Lawrence. 3 vols.

Conrad, T. A. 1845. Fossils of the Miocene formations of the United States. No. 3. Judah Dobson, Philadelphia, pp. 57-80, pls. 30-45.

Filatova, Z. A. 1957. Nekotorye novye predstaviteli semeistva Astartidae (Bivalvia) dal 'nevostochnykh morei [Some new representatives of the family Astartidae (Bivalvia) from the Far Eastern Seas]. Trudy Instituta Okeanologii [Proceedings of the Institute of Oceanology], Akademiya Nauk SSSR [Academy of Sciences USSR], Moskva [Moscow], 23:296-302. [The date 1957 occurs on the title page of the Russian original and has been accepted by Skarlato (1980:292); Merklin (1959:4671) dated Filatova's article as of 1957, but incorrectly dated the name as 1958, the same as given by Vokes (1967:268; 1980:121).

Hall, J. and J. D. Whitney. 1858. Report on the Geological Survey of the State of Iowa: Embracing the results of investigations made during portions of the years 1855, 56 & 57. Volume I, Part II: Paleontology. Published by authority of the Legislature of Iowa [Albany, New York], pp. 473-724, 3, 30, pls. 1-29.

International Commission on Zoological Nomenclature. 1985. International Code of Zoological Nomenclature. Third Edition. Adopted by the XX General Assembly of the International Union of Biological Sciences. International Trust for Zoological Nomenclature, London, pp. xx + 338.

Merklin, R. L. 1959. Referativnyi Zhurnal [Synopsis Journal]. Geologiya [Geology]. Akademiya Nauk SSSR [Academy of Sciences USSR]. Institut Nauchnoi Informatsii [Institute of Scientific Information], Moskva [Moscow] No. 3. Referaty [Synopses] Nos. 4485-6671, p. 4671, No. 4665.

Radwin, G. E. and E. V. Coan. 1976. A catalogue of collations of works of malacological importance. The Western Society of Malacologists Occasional Paper, 2:1-34.

Ruhoff, F. A. 1980. Index to the species of Mollusca introduced from 1850 to 1870. Smithsonian Contributions to Zoology, 294:1-640.

Sherborn, C. D. 1922-33. Index Animalium. Section 2. Trustees of the British Museum, London, pp. i-cxlvii + 1-7056 + 1-1098.

Shimer, H. W. and R. R. Shrock. 1944. Index fossils of North America. John Wiley and Sons, Inc., New York, pp. ix + 837, 303 pls.

Skarlato, O. A. 1981. Dvustvorchatye mollyuski umerennykh shirot zapadnoi chasti Tikhogo Okeana [Bivalved mollusks of the temperate latitude of the western part of the Pacific Ocean]. Opredeliteli po faune SSSR [Keys to the fauna of the USSR], Leningrad, 126:1-479, text-figs. 1-208, 487 photographs.

Vokes, H. E. 1967. Genera of the Bivalvia: a systematic and bibliographic catalogue. Bulletins of American Paleontology, 51(232): 103-394.

Vokes, H. E. 1980. Genera of the Bivalvia: a systematic and bibliographic catalogue (revised and updated). Paleontological Research Institution, Ithaca, New York, pp. i-xxvii + 1-307.

Wenz, W. 1944. Gastropoda: Allgemeiner Teil und Prosobranchia. Pp. 1507-1639 [*in*] Schindewolf, O. H. (ed.), Handbuch der Paläozoologie. Band 6(1). Verlag von Gebrüder Borntraeger, Berlin.

Wood, S. V. 1840-42. A catalogue of shells from the Crag. Annals and Magazine of Natural History, 6(37):243-253 (1840); 9(60): 455-462, pl. 5 (1842); 9(61):527-544 (1842).

Wood, S. V. 1848-82. A monograph of the Crag Mollusca. [see collation herein].

BOOK REVIEW

CAROL M. LALLI AND RONALD W. GILMER. 1989. *Pelagic Snails. The Biology of Holoplanktonic Gastropod Mollusks.* Stanford University Press, Stanford, California, pp. i–xiv, 1–259, 25 tables, 76 text-figures, 16 color figures. ISBN 0-8047-1490-8. $45.00.

The study of pelagic animals, organisms living in the oceanic water column, has been revolutionized by their examination and collection *in situ.* Initially, this was largely accomplished by open ocean SCUBA diving in surface waters, but more recently it has been extended to include depths accessible only to deep-sea submersibles equipped with special collecting apparatus.

Pelagic snails, of which there are about 140 species, comprise one of the more important moieties of the oceanic fauna and except to a few knowledgeable marine scientists, these wonderful creatures are virtually unknown. One can imagine the excitement experienced by the early naturalists who first observed and described these animals. As early as 1705, Breyn figured the violet-snail, *Janthina,* and its bubble-filled float in the *Philosophical Transactions of the Royal Society,* and in his posthumous 1775 work, Forskål, who travelled on the ill-fated Danish expedition to "Arabia Felix", illustrated several oceanic forms including the pseudothecosomatous pteropod *Gleba.* The glassy nautilus, *Carinaria cristata,* a representative of these oceanic animals, was once considered so rare and unusual by eighteenth and nineteenth century collectors that it fetched at auction a price twice that of the famous *Conus gloriamaris.* This heteropod attains the largest size of all pelgagic snails, reaching about a half meter in length.

Lalli and Gilmer have rendered an important service in providing a stimulating review of the biology of holoplanktonic gastropods. Simultaneously they have significantly contributed new and previously unrecorded observations on these relatively poorly known groups. Their approach has been to stress the living animal in its natural environment.

To live a life entirely in the open ocean without access to solid substrates has required the evolution of unique adaptations in form, color, and behavior. The authors discuss such modifications in regard to swimming, floating, and attaching to objects adrift in the water column. Transformations of the typical gastropod foot have led to unusual structures which may facilitate swimming or feeding.

Both prosobranch and opisthobranch lineages in the gastropods have given rise to pelagic snails, of which the authors consider five separate groups in as many individual chapters. Each of these is a unit unto itself with specific sections on such topics as external anatomy, adaptations for swimming or floating, methods of obtaining nutrition, reproduction and development, parasites, and evolution; a list of taxa recognized in each group is given as is a list of references.

After a short introduction, they first treat the unique neustonic janthinids, *Janthina* and *Recluzia,* which are pteno-glossate prosobranchs living suspended from the surface film of the ocean by a self-created bubble-filled raft. Voracious predators, these so-called violet sea-snails feed on the by-the-wind sailor *Velella velella* and the Portuguese man-of-war *Physalia physalis.* The second group to be considered consists of the prosobranch Heteropoda embracing three families of carnivores that utilize vision to capture their prey.

The shelled pteropods, an opisthobranch lineage, constitute the third group of some 50 species; one portion of these, the so-called more advanced pseudothecosomatous pteropods have a secondarily derived gelatinous pseudoconch or false shell. Only recently have some of the unique feeding adaptations of these animals been described: an enormous mucoid feeding web up to two meters in diameter is produced by the animal, which is about 60 mm wide; it entraps minute plankters and is pulled in to be digested.

The shell-less pteropods, or Gymnosomata with seven families and fewer than 50 species is the fourth group discussed. These opisthobranchs are all carnivores and show unique adaptations for the capture of prey, some having

developed prehensile appendages remarkably like the tentacles of cephalopods to grasp and hold their food.

Last to be discussed are the few but nevertheless fascinating nudibranchs which have assumed an almost entirely holoplanktonic existence. These include the dendronotaceans *Phylliroe* and *Cephalopyge,* small fish-like predators of cnidarians as well as *Glaucus, Glaucilla* and *Fiona* which also prey on pleustonic cnidarians such as *Velella, Porpita* and *Physalia* as well as floating stalked barnacles. The blind *Glaucus* with its beautifully oceanic blue camouflage can, as an additional defense mechanism, stuff its cerata with the stinging cells or nematocysts of the Portuguese man-of-war and become one of the very rare animals, a killer mollusk.

The work is strengthened by its excellent illustrations and color plates as well as by the glossary which defines the rather specialized vocabulary applied to the pelagic realm. Both systematic and subject indices are provided.

—K. J. Boss

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AN INDEXED CATALOGUE OF PUBLICATIONS ON MOLLUSCAN TYPE SPECIMENS

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and
Kenneth J. Boss[2]

ABSTRACT

This paper provides a bibliographical compilation of over 1,150 type catalogues (and related papers) of Recent and fossil mollusks. These publications on type specimens are cross-referenced in separate author, museum, and systematic indices. Several recommendations for the arrangement and content of type lists are proposed; only name-bearing types, along with paratypes and paralectotypes, warrant inclusion in published type catalogues.

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INTRODUCTION

Type specimens, or the original material used by an author in describing a new species, are of fundamental importance to subsequent researchers in determining the identity of a species. As systematists are well aware, one of the more time consuming components of taxonomic research is ascertaining the location and status of type specimens, especially those described in the older literature. All too often, original descriptions do not indicate the repository of the type(s); and type material may be distributed after publication to various museums not mentioned in the description. In some cases, lack of knowledge of the existence of a type specimen has led to the unnecessary designation of neotypes while the original material was still extant, albeit not where it might have been expected. Some museums or universities have transferred their type and other collections, often following political or administrative changes. Type collections in private hands may be dispersed or broken up and rarely remain intact. War-related damages may partially or wholly destroy type collections.

Given these vicissitudes, it is easy to see why some systematists tend to lose heart at trying to track down all the relevant type specimens for the taxa they study. Several previous publications have attempted to address these problems. The first was "Where is the --- collection?" (Sherborn, 1940) which listed several hundred collectors and the present locations of their collections. However, Sherborn gave few references, and he did not differentiate between type specimens and general collections.

Banfield (1968) listed 183 published type catalogues, with emphasis on insects and vertebrates (see also Rydzewski, 1979). Taylor (1975: 7) listed almost 50 malacological type catalogues with emphasis on those treating freshwater mollusks. Bassett (1975) provided a valuable work on the paleontological type catalogues of British collections, with three indices (taxonomic, stratigraphic, and museum); this paper provides an excellent model for subsequent works such as ours. Cleevely's (1983) herculean compilation of biographical and bibliographical data on paleontologists and

their collections also includes (in his museums index) some references to type catalogues published on the various paleontological collections. The compilations of data on paleontological collections by Glenister, *et al* (1977), Prieur (1980), and Webby (1989, 1992) supplement Cleevely's work, although the latter is far more comprehensive. The histories of shell collecting by Dean (1936) and Dance (1966, 1986) provide biographical information on early malacologists and give the known repositories of many of their collections.

In a work published after the completion of our manuscript, Wiktor and Rydzewski (1991) listed some 1,800 type catalogues covering the field of zoology (including paleontology). However, their systematic index is only to the level of phylum and class, and the authors of the species are not indexed. In contrast, our paper has the systematic index to the class or family level, and the authors of species are indexed. We also provide complete museum addresses and the correct museum acronyms (many of the acronyms listed by Wiktor & Rydzewski have never been used before by anyone else). Of the nearly 400 relevant malacological titles which they listed, we already had all but four of them; we list over 750 additional malacological titles. Furthermore, many of the publications listed by Wiktor and Rydzewski are actually general monographs or even articles on the type species of a genus. Despite these aspects, their work represents a useful start for phyla other than the Mollusca.

The purpose of our paper is to bring together the entire corpus of type catalogues on fossil and Recent Mollusca, together with indices and cross-references. We focus primarily on those papers which specifically make reference to author or museum type collections. Generally we do not include critical revisions or systematic monographs. Rather, we have striven to include those publications dealing exclusively with type specimens, in particular, those of institutions and of species described by particular individuals. Obviously it is difficult to draw the line as some "type catalogues" also include remarks on the current systematic status or even revisionary comments; we have

erred on the side of including such papers regardless. Essentially, this is a compilation of the secondary literature, and *not* the primary taxonomic literature which is usually more widely known. Also, in the nineteenth century, there were numerous publications which were titled as catalogues of given collections; these papers are only incidentally (if at all) about type specimens and we do not include them [Tomlin (1944-1948) and Kabat (1989) discussed some of these publications]. Nor do we include references to the "pre-Linnaean" collections which were used for various iconographies of the sixteeenth to eighteenth centuries; those "types" have seldom survived to the present [for extensive discussion of these collections, see the symposium volume edited by Impey and MacGregor (1985)].

We would like to emphasize that our paper is not intended as a replacement for the aforementioned publications of Sherborn, Bassett, Cleevely, Dance, and Webby. Rather, this is a complementary work that attempts to fill in the lacunae of those works and to provide several alternative approaches for accessing this diverse literature of type catalogues. In particular, we hope that the full references and comprehensive indices will be of great value to malacological systematists. The observant reader will notice that certain taxa, authors, or museums are much better documented than are others; we hope that our paper will stimulate further research to fill in these gaps in our knowledge of malacological type specimens.

This paper comprises four components: (1) An author index, arranged alphabetically. (2) A museums index, arranged alphabetically by continent and country. (3) A systematic index, arranged by molluscan class and family. (4) An alphabetical bibliography of all the malacological type catalogues that have come to our attention; the article and journal titles are given in full. The references in the three indices are merely author-date and lead the reader to the bibliography. Most of the papers are fully catalogued in all three categories except for a few comprehensive items covering numerous (*e.g.*, more than 20) families of gastropods and bivalves, and for some museum type catalogues with numerous authors, often of non name-bearing types.

Thus, researchers interested in a specific family or author should also check the other indices to obtain all possible relevant references.

In compiling our list, we became aware of a variety of approaches taken by authors in formulating their type lists. Some are obviously easy to use, while others are vexatious in their difficult arrangement, hindering the search for a given species. We make some proposals about what a type catalogue should include and how it can best be arranged.

First, the data to be given for each species should include the foilowing:

specific name, generic name (the original binomen)
Author, year: publication, page(s), plate(s)/figure(s)
type locality (geographical; stratigraphical)
size (especially for lectotype or neotype designation)
status of type(s) (holotype, lectotype, etc.)
subsequent references of note (*i.e.*, lectotype or neotype designations)
Museum, registration number (if used)
additional remarks (as needed)

The exact ordering of these data is not as important as is the consistent usage of a logical, straightforward system.

Secondly, it is our opinion that within the catalogue, the species are best arranged by their *original binomen*: alphabetically by specific name. All too often, one sees catalogues in which the taxa are either arranged by generic name (*i.e.*, the species listed alphabetically under each genus), or by their current generic combination, or by family, or by other museum collection arrangement. The problems with those approaches are that generic combinations and familial placements tend to change because of systematic revisions, and type catalogues that are not arranged by the original binomina are most difficult to use as one often has to search under a number of generic names in order to find the particular specific name of interest.

In addition to the taxa listed in a type catalogue, several other components are of considerable importance. These include an historical introduction to the material (authors, museums, taxa) covered in the catalogue; full

bibliographical references to the original descriptions and subsequent references of note (*i.e.*, lectotype and neotype designations); and perhaps one or more indices. If the type catalogue is arranged alphabetically by the specific name, then a generic index would be helpful; conversely, catalogues arranged by genus should have a species index. Catalogues covering numerous authors could include a species index for each author. Geographical indices are of lesser importance.

Thirdly, we emphasize that type catalogues are best restricted to *name-bearing types*: holotypes, lectotypes, neotypes, and syntypes (Frizzell, 1933; International Code of Zoological Nomenclature [ICZN], 1985, Articles 71-75). These types are of fundamental systematic importance and deserve the highest curatorial standards. The aforementioned Articles of the ICZN contain excellent advice and regulations regarding the treatment and selection of types which should be carefully consulted. The ICZN recommends that institutions "publish lists of name-bearing types in its possession or custody..." [Recommendation 72G(4)]. Further discussion of the curation of types and related problems is provided by Berry (1985), Brunton, *et al.* (1985), Crowther (1990), Owen (1964), Swinton (1955), S. Tillier (1984), Torrens (1974), and in the symposium volume edited by Bassett (1979). Simpson (1940) gave a more general review of types and their roles in systematics. An alternative viewpoint was advocated by Fricke (1985) who needlessly proposed two additional categories of types and concluded that paratypes should not have any nomenclatural status. However, we would like to emphasize the evolutionary and nomenclatural importance of paratypes (and paralectotypes): not only may they show morphological variation, but also they may be important in resolving problems of mixed species identities. Inclusion of paratypes and paralectotypes in type catalogues can be justified depending upon individual circumstances. We have avoided using the terms "primary types" and "secondary types" which have been inconsistently used in the literature.

In contrast to these name-bearing types, one sometimes sees type catalogues (especially paleontological) con-

taining various other categories of types, including topotypes ("a specimen from the original locality from which a species was described") and hypotypes ("a described or figured specimen, used in publication in extending or correcting the knowledge of a previously defined species") (definitions from Frizzell, 1933: 653, 665). While these latter types may be of some importance in a systematic context, they do not warrant inclusion in a type catalogue, as they often needlessly increase the length of such works. Instead it is better to mention briefly in the introduction that the voucher specimens (including topotypes or hypotypes) of particular systematic revisions are housed in the given museum collection. By definition, a type catalogue cannot contain icotypes (specimens about which nothing has been published), inasmuch as that is no longer true once the catalogue gets published. We certainly hope that onomatypes (cited or figured specimens that do not add to our knowledge of the species) will not be included in type catalogues!

ACKNOWLEDGMENTS

We thank the numerous colleagues who have sent us their publications on types and type catalogues. Dwight W. Taylor originally suggested a compilation of this nature to the junior author and kindly provided a nucleus of references which has been greatly expanded over the past 20 years. The following colleagues provided helpful discussion on several points and informed us of certain overlooked titles: Alan Beu, Rüdiger Bieler, Philippe Bouchet, Eugene V. Coan, John Cooper, Yves Finet, Ronald Janssen, Richard I. Johnson, Richard N. Kilburn, Alan J. Kohn, Ian Loch, Bruce A. Marshall, James H. McLean, Robert G. Moolenbeek, Fred Naggs, Takashi Okutani, Richard E. Petit, Gary Rosenberg, Tom Schiøtte, Michael F. Sweeney, Thomas R. Waller, Anders Warén, and Kathie Way. Carolyn Hahn (Smithsonian Institution Libraries) and Walter E. Sage (American Museum of Natural History) obtained copies of several papers otherwise unavailable to us.

AUTHORS INDEX

The following index is arranged alphabetically by the author of the new taxa for which type specimens have been catalogued or mentioned. We do *not* include mere biographical (or obituary) notes which do not discuss the whereabouts of type material; see Cleevely (1983) and Dance (1986) for such references. Some historical reviews of various collections have listed authors whose types are present (without further data); we have usually indexed these (except for Mienis [1976] who listed 92 such authors!).

There are a number of type catalogues including numerous (*e.g.*, 50-100 or more) authors of type material, often not of name-bearing types. It was impractical to attempt to index all such authors. In a few cases where such catalogues were dominated by a few authors, we have mentioned those; otherwise those broad catalogues are not indexed in this list. Also not fully indexed are the type catalogues of the Academy of Natural Sciences by Baker (1962-1964) on land gastropods and the subsequent "Tryonia" catalogues (Davis, *et al.*, 1979; Richardson, *et al.*, 1991; Robertson, *et al.*, 1981-1987) as over 100 authors are entailed, and those publications include lists or indexes of the authors. The extensive series of type catalogues of the Senckenberg Museum by Zilch (in 60 parts, 1951-1987b) are also not indexed herein; their phylogenetic arrangement facilitates access to authors of taxa in the various families.

We note that there are alternative approaches in alphabetizing certain European names containing prefixes: while Europeans themselves generally do not use de, van, or von in alphabetical precedence, the latest edition of the (American) *CBE Style Manual* [Fifth Edition, 1983], states that the particle or definite article must precede the family name. This latter usage is contrary to that of the Europeans and we have not followed it for articles which are separate from the family name. However, we have used it for those cases where the article is an integral part of the family name: d' and Mac / Mc.

Abbott, R.T. —Olazarri, *et al.*, 1972; Wells, 1977.
Adam, W. —Slack-Smith, 1983.
Adams, A. —Boyd & Phillips, 1985; Cernohorsky, 1969c; Finet & Houart, 1989; Fleming, 1951; Habe, 1961, 1977c, 1985; Kuroda & Habe, 1954; Makiyama, 1929; Tomlin, 1932a; Trew, 1992; Yen, 1942.
Adams, C.B. —Baker, 1964; Clench & Turner, 1950a; Ferreira, 1978; Jacobson & Boss, 1973; R.I. Johnson & Boss, 1972, 1973; Michelson, 1953; Pilsbry, 1946; Richards & Old, 1969; R.D. Turner, 1956a, 1956b.
Adams, H. —Trew, 1992; Verdcourt, 1983b.
Adanson, M. —Fischer-Piette, 1942; Lamy, 1929a.
Agassiz, L. —Berset & Decrouez, 1989; Jeannet, 1932; Ledermann, 1967.
Aguayo, C.G. —Baker, 1964; Olazarri, *et al.*, 1972.
Albers, J.C. —Kilias, 1969, 1974b.
Alencaster, G. —Perrilliat, 1981.
Allan, J. —Rudman, 1983; Whitley, 1968.
Allan, R.S. —Allan, 1938.
Altena, C.O. van Regteren. —Benthem Jutting & Bruggen, 1972; Bruggen, 1977; Olazarri, *et al.*, 1972.
Ancey, C.-F. —Cooke, 1918; Géret, 1909; Kilias, 1969, 1971; Schouteden, 1936; Wells, 1977.
Anderson, R. —Murphy & Rodda, 1977.
Angas, G.F. —Cernohorsky, 1969c; Hedley, 1913; Iredale, 1959.
Annandale, T.N. —Baker, 1964.
Anthony, J.G. —R.D. Turner, 1946.
Arango, R. —Jacobson, 1975; Mount, 1973a.
Arkell, W.J. —Pyrah, 1977.
Ashby, E. —Boyd & Phillips, 1985; Gowlett-Holmes & McHenry, 1988; Iredale & Hull, 1927; Macphail & Zeidler, 1978; B.J. Smith & Robertson, 1970; Wells, 1977.
Audouin, V. —Bouchet & Danrigal, 1982.

Bacci, G. —Mienis, 1976c.
Baker, F.C. —Baker, 1964; Franzen, 1956-1958; Leonard, 1957; Wu & Brandauer, 1982
Baker, H.B. —Kilias, 1961; Olazarri, *et al.*, 1972; Robertson,

et al., 1986, 1986; Thome, 1988c.
Barnard, K.H. —Giles & Gosliner, 1983; Kilburn, 1973.
Barrande, J. —Eng & d'Escrivan [in prep.]; Ruzicka & Prantl, 1960.
Bartha, F. —Krolopp, 1980.
Bartsch, P. —Robertson, *et al.*, 1987; Rosewater, 1984b; Ruhoff, 1973.
Bavay, A. —Fischer-Piette, 1950; Mienis, 1976a; Robertson, *et al.*, 1987; Roth & Clover, 1973; Thomson [in prep.].
Beck, H.H. —Kilias, 1971.
Beddome, C.E. —Loch, ms. 1.
Beecher, C.E. —Baker, 1964.
Beets, C. —Pouwer, 1991.
Bell, A. —Bell, 1917; Pyrah, 1977, 1978.
Bellardi, L. —Ferrero-Mortara, *et al.*, 1982, 1984; Gatto, 1984.
Benett, E. —Spamer, *et al.*, 1989.
Benoit, L. —Baker, 1964.
Benson, W.H. —Yen, 1942.
Benthem Jutting, W.S.S. van. —Altena, 1964; Coomans, 1991; Kilias, 1969; Kilias & Kilias, 1982; Somadikarta, *et al.*, 1964.
Bequaert, J. —Richards & Old, 1969; Schouteden, 1936.
Bergh, R. —Kilias, 1967b; Spärck, 1951.
Bergenhayn, J.R.M. —Wallin, 1991a.
Bernard, F. —Peden & Green, 1982.
Bernardi, A.C. —Fischer-Piette, 1950; Richard, 1980.
Berry, E. —Roscoe, 1963.
Berry, S.S. —Hertz, 1984; Mount, 1973a; Natsukari & Okutani, 1975; Roper & Sweeney, 1978; Rudman, 1983; Scott, *et al.*, 1990; A.G. Smith, 1974; Sweeney & Roper, 1984; Sweeney, *et al.*, 1988; Wilson & Bing, 1970; Wu & Brandauer, 1982.
Beu, A. —Dawson, 1979.
Bielz, E.A. —Corocleanu, 1968; Kilias, 1974b.
Biese, W.A. —Cekalovic & Artigas, 1981b.
Biggs, H.E.J. —Mienis, 1975a.
Binney, A. —Richards & Old, 1969.
Binney, W.G. —Binney, 1885; Gratacap, 1901; Richards & Old, 1969.

Bird, J. —Buckman, 1909-1930; Howarth, 1962.
Bittner, A. —Tichy, 1970.
Blainville, H.-M.D. de —Ashby, 1922; Kohn, 1986; Lamy, 1923; Thomé, 1979.
Blake, J.F. —Crick, 1922.
Bland, T. —Gratacap, 1901.
Blume, W. —Verdcourt, 1970; Zilch, 1965c, 1971b.
Boettger, C.R. —Kilias, 1969; Mienis, 1975a; Zilch, 1977b.
Boettger, O. —Habe, 1982; Kilias, 1971, 1974b, 1974c; Kilias & Kilias, 1982; Kinkelin, 1903; Knipper, 1954; Zilch, 1934, 1935.
Bonarelli, G. —Roman, 1937.
Bonetto, A.A. —Olazarri, *et al.*, 1972.
Born, I. von —Brauer, 1878; Finet & Houart, 1989; Kohn, 1964.
Borson, S. —Kohn, 1986, 1988; Pavia, 1976.
Bory de Saint-Vincent, J.B.G.M. —Kohn, 1988.
Bosc, L.A.G. —Kohn, 1981.
Böse, E. —Perrilliat, 1981.
Boshoff, P.H. —Kilburn, 1973.
Bourguignat, J.R. —Baker, 1964; Chevalier & Pothier, 1972; Couffon & Surrault, 1909; Favre, 1943; Mermod, 1950a; Schouteden, 1936; Tillier & Mordan, 1983; Verdcourt, 1986.
Brandt, R.A.M. —Wells, 1977.
Bratcher, T. —Cernohorsky, 1969c; Wells, 1977.
Brazier, J.W. —Baker, 1964; Cotton, 1945; Green, 1974; Hedley, 1901; Iredale, 1958a; Ponder & Stanbury, 1972; Zeidler, 1985.
Brocchi, G. —Jeffreys, 1884; Kohn, 1986; Lamy, 1931; Rossi-Ronchetti, 1952, 1955; Pinna & Spezia, 1978.
Broderip, W.J. —Kilias, 1969; Kohn, 1988.
Brongniart, A. —Kohn, 1988.
Bronn, H.G. —Kohn, 1988.
Brooks, S.T. —R.I. Johnson, 1981.
Brot, A. —Baker, 1964; Mermod, 1950a.
Brown, T. —Smaldon, *et al.*, 1976.
Brugnone, G. —Mienis, 1975a.
Bruguière, J.-G. —Kilias, 1969; Kohn, 1968; Mermod, 1947.

Brusina, S. —Milan, *et al.*, 1974; Zagar-Sakac, 1981.
Buckman, J. —Crick, 1902.
Buckman, S.S. —Eng & d'Escrivan [in prep.]; Stubblefield, 1936.
Burch, R.D. —Cernohorsky, 1969c; Wells, 1977.
Burgess, C.M. —Wells, 1977.
Burn, R. —Boyd & Phillips, 1985; Green, 1974; Wells, 1977.
Burnup, H.C. —Anonymous, 1962.
Busch, G. von dem —Knipper, 1958.
Bush, K.J. —R.I. Johnson, 1989.
Butot, L.J.M. —Somadikarta, *et al.*, 1964.

Cailliaud, F. —Tillier & Mordan, 1983.
Call, R.E. —Baker, 1964; R.I. Johnson, 1975a.
Campbell, K.S.W. —Philip, 1971.
Campiche, G. —Bechon, *et al.*, 1984, 1985a, 1985b; Decrouez, 1985.
Cantraine, F. —Leloup, 1950.
Carcelles, A. —Olazarri, *et al.*, 1972.
Carpenter, H.F. —Baker, 1964.
Carpenter, P.P. —Brann, 1966; Cernohorsky, 1969c; Coan & Rosewater, 1985; Keen, 1968; Palmer, 1945a, 1951, 1958, 1963; Van Winkle, 1921.
Cate, C.N. —Wells, 1977.
Cate, J. —Wells, 1977.
Caziot, E. —Mienis, 1976b.
Cernohorsky, W.O. —Wells, 1977.
Chamberlain, R.V. —Roscoe, 1963.
Charpentier, J. —Kilias, 1974c.
Chavan, A. —Serret, 1986a.
Chemnitz, J.H. —Bruun, 1945; Kohn, 1964; Spärck, 1951.
Chenu, J.C. —Mermod, 1947, 1950a.
Chitty, E. —Clench & Turner, 1950b.
Clapp, G.H. —Mount, 1973a; Wu & Brandauer, 1982.
Clark, B.L. —Addicott, *et al.*, 1971.
Clark, W. —Warén, 1983.
Clench, W.J. —Kilias, 1974a; Olazarri, *et al.*, 1972.
Clessin, S. —Kilias, 1961, 1963, 1967a, 1967b, 1974b; Kuiper, 1967.

Cockerell, T.D.A. —Wu & Brandauer, 1982.
Coen, G.S. —Mienis, 1972, 1973, 1975a, 1975b, 1981; Piani, 1983; F.A. Schilder, 1964.
Colosi, G. —Thomé, 1970b.
Connolly, M. —Adam, 1971; Anonymous, 1958, 1962; Bruggen, 1963; Kilias, 1967b, 1969; Kilias & Kilias, 1982; Schouteden, 1936.
Conrad, T.A. —Abbott, 1955; Beecher, 1900; J.M. Clarke, 1905c; Davis, 1964; C.W. Johnson, 1905; R.I. Johnson & Baker, 1973; Keen, 1966a; Moore, 1962; R.D. Turner, 1962.
Cooke, C.M., Jr. —Baker, 1962-1964; Cooke, 1918; Kondo & Clench, 1952.
Cooper, J.G. —Coan 1982, 1986a.
Cossmann, M. —J.-C. Fischer & Vadet, 1985; Fouray, 1979; Magne, 1950a, 1966-1967; Peck, 1957.
Costa, E.M. da —Warén, 1989.
Costa, O.G. —Barbera Lamagna, 1968.
Cotton, B.C. —Gowlett-Holmes & McHenry, 1988; Hewish & Gowlett-Holmes, 1991; Laws & Mincham, 1968, 1973; Macphail & Zeidler, 1978; Zeidler, 1983, 1985; Zeidler & Macphail, 1978.
Couper, J.H. —Baker, 1964.
Coutagne, G. —Mienis, 1976b.
Couthouy, J.P. —R.I. Johnson, 1946.
Cowan, I. —Peden & Green, 1982.
Cox, J.C. —Richardson, 1971; Wells, 1977.
Crabb, E.D. —Baker, 1964.
Cragin, F.W. —Pritchett, 1905.
Craven, A.E. —Verdcourt, 1979a, 1979b.
Creswell, A.W. —Singleton, 1945.
Cristofori, G. de —Pinna, 1971; Pinna & Spezia, 1978.
Croneis, C. —Eng & d'Escrivan [in prep.].
Crosse, H. —Breure, 1976a; Chevallier, 1964-1966; Fischer-Piette, 1950; Kilias, 1967b; E.A. Smith, 1897; Thomé, 1972; R.D. Turner, 1962.
Currier, A.O. —Baker, 1964.
Cuvier, J.L.C.F.D. —Thomé, 1988a.

d'Ailly, A. —Kilias, 1971; Kilias & Kilias, 1982; Schouteden, 1936; Wallin, 1991a.

d'Archiac, A. —Roger, 1950.

d'Orbigny, A. —Breure, 1976a; Conte, 1989; Cottreau, 1925-32, 1934-37; Gray, 1854b, 1855a; R.I. Johnson, 1971; Keen, 1966d; Meco, 1975; Moulet, 1989; Pons da Silva & Davis, 1983; Roger, 1950; Thevenin, 1906-23; Watson, 1876; Wilkins, 1953c.

Dall, W.H. —Baker, 1964; Boss, *et al.*, 1968; Coan, 1966a; Dall, 1925; Drake, 1957; Habe, 1978b; Kilias, 1971; Kosuge, 1972; Mount, 1973a; Robertson, *et al.*, 1981; Rosewater, 1984b; Scott, *et al.*, 1990; Spamer & Forster, 1988; Thomé & Pitoni, 1976.

Dautzenberg, P. —Belloc, 1962; Breure, 1976a; Fischer, 1962b; Fischer-Piette, 1950; Leloup, 1950; Mienis, 1975a; Robertson, *et al.*, 1987; Schilder & Schilder, 1952; Schouteden, 1936.

Davis, C.A. —Baker, 1964.

Defrance, J.L.M. —Bigot, 1906-1945; Bigot & Matte, 1903, 1904; Kohn, 1986.

Degner, E. —Kaiser, 1980.

Delessert, J.P.B. —Mermod, 1947, 1950a.

Dell, R.K. —Boreham, 1959; Dawson, 1979; Keyes, 1971.

Delle Chiaje, S. —Kohn, 1988.

Deshayes, G.P. —Bratcher, 1977; Cernohorsky, 1969c; Dell, 1963; P.-H. Fischer, 1970; Fleming, 1951; R.I. Johnson, 1959a; Kohn, 1988; Tillier, 1979.

Dillwyn, L.W. —Cernohorsky, 1974; Kohn, 1986; Wilkins, 1955.

Djajasasmita, M. —Somadikarta, *et al.*, 1964.

Doherty, W. —Baker, 1964.

Dohrn, H. —Kilias, 1967a, 1969, 1971; Verdcourt, 1984b.

Donald, J. —Pyrah, 1978.

Donovan, E. —Kohn, 1988.

Döring, A. —Zilch, 1971a.

Draparnaud, J.P.R. —Locard, 1895.

Dunker, W. —Kabat & Kilias, 1991; —Kilias, 1971, 1974c.

Dybowski, B. —Zdun, 1969.

Edmondson, C.H. —Eldredge, 1965.
Edwards, F.E. —Pyrah, 1978.
Ehrenberg, C.G. —Kilias, 1963, 1967a, 1971, 1974c.
Ehrmann, P. —Zilch, 1972b.
Eichwald, K.R.I. —Kohn, 1988.
Engel, H. —Coomans, 1981.
Erni, A. —Ledermann, 1967.
Etallon, A. —Wannier & Panchaud, 1977.
Etheridge, R. —Anonymous, 1962; Rozefelds, *et al.*, 1990.
Eydoux, F. —Gray, 1855b.

Fabricius, O. —Spärck, 1951.
Favre, E. —Gerber, 1936.
Favre, J. —Decrouez & Kunz, 1985.
Ferriss, J.H. —Baker, 1962-1964; Wu & Brandauer, 1982.
Férussac, A.É.J.P.J.F.d'A. —Chevallier, 1965-1966; Férussac, 1837; Thomé, 1971, 1990; Tillier & Mordan, 1983.
Finlay, H.J. —Allan, 1938; Cernohorsky, 1972; Powell, 1941.
Fischer, G. —Ivanov & Kantor, 1990; Kohn, 1981.
Fischer, H. —Belloc, 1962; Fischer, 1962b.
Fischer, P. —Chevallier, 1964-1966; Forcart, 1952; Kilias, 1967b; Thomé, 1971.
Fischer-Piette, E. —Backhuys, 1990.
Fleming, C.A. —Boreham, 1959; Dawson, 1979; Keyes, 1972.
Flower, R.H. —Eng & d'Escrivan [in prep.]; Wolberg, 1990a-1991c.
Foerste, A.F. —R.A. Davis & Troike, 1990; Eng & d'Escrivan [in prep.].
Folin, L. de —Boury, 1911; Folin, 1890; Kisch, 1959a-1960.
Forbes, E. —Smaldon, *et al.*, 1976.
Forcart, L. —Thomé, 1984.
Forsskål, P. —Yaron, *et al.*, 1986.
Frauenfeld, G. von —Verdcourt, 1984b.
Frierson, L.S. —R.I. Johnson, 1972, 1979.
Fuchs, A. —Kilias, 1971, 1974c.

Fulton, H. —Crowley & Pain, 1961; Mienis, 1977; Robertson, *et al.*, 1987; Wells, 1977.

Gabb, W.M. —Coan & Bogan, 1988; C.W. Johnson, 1905; Merriam, 1895; Murphy & Rodda, 1977; Rodda & Murphy, 1991; R.B. Stewart, 1927, 1930; R.D. Turner, 1962; Voss, 1962.

Gabriel, C.J. —Boyd & Phillips, 1985; B.J. Smith & Black, 1969.

Gale, H.R. —Wilson & Bing, 1970.

Gambetta, L. —Thomé, 1970b.

Garrard, T.A. —Loch, ms. 2; Wells, 1977.

Garrett, A. —Cernohorsky, 1987; Clench, 1979; Kawamoto [in prep.]; Kilias, 1969; Robertson, *et al.*, 1986; H.H. Smith, 1902.

Gaskoin, J.S. —Lingwood & McMillan, 1981.

Gassies, J.B. —Couffon & Surrault, 1905; Magne, 1950b; Stelfox, 1922; Thielens, 1874.

Gatliff, J.H. —Boyd & Phillips, 1985; B.J. Smith & Black, 1969.

Gebauer, J.J. —Kohn, 1981.

Gebhardt, A. —Füköh & Krolopp, 1989; Varga, 1989.

Geinitz, H.B. —Eng & d'Escrivan [in prep.]; Presch, 1970.

Germain, L. —Chevalier & Pothier, 1972; Fischer-Piette, 1947; Schouteden, 1936.

Gibbons, J.S. —Fulton, 1917; Verdcourt, 1981.

Gil, A.V. —Wolberg, 1991d.

Glaessner, M. —Singleton, 1945.

Gmelin, J.F. —Cernohorsky, 1974; Coomans & de Visser, 1987; Habe, 1983; Kohn, 1966.

Godfrey, F.K. —Gowlett-Holmes & McHenry, 1988; Zeidler & Macphail, 1978.

Godwin-Austin, H.H. —Mount, 1973a.

Goldfuss, G.A. —Anderson, 1962.

Gooch, L. van. —Green, 1974.

Goodrich, C. —R.I. Johnson, 1979; Rosewater, 1959.

Goodrich, E.S. —Thomson [in prep.].

Gouin, H. —Llabrador, 1959.

Gould, A.A. —Dall, 1892; Habe, 1978d; R.I. Johnson, 1964; Kosuge, 1969; Marshall, 1892; Palmer, 1950; Yen, 1944.
Grabau, A. —Cushman, 1907.
Grandidier, A. —Verdcourt, 1986.
Grant, U.S., IV —Wilson & Bing, 1970.
Grateloup, J.P. — Fulton, 1908; Magne, 1950a, 1950b.
Gray, J.E. —Crick, 1903; Dell, 1963; Cernohorsky, 1969c; Fleming, 1951; Kohn, 1988; Natsukari & Okutani, 1975; Wilkins, 1952, 1953b, 1953c, 1957.
Gredler, V. —Kilias, 1974b; Kilias & Kilias, 1982; Knipper, 1954; Zilch, 1974.
Greeff, R. —Kilias & Kilias, 1982.
Green, J. —Kohn, 1988.
Gregorio, A. de —Palmer, 1945b.
Grier, N.M. —R.I. Johnson, 1977a.
Gude, G.K. —Wells, 1977.
Guestier, D. —Magne, 1950b.
Guex, J. —Serret, 1986b.
Guilding, R.L. —Thomé, 1985.
Gulick, J.T. —Clench, 1959; Cooke, 1918.
Guppy, R.J.L. —Baker, 1964.
Gurley, W.F.E. —Weller, 1929.

Haas, F. —Kilias, 1967a, 1971; Schouteden, 1936; Solem, 1967; Wells, 1977.
Habe, T. —Inaba & Oyama, 1977.
Hagenmüller, P. —Couturier, 1903.
Halaváts, G. —Krolopp, 1980.
Haldeman, S.S. —Baker, 1964; R.I. Johnson & Baker, 1973.
Hall, J. —Peck & McFarland, 1954; Schuchert, 1905.
Hanley, S. —Wilkins, 1953c.
Hannibal, H. —Taylor & Smith, 1971.
Harmer, F.W. —Bell, 1917; Kennard, 1944; Pyrah, 1978.
Harn, E.H. —Baker, 1964.
Hartman, W.T. —H.H. Smith, 1902.
Hartmann, J.D.W. —Fulton, 1917.
Hayami, I. —Hayami & Kase, 1977.

Hayden, F.V. —Schuchert, 1905.
Heath, H. —Stasek, 1966b.
Hedley, C. —Boyd & Phillips, 1985; Cernohorsky, 1969c; Iredale, 1958b; Trew, 1991; Wells, 1977.
Heilprin, A. —Spamer & Forster, 1988; Voss, 1962.
Hemphill, H. —Coan & Roth, 1987; Wu & Brandauer, 1982.
Henderson, J.H. —Kilias, 1961; McCoy, 1964; Mount, 1973a; Wu & Brandauer, 1982.
Hertlein, L.G. —Roth, 1970.
Hervier, J. —Cernohorsky, 1981; Fischer-Piette, 1950; Trew, 1991.
Hesse, P. —Kilias, 1971.
Heude, R.P. —Counts, 1991; R.I. Johnson, 1959a, 1973b; Knipper, 1954, 1958; Yen, 1939; Zilch, 1967b.
Heynemann, D.F. —Thomé, 1969b, 1972, 1979.
Hidalgo, J.G. —Breure, 1976a.
Hind, W. —Pyrah, 1977.
Hinds, R.B. —Cernohorsky, 1969c; Keen, 1966b.
Hirasé, Y. —Baker, 1962-1964; Clench, 1948; Maeda, *et al.*, 1983, 1987; Robertson, *et al.*, 1987.
Hoare, R.D. —Hoare, 1991.
Hoffman, H. —Thomé, 1984.
Holten, H.S. —Kohn, 1981.
Hoepen, E.C.N. van. —Anonymous, 1962; Bruggen, 1963.
Hörnes, M. —Tichy, 1970.
Howell, S.B. —Voss, 1962.
Hudleston, W.H. —Pyrah, 1977, 1978.
Hull, A.F.B. —Iredale & Hull, 1927; Loch, ms. 3; B.J. Smith & Robertson, 1970; Wells, 1977.
Humphrey, G. —Wilkins, 1955.
Hutton, F.W. —Allan, 1938; Boreham, 1965; Keyes, 1972; Speight, 1913.
Hwass, C.H. —Dodge, 1946; Kohn, 1968; Mermod, 1947.
Hyatt, A. —Cushman, 1907; Eng & d'Escrivan [in prep.]; Kummel, 1963; Pritchett, 1905.
Hylton Scott, M.I. —Breure, 1973b.

Ichikawa, K. —Hayami & Kase, 1977.

Ingersoll, E. —Baker, 1964.
Iredale, T. —Boreham, 1959; Macphail & Zeidler, 1978; McMichael & Whitley, 1956; Rudman, 1983; B.J. Smith & Robertson, 1970; Wells, 1977; Whitley, 1972.
Issel, A. —Bouchet & Danrigal, 1982.

Jaeckel, S.H. —Boss, 1970; Kilias, 1969, 1971, 1972, 1974b, 1974c; Kilias & Kilias, 1982; Zilch, 1971c.
Jan, G. —Conci, 1966; Pinna, 1971; Pinna & Spezia, 1978.
Janssen, A.W. —Pouwer, 1991.
Jay, J.C. —Habe, 1977a, 1977b; Richards & Old, 1969.
Jeffreys, J.G. —Warén, 1980.
Jickeli, C.F. —Kilias, 1963, 1967a, 1969, 1974b; Kilias & Kilias, 1982.
Johnston, R.M. —Loch, ms. 4; Ludbrook, 1967.
Joubin, L. —Belloc, 1950; Kristensen & Knudsen, 1983.
Jousseaume, F. —Breure, 1976a; Fischer-Piette, 1952; Habe, 1953; Richard, 1980; Schouteden, 1936.

Kaltenbach, H. —Zilch, 1972c.
Kanakoff, G.P. —Wilson & Bing, 1970.
Käufel, F. —Kilias, 1974c.
Kawamura, R. —Habe, 1975; Matsukuma & Okutani, 1986; Okutani, 1983.
Keen, A.M. —Coan, 1986b; Wells, 1977.
Keep, J. —Coan, 1985.
Kenyon, A.F. —Loch, ms. 5.
Kesteven, H.L. —Loch, ms. 6.
Kiener, L.C. —Mermod, 1947, 1950a; Richard, 1980.
King, W. —Pattison, 1977.
Kittl, E. —A.W. Janssen, 1984; Tichy, 1970.
Klappenbach, M.A. —Olazarri, *et al.*, 1972.
Klemm, W. —Boeters, 1987; Kilias, 1974c.
Knudsen, J. —Villiers, 1956.
Kobayashi, I. —Hayami & Kase, 1977.
Kobelt, W. —Habe, 1982; Kilias, 1971; Kilias & Kilias, 1982; Kobelt, 1904; Schouteden, 1936.
Kormos, T. —Krolopp, 1980.

Kraus, O. —Thomé, 1969b.
Krauss, F. —Janus, 1961.
Krolopp, E. —Krolopp, 1980.
Kuiper, J.G.J. —Olazarri, *et al.*, 1972.
Kummel, B. —Eng & d'Escrivan [in prep.].
Kuroda, T. —Hanshin Shell Club, 1986; Matsukuma & Okutani, 1986.
Kursalova, V.I. —Counts, 1989.
Kutassy, A. —Tichy, 1970.

Laborde, L. de. —Lamy, 1927.
Lamarck, J.B.P. —Ashby, 1922; Bigot, 1906-1945; Bigot & Matte, 1903, 1904; Brot, 1872; Cernohorsky, 1969b; Christiaens, 1968; Dautzenberg & Fischer, 1914; Delessert, 1841; Favre, 1918; Finet & Houart, 1989; Fischer-Piette & Lamy, 1943a; R.I. Johnson, 1952, 1953, 1969b; Lamy, 1904-1942 [partim]; Lamy & Fischer-Piette, 1937a-1939f; Kohn, 1981, 1988; Mermod, 1950a-1953; Mermod & Binder, 1963; Richard, 1980; Sowerby, 1909; Wheeler, 1963.
Lamy, É. —Fischer & Fischer, 1945.
Laseron, C.F. —Hewish & Gowlett-Holmes, 1991; McMichael & Whitley, 1961; Wells, 1977.
Laube, G.C. —Tichy, 1970.
Laws, C.R. —Allan, 1938; Boreham, 1959; Keyes, 1972; Powell, 1941.
Lea, I. —Abbott, 1955; Campbell & Campbell, 1986; R.I. Johnson, 1974a; R.I. Johnson & Baker, 1973; Richards & Old, 1969; Verdcourt, 1984b.
Leach, W.E. —Wilkins, 1952, 1953b, 1957.
Leloup, E. —Belloc, 1959.
Leme, J. —Olazarri, *et al.*, 1972.
Letourneux, A. —Couffon & Surrault, 1905.
Leymerie, A. —Astre, 1950.
Lightfoot, J. —Kohn, 1964; Rehder, 1967.
Lindholm, W.A. —Counts, 1989.
Lindström, G. —Kilias, 1961.
Link, H.F. —Kohn, 1981.

Linnaeus, C. —Cernohorsky, 1969a; Dance, 1967; Dodge, 1952-1959b; Gage & Stearn, 1988; Hanley, 1855; Holm, 1957; Jackson, 1913; Kabat, 1990; Kennard & Woodward, 1920; Kohn, 1963, 1991; Nelson & Pain, 1986; Odhner, 1953; Olsson & Dance, 1966; Salisbury & Woodward, 1926; Schenck, 1935; F.A. Schilder, 1966; Talmadge, 1977; Wallin, 1991b.
Lipps, J.H. —Wilson & Bing, 1970.
Lister, M. —Wilkins, 1952, 1953b.
Locard, A. —Boury, 1909, 1917; Germain, 1905; Joubin, 1905.
Loosjes, F.E. —Knipper, 1954.
Loriol, P. de —Berset, 1985, 1986; Berset & Benier, 1989; Berset & Decrouez, 1989; Decrouez & Kunz, 1985; Wannier & Panchaud, 1977.
Lowe, H.N. —Hertz, 1986.
Lowe, R.T. —Watson, 1876.
Lozek, V. —Okali, 1984.
Lubomirski, P.L. —Kilias, 1974b.
Ludbrook, N.H. —Zeidler & Macphail, 1978.
Lycett, J. —Pyrah, 1978.
Lyonet, P. —Seters, 1962.

Mabille, J. —Hanna & Smith, 1968.
Macpherson, J.H. —Boyd & Phillips, 1985; Wells, 1977.
Maltzan, H. von —Adam, 1976; Kilias & Kilias, 1982.
Mandahl-Barth, G. —Anonymous, 1958.
Marcus, E. & E. du B.-R. —Breure, 1973a.
Marrat, F.P. —Adam, 1976; Ford, 1953; McMillan, 1985; Tomlin, 1913.
Marsh, W.A. —R.I. Johnson, 1975b, 1979.
Marshall, B.A. —Dawson, 1979.
Marshall, P. —Keyes, 1972.
Marshall, W.B. —R.I. Johnson, 1974b.
Martens, E. von —Habe, 1982; Kabat & Kilias, 1991; Kilias, 1961-1974c; Kilias & Kilias, 1982; Schouteden, 1936; Thomé, 1972; Verdcourt, 1984a, 1988a-1990a.
Martin, K. —Shuto, 1974, 1978.
Marwick, J. —Allan, 1938; Boreham, 1959; Fleming, 1966;

Keyes, 1971, 1972; Powell, 1941.
Massy, A.L. —Thomson [in prep.].
Matheron, P. —Bulot, 1991; Bulot & Autran, 1990; Conte, 1989; Delanoy & Bulot, 1991; Fabre, 1942; Moulet, 1989; Paulus, *et al.*, 1951.
Matsumuto, T. —Hayami & Kase, 1977.
Matthew, G.F. —Miller, 1988.
May, W.L. —Green, 1974; Hewish & Gowlett-Holmes, 1991; Loch, ms. 7; Ludbrook, 1967; Macphail & Zeidler, 1977-1978; Mienis, 1976a; E. Turner & Dartnall, 1971.
Mayer-Eymar, K. —Gerber, 1937; Jung, 1972; Kleemann, 1981.
Maynard, C.J. —R.D. Turner, 1957.
Mazÿck, W.G. —Clench, 1967.
McCoy, F. —Baldwin-Spencer, 1901; Kenyon, 1899, 1902; Lu, 1983.
McLean, J.H. —Sphon, 1971.
McMichael, D.F. —Loch, ms. 8.
Meek, F.B. —Eng & d'Escrivan [in prep.]; Hansman & Scott, 1967; Leary, 1972; Schuchert, 1905; Wilson, 1967.
Melvill, J.C. —Anonymous, 1962; Cernohorsky, 1969c; Kilias, 1961, 1971; McMillan, 1957; Mienis, 1976a, 1976d; Trew, 1987b, 1991; Trew & Oliver, 1980; Smaldon, *et al*, 1976; Thomson [in prep.].
Menke, K.T. —Kohn, 1988.
Meyer, W.T. —Slack-Smith, 1983; Wells, 1977.
Michaud, G. —Locard, 1890.
Mighels, J.W. —R.I. Johnson, 1949; Kilias, 1969.
Miller, S.A. —Eng & d'Escrivan [in prep.].
Mojsisovics, E. von. —Tatzreiter, 1982; 1986.
Mol, J.J. van. —Richard, 1980.
Möllendorff, O.F. von —Habe, 1982; Kilias, 1971-1974c; Knipper, 1954.
Møller, H.P.C. —Schiøtte & Warén, 1992.
Montagu, G. —Brind, 1979; Dean, 1936; Jeffreys, 1879.
Monterosato, T.A. di —Mienis, 1976a; 1981; Piani, 1983; Wagner, 1985.
Montrouzier, R.P. —Magne, 1950b.

Moore, C. —Winwood and Wilson, 1892.
Mörch, O.A.L. —Keen, 1966c-d; Spärck, 1951.
Morelet, A. —Chevalier & Pothier, 1972; Fischer-Piette, 1950; Fulton, 1920; R.I. Johnson, 1971; Schouteden, 1936.
Morlet, L. —Peck, 1957; Roger, 1950.
Morris, J. —Pyrah, 1978.
Morrison, J.P.E. —Baker, 1964; Rosewater, 1984a.
Morse, E.S. —Champion, 1947.
Morton, S.G. —C.W. Johnson, 1905.
Mount, J.D. —Wilson & Bing, 1970.
Mousson, A. —Breure, 1976b; Couffon & Surrault, 1905; Kilias, 1963, 1969, 1971, 1974c.
Mühlfeld, M. von —Kohn, 1986.
Müller, O.F. —Kennard & Woodward, 1926; Spärck, 1951.
Münster, G. —Anderson, 1962.
Murdoch, R. —Hamilton, 1906; Keyes, 1972; Speight, 1913.

Nägele, G. —Kilias, 1971, 1974b; Zilch, 1964b.
Nevill, G. —Kilias, 1967a, 1971, 1974a; Rajagopal & Mitra, 1978; Thomson [in prep.].
Newcomb, W. —Clarke, 1960; Kilias, 1969; Roth, 1988.
Newell, F.H. —Cushman, 1907; Eng & d'Escrivan [in prep.].
Nicholson, H.A. —Benton, 1979.
Niebuhr, C. —Yaron, *et al.*, 1986.
Nordsieck, F. —R. Janssen, 1988.
Nordsieck, H. —Pinter, 1982.
Nowell-Usticke, G.W. —Faber, 1988.
Nyst, H. —Leloup, 1950.

Oberling, J.-J. —Moolenbeek, *et al.*, 1991.
Odhner, N.H. —Sandberg & Warén [in prep.]; Thomé, 1984.
O'Gorman, G. —Magne, 1950a.
Old, W.E. —Wells, 1977.

Oldroyd, I.S. —Coan & Kellogg, 1990.
Oldroyd, T.S. —Coan & Kellogg, 1990; Wilson & Bing, 1970.
Oliver, W.R.B. —Allan, 1938.
Olivi, G. —Kohn, 1968.
Olivier, A.G. —Tillier & Mordan, 1983.
Orcutt, C.R. —Coan, 1966b; Mount, 1973a.
Ortmann, A.E. —R.I. Johnson, 1977b.
Orton, J.H. —R.D. Turner, 1962.

Pace, S. —Thomson [in prep.].
Pallary, P. —Fischer & Fischer, 1946.
Palmer, K.V.W. —Shaak, 1980.
Park, J. —Allan, 1938.
Parona, C.F. —Roman, 1937.
Pease, W.H. —Cernohorsky, 1987; Hartman, 1881; Johnson [in prep.]; Kawamoto [in prep.]; Kay, 1965; Kay & Clench, 1975; Kilias, 1969; Robertson, *et al.*, 1986; H.H. Smith, 1902.
Peile, A.J. —Kilias, 1969.
Pelseneer, P. —Adam & Leloup, 1947; Leloup, 1950.
Pennant, T. —E.A. Smith, 1913.
Péron, F. —Kohn, 1981; Lamy, 1923; Roger, 1950.
Perry, G. —Kohn, 1986; Petit & Le Renard, 1990; Wilkins, 1957.
Petit de la Saussaye, S. —Breure, 1976a; Fischer-Piette, 1950; Benthem Jutting, 1939a.
Petiver, J. —Wilkins, 1952, 1953b.
Petterd, W.F. —Green, 1974; Loch, ms. 9; E. Turner & Dartnall, 1971.
Peyrot, A. —Magne, 1950a, 1966, 1967.
Pfeiffer, L. —Crowley & Pain, 1961; Jacobson, 1975; Kilias, 1961, 1974a, 1974c; Kilias & Kilias, 1982; Kuiper, 1967; Richards & Old, 1969; Roth, 1982; Benthem Jutting, 1939a; Zilch, 1972a.
Philippi, R.A. —Frassinetti, 1974; Kabat & Kilias, 1991; Kilias, 1974c; Pérez & Reyes, 1989.
Philipps, J. —Howarth, 1962; Pyrah, 1977, 1978; Stubblefield, 1938.

Pictet, F.-J. —Bechon, *et al.*, 1984, 1985a, 1985b; Berset, 1985; Berset & Benier, 1989; Decrouez, 1985-1987.
Piette, É. —J.C. Fischer, 1957; P.-H. Fischer, 1967.
Pilsbry, H.A. —Anonymous, 1962; Clench & Turner, 1962; Cooke, 1918; Davis, *et al.*, 1979; Baker, 1962-1964; Kilias, 1974b; Kilias & Kilias, 1982; Mount, 1973a; Richards & Old, 1969; Richardson, *et al.*, 1991; Robertson, *et al.*, 1981-1987; Schouteden, 1936; Thomé, 1988c; Wu & Brandauer, 1982.
Pinter, L. —Pinter, 1982.
Pirajno, E. —Giannuzzi-Savelli, *et al.*, 1986.
Plate, L. —Kilias, 1974a.
Poey, F. —Boss & Jacobson, 1975; Jacobson, 1975.
Pohl, E.R. —Munthe, 1980.
Poli, G. —Kohn, 1988.
Ponder, W.F. —Dawson, 1979; Loch, ms. 10; Wells, 1977.
Ponsonby, J.H. —Anonymous, 1962; Kilias, 1961, 1969, 1971.
Popova, S.M. —Counts, 1989.
Portlock, J.E. —Tunnicliff, 1980.
Powell, A.W.B. —Allan, 1938; Boreham, 1959; Cernohorsky, 1988; Dawson, 1979; Powell, 1941, 1949.
Prashad, B. —Thomson [in prep.].
Preston, H.B. —Adam, 1971; Anonymous, 1958; Cernohorsky, 1969b; Kilias, 1961, 1963, 1967a, 1967b, 1969, 1971, 1974a; Kilias & Kilias, 1982; Kuiper, 1967; Mienis, 1972, 1974, 1976d, 1977; Schouteden, 1936, 1943; Verdcourt, 1982, 1990b.
Prime, T. —Counts, 1991; R.I. Johnson, 1959a.
Pritchard, G.B. —Boyd & Phillips, 1985; Singleton, 1945.

Quenstedt, F.A. —Hardetert & Riegraf, 1990; Nitsch, 1990.

Radoman, P. —Jovanovic, 1991.
Rafinesque, C.S. —R.I. Johnson, 1973a; R.I. Johnson & Baker, 1973; Vanatta, 1915.
Raincourt, J.B.P. —Boury, 1884.

Rang, P.C.A.L. —Gray, 1855b.
Rao, P. —James, 1969.
Raymond, W.J. —A.G. Smith and Emerson, 1955.
Récluz, C. —Fischer-Piette, 1950; Kabat & Finet, 1992; Mermod, 1950a.
Reeve, L.A. —Baker, 1964; Bishop & Way, 1976; Cernohorsky, 1969c; Dell, 1963; Fleming, 1951; R.I. Johnson, 1971; Kay, 1969; Tomlin, 1932b. 1934; Trew, 1991; Wagner, 1982, 1985; Wilkins, 1953c.
Rehder, H.A. —Wells, 1977.
Reinhardt, O. —Kilias, 1969, 1974a.
Rensch, B. —Kilias, 1963, 1967a, 1969, 1971, 1974c; Kilias & Kilias, 1982; Somadikarta, *et al.*, 1964.
Rensch, I. —Kilias, 1967a, 1969; Kilias & Kilias, 1982.
Requien, E. —Conte, 1989; Moulet, 1989.
Reuss, A.E. —A.W. Janssen, 1984.
Reynes, P. —Delanoy & Bulot, 1991; Paulus, *et al.*, 1951.
Rhoads, S.N. —Baker, 1964.
Richards, H.G. —Shaak, 1980.
Rigaux, E. —J.-C. Fischer & Vadet, 1985.
Risso, A. —Arnaud, 1978; Caziot, 1919; Chevallier, 1976; Kohn, 1988.
Rochebrune, A.T. de —Ashby, 1922; Schouteden, 1936.
Röding, P.F. —Cernohorsky, 1974; Kohn, 1975.
Rogers, J. —Cushman, 1907.
Rolle, F. —A.W. Janssen, 1984; Kilias, 1974b.
Rosen, H.O. —Kilias, 1971.
Rossmässler, E.A. —Kilias, 1969, 1971, 1974b, 1974c.
Roth, J.R. —Kilias, 1974b; Kilias & Kilias, 1982.
Rowell, J. —Coan, 1989a; Hanna & Smith, 1932.
Rudman, W.B. —Loch, ms. 11.
Rüppell, E. —Schäfer, 1938.
Russell, H.D. —Boss, 1987.

Sacco, F. —Ferrero-Mortara, *et al.*, 1982; 1984.
Saemann, L. —Eng & d'Escrivan [in prep.].
Salis Marschlins, C.U. von —Kohn, 1975.
Salter, J.W. —Bassett, 1972; North, 1928; Stubblefield, 1938.

Sandberger, F. & G. —Schöndorf, 1907, 1908.
Sarasin, P. & F. —Gerber, 1937; Kilias, 1963.
Sasaki, M. —Roper & Sweeney, 1978.
Sauvage, H.E. —J.-C. Fischer & Vadet, 1985.
Say, T. —Abbott, 1955; R.I. Johnson & Baker, 1973; Newton, 1902; Ward & Germon, 1988.
Scarabino, V. —Olazarri, *et al.*, 1972.
Schepman, M.M. —Nieuwenhuis, 1990; Shuto, 1970a-1971.
Schilder, F.A. —Kilias, 1973; F.A. Schilder, 1958; M. Schilder, 1971.
Schlickum, R. —Zilch, 1981a.
Schlotheim, E.F. von —Kohn, 1986.
Schmacker, B. —Kilias, 1974b; Knipper, 1954.
Schmidt, A. —Kilias, 1974b, 1974c.
Schréter, Z. —Krolopp, 1980.
Schröter, J.S. —Frieß, 1978; Kohn, 1981.
Schubert, G.H. —Kohn, 1988.
Schumacher, C.F. —Cernohorsky, 1974.
Schütt, H. —Pinter, 1982.
Schwengel, J.S. —Baker, 1964.
Semper, C. —Thomé, 1969a, 1972, 1973, 1988b.
Semper, O. —Kilias, 1969.
Shikama, T. —Matsukuma & Okutani, 1986.
Shumard, B.F. —Trumbull, 1958.
Simpson, C.T. —Bayer, 1948; R.I. Johnson, 1975c.
Simpson, M. —Buckman, 1909-1930; Howarth, 1962.
Simroth, H. —Kilias, 1974a; Thomé, 1969b, 1970a, 1972, 1979; Verdcourt, 1988a-1989.
Singleton, F.A. —Singleton, 1945.
Smith, A.G. —Kellogg, 1986; Peden & Green, 1982.
Smith, E.A. —Anonymous, 1962; Cernohorsky, 1969c; Dell, 1963; Fleming, 1951; Kilburn, 1973; Kilias, 1961, 1967a, 1969; Kilias & Kilias, 1982; Mienis, 1976a; Okutani, 1976; Pain, 1951; Schouteden, 1936; Thomson [in prep.]; Trew, 1991; Verdcourt, 1983a, 1983c, 1984b; Wells, 1977; Wilkins, 1953c.
Smith, M. —Franz & Thompson, 1974.
Smith, S. —R.I. Johnson, 1989.

Solander, D.C. —Kohn, 1964; Rehder, 1967; Wilkins, 1955.
Soós, L. —Kilias, 1975; Krolopp, 1980.
Souleyet, L.F.A. —Gray, 1855b.
Souverbie, St.-M. —Fischer-Piette, 1950; Magne, 1950b; Moolenbeek, 1991; Strack, 1986.
Sowerby, G.B. —Baker, 1964; Bishop & Way, 1976; Cernohorsky, 1969c; Giles & Gosliner, 1983; R.I. Johnson, 1971; Kay, 1969; Kilburn, 1973; Kohn, 1988; Pain, 1949; Thomson [in prep.]; Wagner, 1982-1983; Wilkins, 1953c. [Note: there were three authors of this name].
Sowerby, J. —Cleevely, 1974; Kohn, 1988; Powell & Edmonds, 1976; Pyrah, 1977; Woodward, 1908.
Sowerby, J. de C. —Cleevely, 1974; Crick, 1917.
Spaink, G. —Pouwer, 1991.
Spath, L.-F. —Paulus, *et al.*, 1951.
Spengler, L. —Haas, 1913; Mörch, 1870; Spärck, 1951.
Spix, J.B.v. —Fechter, 1983a, 1983b.
Standen, R. —Smaldon, *et al.*, 1976.
Stabile, J. —Kilias, 1974c.
Starobogatov, Ya.I. —Counts, 1989.
Stearns, R.E.C. —Baker, 1964; Thomé & Pitoni, 1976.
Steenstrup, J. —Kristensen & Knudsen, 1983.
Stefani, C. de —Kilias, 1967a.
Sterki, V. —R.I. Johnson, 1959a; Wu & Brandauer, 1982.
Stimpson, W. —Baker, 1964.
Strebel, H. —Thomé, 1969b.
Streng, L.H. —Baker, 1964.
Stuardo, J. —Cekalovic & Artigas, 1981a.
Studer, S. —Forcart, 1957.
Sturany, R. —Kilias, 1969.
Suter, H. —Allan, 1938; Boreham, 1959; Hamilton, 1906; Keyes, 1972; Kilias, 1967b; Speight, 1913.
Sutherland, J.A. —Wilson & Bing, 1970.
Swainson, W. —Kohn, 1988; McMillan, 1980; Wilkins, 1951, 1957.
Sykes, E.R. —Cernohorsky, 1969c; Cooke, 1918; Habe, 1984a; Kilias, 1969, 1974b; Rees, 1954; B.J. Smith & Robertson, 1970.

Taki, I. —Harada, 1991.
Tapparone Canefri, C. —Benthem Jutting, 1962.
Targioni Tozzetti, A. —Borri, *et al.*, 1985, 1989.
Tate, R. —Boyd & Phillips, 1985; Green, 1974; Hewish & Gowlett-Holmes, 1991; Loch, ms. 12; Ludbrook, 1959, 1961, 1965, 1967; Macphail & Zeidler, 1978; E. Turner & Dartnall, 1971.
Taylor, J.W. —Fulton, 1917; Verdcourt, 1981.
Teichert, C. —Singleton, 1945.
Tenison-Woods, J.E. —Boyd & Phillips, 1985; Cernohorsky, 1969c; Green, 1974; Hardy, 1915; Loch, ms. 13; Ludbrook, 1967; Macphail & Zeidler, 1978; May, 1903; E. Turner & Dartnall, 1971.
Thiele, J. —Boss, 1970; Cernohorsky, 1969c; Kabat & Kilias, 1991; Kilias, 1961, 1969, 1971, 1972, 1974a; Kilias & Kilias, 1982; Ponder, 1978; Thomé, 1969b, 1972; Verdcourt, 1984a, 1988a-1989; Wells, 1977; Zilch, 1971c.
Thompson, F.G. —Franz & Thompson, 1974.
Thomson, J.A. —Speight, 1913.
Thurmann, J. —Wannier & Panchaud, 1977.
Till, A. —Decrouez, 1986a.
Tomlin, J.R. le B. —Anonymous, 1962; Bruggen, 1963; Giles & Gosliner, 1983; Trew, 1990b; Trew & Oliver, 1980; Wells, 1977.
Torr, W.C. —Gowlett-Holmes & McHenry, 1988; Wells, 1977.
Torre, D.C. de la —Aguayo & Jaume, 1950.
Toula, F. —Tichy, 1970.
Tournefort, J.P. de —Lamy, 1928.
Tristram, H.B. —Peile, 1936.
Troschel, F.H. —Kilias, 1961.
Trovao, H.F.M. —Richard, 1980.
Tryon, G.W. —Baker, 1962-1964.
Turner, R.D. —Baker, 1964.
Turton, W. —Davis, 1965; Warén, 1983.

Ulrich, E.O. —Munthe, 1980.
Usticke: see Nowell-Usticke.
Utterback, W.I. —R.I. Johnson, 1969a.

Valenciennes, A. —Lamy, 1915c, 1921a.
Vanatta, E.G. —Baker, 1962-1964; Olazarri, *et al.*, 1972.
Vanderschalie, H. —R.I. Johnson, 1979.
Varga, A. —Pinter, 1982.
Vayssière, A. —Arnaud, 1977.
Verco, J.C. —Boyd & Phillips, 1985; Zeidler, 1983; Zeidler & Macphail, 1978.
Verdcourt, B. —Anonymous, 1958, 1962.
Verrill, A.E. —R.I. Johnson, 1989; Roper & Sweeney, 1978.
Verrill, A.H. —R.I. Johnson, 1989.
Vibraye, P. de —Roger, 1950.
Vignard, M. —Kohn, 1988.
Villa, A. & G. —Kilias, 1967b, 1969.
Villarroel, M. —Cekalovic & Artigas, 1981a.
Vokes, E. —Wells, 1977.
Voorthuysen, J.H. van —Pouwer, 1991.
Voss, G.L. —Roper & Sweeney, 1978.

Waagen, L. —Tichy, 1970.
Wagner, A.J. —Kilias, 1974c.
Wagner, J.A. —Kohn, 1988.
Wahlenberg, G. —Reyment, 1974, 1976.
Walker, B. —Anonymous, 1962; R.I. Johnson, 1979.
Wallenberg, C. von —Kilias, 1969.
Watson, R.B. —Anonymous, 1962; Cernohorsky, 1969c; Dell, 1963; Fleming, 1951; Mienis, 1976a; Trew, 1991.
Weaver, C.E. —Mount, 1973b.
Weaver, C.S. —Wells, 1977.
Webb, P.B. —Watson, 1876.
Webster, W.H. —Hamilton, 1906.
Wenz, W. —Zilch, 1987c.

Westerlund, C.A. —Habe, 1984a; Kilias, 1967a-1974c; Thomé, 1984.
Weyrauch, W.K. —Kilias, 1974b.
Whidborne, G.F. —Jukes-Browne & Else, 1907.
Whitfield, R.P. —Chubb, 1955; Peck & McFarland, 1954; Whitfield, 1899.
Willett, G. —Wilson & Bing, 1970; Sphon, 1971.
Williamson, M.B.W. —Coan, 1989b.
Wilson, B.R. —Wells, 1977.
Winslow, M. —Burch, 1983.
Wood, S.V. —Bell, 1917; Leney, 1902; Pyrah, 1977, 1978.
Wood, W. —Kohn, 1988.
Woodward, F.R. —Woodward, 1979.
Woodward, S.P. —Leney, 1902; Verdcourt, 1983d.
Woolacott, L. —Iredale & Whitley, 1958.
Worthen, A.H. —Hansman & Scott, 1967; Kent, 1982; Leary, 1972; Schuchert, 1905.
Wright, B.H. & S.H. —R.I. Johnson, 1967.

Yates, L.G. —Coan & Scott, 1990.
Yokoyama, M. —Oyama, 1973.
Young, G. —Buckman, 1909-1930; Howarth, 1962.
Young, J.A., Jr. —Eng & d'Escrivan [in prep.].

Zapfe, H. —Tichy, 1970.
Zilch, A. —Irish, 1985; Kilias, 1974b.
Zittel, K.A. —Flügel, 1959.

MUSEUMS INDEX

The following index provides a guide to those papers referring specifically to the collections of various natural history museums. It is arranged by continent, with the countries listed alphabetically under each continent. The museums are arranged alphabetically by city. For several larger museums, we have divided the citations by Recent *vs.* paleontological departments.

For the reader's convenience, we have provided the address and standardized museums abbreviation (after Leviton, *et al.*, 1985; with some modifications and additions) for the museums included.

Directory:

1. Europe and Near East.

AUSTRIA

Geologische Bundesanstalt
Rasumofskygasse 23
Postfach 154
A-1031 Wien Austria

Sieber, 1961, 1963, 1973; Stojaspal, 1975, 1976; Tatzreiter, 1982, 1986.

Naturhistorisches Museum Wien [NMW]
Burgring 7, Postfach 417
A-1014 Wien Austria

Boeters, 1987; Brauer, 1878; Finet & Houart, 1989; Flügel, 1959; A.W. Janssen, 1984; Kohn, 1964, 1986; Locard, 1895; Marston, 1968; Tichy, 1970; Verdcourt, 1985; Zilch, 1974.

BELGIUM

Institut Royal des Sciences Naturelles de Belgique [IRSNB]
Rue Vautier 29
B-1040 Bruxelles Belgium

(= Koninklijk Belgisch Instituut voor Natuurwetenschappen)

Adam, 1971; Adam & Leloup, 1947; Cernohorsky, 1981; Leloup, 1950; Schilder & Schilder, 1952.

Musée Royal de l'Afrique Centrale [MRAC]
B-3080 Tervuren Belgium

(= Koninklijk Museum voor Midden-Afrika)

[formerly Musée du Congo Belge]

Darteville, 1951; Lepersonne, 1975; Schouteden, 1936, 1943.

CROATIA

Geologsko-paleontoloski Musej
Hrvatski prirodoslovni Musej
Demetrova 1
41000 Zagreb Croatia

(= Croatian Natural History Museum)

Milan, *et al.*, 1974; Zagar-Sakac, 1981.

CZECHOSLOVAKIA

Slovenské Národné Múseu [SNMB]
Prírodoveny ústav
Vajanského 2
814 36 Bratislava Czechoslovakia

Okáli, 1984.

Národního Museo [MNHP]
Vaclavske namesti 1700
Praha 1 Czechoslovakia

Kroupa, 1989; Ruzicka & Prantl, 1960.

DENMARK

Zoologisk Museum [ZMUC]
Universitetsparken 15
DK 2100 København Ø Denmark

Bruun, 1945; Cernohorsky, 1974; Haas, 1913; Habe, 1983; Keen, 1966c, 1966d; Kennard & Woodward, 1926; Kohn, 1964, 1976; Kristensen & Knudsen, 1983; Mörch, 1870; Schiøtte & Warén, 1992; Spärck, 1951; Thomé, 1973, 1988b; Yaron, *et al.*, 1986.

FRANCE

General paleontological: see Prieur, 1980.

Musée d'Histoire Naturelle
Logis Barrault
rue du Musée
48000 Angers France

Couffon and Surrault, 1909.

Muséum Requien
67 rue Joseph-Vernet
84000 Avignon France

Conte, 1989; Moulet, 1989.

Muséum d'Histoire Naturelle
Hôtel de Ville
64100 Bayonne France

Kisch, 1960.

Musée de la Mer [MMB]
Esplanade du Rocher-de-la-Vierge
64200 Biarritz France

Kisch, 1960.

Musée d'Histoire Naturelle
2, place Bardineau
33000 Bordeaux France

Magne, 1950a, 1950b; Moolenbeek, 1991; Stelfox, 1922; Strack, 1986.

Département de Géologie
Faculté des Sciences
Université de Bordeaux
33000 Bordeaux France

Magne, 1966-67.

Musée d'Histoire Naturelle
34 bis Grande Rue
62200 Boulogne-sur-mer France

Dupuy, *et al.*, 1989; J.-C. Fischer & Vadet, 1985.

Musée d'Histoire Naturelle, Caen

Bigot, 1906-1945; Bigot & Matte, 1902-1905; Lamy, 1906 [destroyed in World War II].

Musée d'Histoire Naturelle
2 Avenue de Lyon
73000 Chambéry France

Locard, 1890; Roman, 1937.

Institut de Géologie
Département des Sciences de la Terre
Université de Lyon 1
43 Boulevard du 11 Novembre
69622 Villeurbanne Lyon France

Chevalier, 1971; David, 1963; J.-C. Fischer, 1957; P.-H. Fischer, 1951-1970; Mangold & Mongerau, 1966; Mongerau, 1965; Roman, 1935, 1937.

Musée Guimet d'Histoire Naturelle [MG]
28 Boulevard des Belges
69006 Lyon France

Roman, 1937.

Musée d'Histoire Naturelle [MMNH]
Palais de Longchamp
13004 Marseille France

Arnaud, 1977; Bulot, 1991; Bulot & Autran, 1990; Couturier, 1903; Delanoy & Bulot, 1991; Fabre, 1942; Paulus, *et al.*, 1951.

Laboratoire Biologie Invertébrés Marins et Malacologie
Muséum National d'Histoire Naturelle [MNHN]
55, rue de Buffon
75005 Paris France

Arnaud, 1977, 1978; Ashby, 1922; Backhuys, 1990; Bouchet & Danrigal, 1982; Boury, 1909-1917; Bratcher, 1977; Breure, 1976a; Caziot, 1919; Cernohorsky, 1981; Chevallier, 1964-1976; Chevalier & Pothier, 1972; Cottreau, 1925-32, 1934-37; Counts, 1991; Dautzenberg & Fischer, 1914; Férussac, 1837; Fischer & Fischer, 1945, 1946; Fischer-Piette, 1942-1952; Fischer-Piette & Beigbeder, 1943-1945; Fischer-Piette & Lamy, 1943a-1943b; Folin, 1890; Germain, 1905; Forcart, 1952; Habe, 1953, 1978a, 1978c; Hanna & Smith, 1968; Hoagland, 1983; Johnson, 1952-1953, 1969b, 1973a; Joubin, 1905; Kabat & Finet, 1992; Kisch, 1959a, 1959b, 1960; Kohn, 1981; Lamy, 1904, 1911-1942; Lamy & Fischer-Piette, 1937a-1939f; Loch, mss. 10, 11; Métivier, 1982; Oliveira & Oliveira, 1984; Pallary, 1932; Petit & Le Renard, 1990; Richard, 1980; Roger, 1950; Roth & Clover, 1973; F.A. Schilder, 1930; Sowerby, 1909; Strack, 1986; Thevenin, 1906-23; Thomé, 1971; A. Tillier, 1979; S. Tillier & Mordan, 1983; Verdcourt, 1986; Villiers, 1956; Wagner, 1985; Wheeler, 1963.

École des Mines: now housed in the Muséum National d'Histoire Naturelle, Paris [Recent mollusks (Bratcher, 1977)] and in the Institut de Géologie, Département des Sciences de la Terre, Université de Lyon [fossil mollusks (J.-C. Fischer, 1957; P.-H. Fischer, 1951-1970)].

Muséum de Rouen
198, rue Beauvoisine
76000 Rouen France

Fouray, 1979.

Muséum d'Histoire Naturelle [MHNT]
Jardin des Plantes
35, allée Jules Guerde
31000 Toulouse France

Astre, 1921, 1950.

GERMANY

Zoologisches Museum [ZMB]
Museum für Naturkunde der Humboldt-Universität
Invalidenstraße 43
D-O-1040 Berlin Germany

Adam, 1976; Boss, 1970; Counts, 1991; Dietrich, 1960; Kabat & Kilias, 1991; Kilias, 1961-1974c; Kilias & Kilias, 1982; Kohn, 1986; Ponder, 1978; F.A. Schilder, 1958; M. Schilder, 1971; Solem, 1967; Thomé, 1972; Verdcourt, 1984a, 1988a-1990a; Knorre & Kilias, 1986; Zilch, 1971c.

Geologische-Paläontologisches Institut der Universität
Paläontologisches Museum und Institut
Regina-Pacis-Weg 3
D-W-5300 Bonn Germany

H.-J. Anderson, 1962.

Übersee Museum [UMB]
Bahnhofsplatz 13
D-W-2800 Bremen Germany

Knipper, 1954, 1958.

Naturwissenschaftliches Museum
Park 6
D-W-8630 Coburg Germany

Korn, 1983.

Staatliches Museum für Mineralogie und Geologie
Augustusstraße 2
D-O-8010 Dresden Germany

Prescher, 1970.

Löbbecke Museum & Aquarium [LMA]
Speldorfer Straße 9
D-W-4000 Düsseldorf Germany

Kobelt, 1904.

Natur-Museum Senckenberg [SMF]
Senckenberganlage 25
D-W-6000 Frankfurt 1 Germany

Counts, 1991; Habe, 1982; R. Janssen, 1988; Kaiser, 1980; Kinkelin, 1903; Kuiper, 1967; Oliveira & Oliveira, 1984; Schäfer, 1938; Solem, 1967; Thomé, 1969b; Yen, 1939; Zilch, 1934-1987c.

Bergakademie Freiberg
Sektion Geowissenschaften
Gustav-Zeuner-Straße 12
D-O-9200 Freiberg Germany

Jordan, *et al.*, 1976.

Museum der Natur [MNG]
Parkallee 15
D-O-5800 Gotha Germany

Kohn, 1975, 1981.

Zoologisches Museum der Universität [ZMUG]
Berliner Straße 28
D-W-3400 Göttingen Germany

Thomé, 1970a.

Zoologischen Staatsinstituts und Zoologisches Museum
Bornplatz 5
D-W-2000 Hamburg Germany

Kaiser, 1980; Panning, 1955-1958.

Zoologisches Museum der Universität [ZMUK]
Hegewischstraße 3
D-W-2300 Kiel Germany

Thomé, 19769a.

Kulturhistorisches Museum [KHMM]
Otto-von-Guericke-Straße 68-73
D-O-3010 Magdeburg Germany

Weyer, 1984.

Bayerisches Staatssammlung für Paläontologie und Historische Geologie
Richard-Wagner-Straße 10/II
D-W-8000 München 2 Germany

H.-J. Anderson, 1962; Falkner, 1982.

Zoologische Staatssammlung [ZSM]
Münchhausenstraße 21
D-W-8000 München 60 Germany

Fechter, 1982, 1983a, 1983b; Verdcourt, 1970; Zilch, 1965c, 1971b.

Geologisch-Paläontologisch Institut
Westfälische Wilhelms-Universität
Gluenbecker Weg 61
D-W-4400 Münster Germany

Meiburg, *et al.*, 1969.

Naturkundemuseum Reutlingen
Spendhaus-Straße-8
D-W-7410 Reutlingen Germany

Nitsch, 1990.

Staatliches Museum für Naturkunde [MNS]
Schloßplatz 2
D-W-7000 Stuttgart 1 Germany

Janus, 1961.

Institut und Museum für Geologie und Paläontologie
Universität Tübingen
Sigwartstraße 10
D-W-7400 Tübingen 1 Germany

Hardetert & Riegraf, 1990.

Naturhistorischen Museum
Rheinstraße 10
D-W-6200 Wiesbaden Germany

Schöndorf, 1907-1908.

GREAT BRITAIN

Geology Museum
18 Queen Square
Bath BA1 2HP England

Winwood & Wilson, 1892.

Booth Museum of Natural History
194 Dyke Road
Brighton BN1 5AA England

Cooper, in prep.; Crane, 1892-1893; Willett, 1871.

City of Bristol Museum and Art Gallery
Queen's Road
Bristol BS8 1RL England

Copp, 1985; Wilson, 1890.

Buxton Museum & Art Gallery
Terrace Road
Buxton, Derbyshire SK17 6DY England

Trew, 1987b.

University Museum of Zoology [UMZC]
Downing Street
Cambridge University
Cambridge CB2 3EQ England

Bishop & Way, 1976; Kay, 1969; Trew, 1987b.

Sedgwick Museum
Downing Street
Cambridge University
Cambridge CB2 3EQ England

Curtis, 1956; Salter, 1873; Woods, 1891, 1893.

National Museum of Wales
Cathays Park
Cardiff CF1 3NP Wales

(= Amgueddfa Genedlaethol Cymru)

Department of Geology: Bassett, 1972; North, 1928.

Department of Zoology [NMWZ]: Blake & Oliver, 1981-1982b; Lingwood & McMillan, 1982; Loch, ms. 10; Meecham, 1987a-1989; Oliver, 1981a-1987b; Thomas & Oliver, 1982; Trew, 1982-1991; Trew & Oliver, 1980-1981b; Verdcourt, 1990b.

Institute of Geological Sciences
Murchison House,
West Mains Road,
Edinburgh EH9 Scotland

E.M. Anderson, 1936 [formerly in Royal Scottish Museum].

Royal Scottish Museum [RSM]
Chambers Street
Edinburgh EH1 1JF Scotland

Benton, 1979; Heppell & Smith, 1983; Smaldon, *et al.*, 1976; Trew, 1987b.

Royal Albert Memorial Museum and Art Gallery [RAMM]
Queen Street
Exeter, Devon EX4 3RX England

Brind, 1979; Dean, 1936; Jeffreys, 1879.

Hunterian Museum
University of Glasgow
Department of Geology
Glasgow G12 8QQ Scotland

Currie & George, 1963; Rolfe, *et al.*, 1981.

Glasgow Art Gallery and Museum
Natural History
Kelvingrove
Glasgow G3 8AG Scotland

Rolfe, *et al.*, 1981.

Ipswich Museum
High Street
Ipswich IP1 3QH England

Bell, 1917.

British Geological Survey
Keyworth, Nottinghamshire NG12 56Q England

[Institute of Geological Sciences; = Geological Survey Museum]

Allen, 1900-1916; Blake, 1902; Clark, 1982; Curtis, 1965; Kennard, 1944; Moore, *et al.*, 1991; Stubblefield, 1936, 1938.

Department of Geology
Leicester Museum and Art Gallery
New Walk
Leicester LE1 6TD England

Sizer, 1962.

Merseyside County Museum [LIVCM]
William Brown Street
Liverpool, Merseyside L3 8EN England

[formerly Liverpool Museum]

Adam, 1976; Cernohorsky, 1975; Ford, 1953, 1954; Greenwood, 1980; McMillan, 1957, 1985; P.W. Phillips, 1976; Tomlin, 1913, 1940; Trew, 1987b; Verdcourt, 1982.

Geological Survey Museum; Institute of Geological Science: see under Edinburgh & Keyworth [Moore, *et al.*, 1991].

The Natural History Museum [BMNH]
Cromwell Road
London SW7 5BD England

[formerly British Museum (Natural History)]

A. Mollusca Section: Baird, 1850; Brann, 1966; Carpenter, 1857; Cernohorsky, 1969c, 1975, 1977, 1987; Counts, 1991; Crowley & Pain, 1961; Dell, 1963; Deshayes, 1853-1855; Finet & Houart, 1989; Fleming, 1951; Fulton, 1908, 1917, 1920; Gray, 1849-1865; Habe, 1961, 1977c, 1984a, 1985; Hedley, 1913; Jacobson & Boss, 1973; Johnson, 1971; Kay, 1965; Kay & Clench, 1975; Keen, 1966a, 1966b, 1966d, 1968; Kisch, 1959a, 1960; Kohn, 1964, 1988; Lingwood & McMillan, 1981; Loch, mss. 10, 11; Makiyama, 1929; Meco, 1975; Naggs, in press; Natsukari & Okutani, 1975; Newton, 1902; Okutani, 1976; Oliveira & Oliveira, 1984; Pain, 1949, 1951; Palmer, 1958, 1963; Peile, 1936; Pfeiffer, 1853-1857; Pons da Silva & Davis, 1983; Rees, 1954; Roth, 1982; F.A. Schilder, 1930; Shuto, 1975; E.A. Smith, 1897, 1906, 1913; Solem, 1967; Stevenson, 1972; Thomé, 1979, 1985, 1988a; Thomson [in prep.]; A. Tillier, 1979; Tomlin, 1932a, 1932b, 1934; Trew, 1987b, 1992; Verdcourt, 1979a-1981, 1983a-1984b; Wagner, 1982-1985; Warén, 1980; Watson, 1876; Wilkins, 1951-1957; Yen, 1942.

B. Palaeontology: Cleevely, 1974; Cooper [in prep.]; Cox, 1956; Crick, 1898-1922; Curtis, 1956; Newton, 1891; Palmer & Brann, 1965-1966; Petit & Le Renard, 1990; D. Phillips, 1977-1987; Tozer, 1990; Woodward, 1908.

Linnean Society of London [LS]
Burlington House
Piccadilly
London W1V 0LQ England

Cernohorsky, 1969a; Dance, 1967; Dodge, 1952-1959b; Gage & Stearn, 1988; Hanley, 1855; B.D. Jackson, 1913; Kabat, 1990; Kennard & Woodward, 1920; Kohn, 1963; Nelson & Pain, 1986; Olsson & Dance, 1967; Salisbury & Woodward, 1926; Schenck, 1935; F.A. Schilder, 1966; Talmadge, 1977.

Manchester Museum [MM]
The University
Oxford Road
Manchester M13 9PL England

Bolton, 1892, 1894; Eagar & Preece, 1977; J.W. Jackson, 1952; McMillan, 1980; Trew, 1987b.

Hancock Museum
University of Newcastle Upon Tyne
Barras Bridge
Newcastle Upon Tyne, Tyne & Wear, NE2 4PT England

Hedley, 1913; Woodward, 1979.

Norwich Castle Museum
Norwich NR1 3JU England

Leney, 1902.

Oxford University Museum [OUM]
Parks Road
Oxford OX1 3PW England

Palmer & Brann, 1965-1966; H.P. Powell & Edmonds, 1976.

Sheffield City Museum
Weston Park
Sheffield S10 2TP England

Riley, 1974.

Shrewsbury Museum
Clive House
College Hill
Shrewsbury SY1 1LZ England

Trew, 1987b.

Torquay Natural History Society Museum
529 Babbacombe Road
Torquay TQ1 1HG England

Jukes-Browne & Else, 1907.

Whitby Museum
Pannett Park
Whitby YO21 1RE England

Buckman, 1909-1930; Howarth, 1962.

Yorkshire Museum
Museum Gardens
York YO1 2OR England

Melmore, 1945, 1946; Howarth, 1962; Manceñido & Damborenea, 1978; Platnauer, 1891, 1894; Pyrah, 1977, 1978.

HUNGARY

Magyar Allami Földtani Intézet
Népstadion-ut 14
H-1143 Budapest Hungary

(= Hungarian Geological Institute)

Boda, 1964; Krolopp, 1980.

Természettudományi Muzeum [TMB]
Baross utca 13
H-1088 Budapest Hungary

(= Hungarian Museum of Natural History)

Boda, 1964; Kilias, 1975; Pinter, 1982.

Mátra Múzeum
Kossuth Lajos utca 40
H-3200 Gyöngyös Hungary

Varga, 1983.

Janus Pannonius Múzeum
Természettudományi Kiállitás
Rákószi utca 64
H-7622 Pécs Hungary

Füköh & Krolopp, 1989; Varga, 1989.

IRELAND

Geological Survey of Ireland
Beggars Bush,
Haddington Road
Dublin 4 Ireland

[Collections now mostly in the Institute of Geological Sciences (Great Britain) and the National Museum of Ireland].

Cocks, 1976; Davies, 1975; McHenry & Watts, 1895; Sleeman, 1992; Tunnicliff, 1976.

Geological Section
National Museum of Ireland
7-9 Merion Row
Dublin 2 Ireland

Monaghan, 1992.

Geology Museum
Department of Geology
Trinity College
Dublin 2 Ireland

Jackson, 1992; Nudds, 1982; 1988.

University College
James Mitchell Geology Museum
Galway Ireland

Harper, 1992; Pattison, 1977.

ISRAEL

Museum [HUJ]
Hebrew University of Jerusalem
Mount Scopus
Jerusalem Israel

Ferber, 1985; Mienis, 1972-1985; F.A. Schilder, 1964; Trew, 1987b.

ITALY

General: see Soika, 1950.

Franziskaner-Gymnasium
Bolzano [= Bozen] Italy

Zilch, 1974.

Museo Zoologica "La Specola" [MZUF]
Università di Firenze
Via Romana 17
50125 Firenze Italy

Borri, *et al.*, 1985, 1989; Thielens, 1874.

Museo Civico di Storia Naturale "Giacomo Doria" [MSNG]
Via Brigata Ligura 9
16121 Genoa Italy

Benthem Jutting, 1962; Capocaccia & Arbocco, 1963; Gestro, 1926a, 1926b; Mienis, 1976c.

Museo Civico di Storia Naturale [MSNM]
Istituto di Paleontologia
Corso Venezia 55
20121 Milano Italy

Conci, 1966; Jeffreys, 1884; Kohn, 1986; Pinna, 1971; Pinna & Spezia, 1975, 1978; Rinetti Schiroli, 1984; Rossi-Ronchetti, 1952, 1955.

Museo Geologico R. Università
Via Università 4
41100 Modena Italy

Stefanini, *et al.*, 1930.

Museo di Paleontologia
Università di Napoli
Largo S. Marcellino
Naples Italy

Barbera Lamagna, 1968.

Museo Mandralisca
Via Mandralisca 15
Cafalu, Palermo Italy

Giannuzzi-Savelli, *et al.*, 1986.

Museo di Paleontologia G.G. Gemellaro
Corso Tukory 131
90134 Palermo Italy

Gatto, 1984.

Univ. of Palermo: some collections now in Paleontological Research Institution, Ithaca, New York, U.S.A. [see Palmer, 1945b].

Museo e Istituto di Zoologia Sistematica
Via Giolitti 34
Torino Italy

Thomé, 1970b.

Museo di Geologia e Paleontologia
Università di Torino
Palazzo Carignanao
Via Accademia delle Scienze 5
10123 Torino Italy

Ferrero Mortara, *et al.*, 1982, 1984; Kohn, 1986; Pavia, 1976.

MONACO

Musée Océanographique [MOM]
Avenue Saint-Martin
Monaco-Ville
MC 98000 Monaco

Arnaud, 1977; Belloc, 1950-1962.

THE NETHERLANDS

General: see Engel, 1939, 1986.

Zoölogisch Museum [ZMA]
Universiteit van Amsterdam
P.O. Box 4766
1009 AT Amsterdam The Netherlands

Altena, 1964; Benthem Jutting, 1939a, 1939b, 1950; Breure, 1973a; Bruggen, 1977b; Coomans, 1981, 1991; Coomans & de Visser, 1987; Shuto, 1970a-1971.

Rijks Geologische Dienst Haarlem
P.O. Box 157
2000 AD Haarlem The Netherlands

Pouwer, 1991; Spaink, 1959.

Nationaal Natuurhistorisch Museum [RMNH]
Raamsteeg 2 / Postbus 9517
2300 RA Leiden The Netherlands

[formerly Rijksmuseum van Natuurlijke Histoire]

C. Bayer, 1950; Benthem Jutting & Bruggen, 1972; Bruggen, 1977a, 1977b; Trew, 1987b; Yamaguchi, *et al.*, 1987.

Rijksmuseum van Geologie en Mineralogie
Hooglandse Kerkgracht 17
2312 RS Leiden The Netherlands

Shuto, 1974, 1978.

Natuurmuseum Rotterdam
P.O. Box 23452
3001 KL Rotterdam The Netherlands

Nieuwenhuis, 1990.

PORTUGAL

Centro de Zoologia
Instituto de Investigaçao Científica Tropical
Rua da Junqueira, 14
1300 Lisboa Portugal

Burnay, 1989.

ROMANIA

Sectiei de Istoria Naturala
Muzeului Brukenthal
Bulevardul Republicii 4-5
Sibiu Romania

Corocleanu, 1968.

RUSSIA

Zoological Museum [MMSU]
Moscow State University
ul. Gensena 6
Moscow Russia

Ivanov & Kantor, 1991; Kohn, 1981.

Central Siberian Geological Museum
Institute of Geology and Geophysics
Novosibirsk Russia

Besprozvannykh, 1987, 1989.

Zoological Insitute [ZIN]
Academy of Sciences
Universtetskaya Nab. 1
199164 St. Petersburg Russia

Counts, 1989.

CNIGR Museum
Ministry of Geology
pr. Sredni 72B
Vasilevskij Ostrov
199026 St. Petersburg Russia

(= Central Geological and Prospecting Museum)

Kohn, 1988; Malchevskaya, 1985; Malchevskaya & Romanovskaya, 1966; Romanovskaya & Malchevskaya, 1971; Romanovskaya, *et al.*, 1979.

SERBIA

Prirodnjacki Muzeja
Ulica Njegoseva 51
11000 Beograd Serbia

(= Museum of Natural History)

Jovanovic, 1991; Mihajlovic-Pavlovic, 1985; Milosevic, 1962.

SWEDEN

Zoologiska Museet [ZMUL]
Lund Universitet
S-221 01 Lund Sweden

Breure, 1973a.

Naturhistoriska Riksmuseet [SMNH or NRM]
Box 50007
S-104 05 Stockholm Sweden

Habe, 1984a; Loch, ms. 10; Odhner, 1950; Sandberg & Warén, in prep; Thomé, 1984.

Paleontologiska Museet
Uppsala Universitet
Box 558
S-751 22 Uppsala Sweden

Reyment, 1973-1976.

Zoologiska Museet [ZMUU]
Uppsala Universitet
Villavägen 9
S-751 22 Uppsala Sweden

Dodge, 1952-1959b; Kabat, 1990; Kohn, 1963, 1991; Odhner, 1953; Wallin, 1991a-1991b.

SWITZERLAND

Naturhistorisches Museum [NMB]
Augustinergasse 2
CH-4001 Basel Switzerland

Forcart, 1950; Greppin, 1903; Jung, 1972; Kleemann, 1981; Rutsch, 1937.

Naturhistorisches Museum [NMBE]
Bernastraße 15
CH-3005 Bern Switzerland

Gerber, 1936, 1937; Forcart, 1957; Moolenbeek, *et al.*, 1991.

Progymnase
CH-2800 Delémont Switzerland

Wannier & Panchaud, 1977.

Muséum d'Histoire Naturelle [MHNG]
Case postale 434
CH-1211 Genève 6 Switzerland

A. Département des invertébrés: Binder, 1970; Brot, 1872; Cailliez, 1983; Cernohorsky, 1969b; Christiaens, 1968; Delessert, 1841; Dodge, 1946; Favre, 1943; Finet & Houart, 1989; Johnson, 1952-1953; Kabat & Finet, 1992; Kohn, 1968, 1981, 1988; Lamy, 1915a; Mermod, 1947-1953; Mermod & Binder, 1963; Oliveira & Oliveira, 1984; Solem, 1967; Sowerby, 1909.

B. Département des Paléontologie: Bechon, *et al.*, 1984-1985b; Benier & Berset, 1989; Berset, 1986; Berset & Benier, 1989; Berset & Decrouez, 1989-1991b; Decrouez, 1985-1987; Decrouez & Kunz, 1985; Favre, 1918; Serret, 1986a-1986b.

Institut de Géologie
Université de Neuchâtel
CH-2000 Neuchâtel Switzerland

Jeannet, 1932.

Ecole Cantonale
CH-2900 Porrentruy Switzerland

Wannier & Panchaud, 1977.

Naturhistorisches Museum
Werkhofstraße 30
CH-4500 Solothurn Switzerland

Ledermann, 1967.

Zoologisches Museum [ZMZ]
Universität Zürich
Winterthurerstraße 190
CH-8057 Zürich Switzerland

Breure, 1976a.

UKRAINE

Zoological Museum
University of Lviv [= Lvov]
Lviv Ukraine

Zdun, 1969.

2. Africa.

General: see Anonymous, 1958, 1962.

KENYA

National Museum [NMK]
P.O. Box 40658
Nairobi Kenya

[formerly Coryndon Museum]

Anonymous, 1958, 1962.

NAMIBIA

Staatsmuseum [SMWN]
Leutwein Street
P.O. Box 1203
Windhoek 9100 Namibia

Irish, 1985.

REPUBLIC OF SOUTH AFRICA

National Museum [NMBO]
P.O. Box 266
Bloemfontein 9300 South Africa

Anonymous, 1962.

South African Museum [SAFM]
Government Avenue
P.O. Box 61
Cape Town 8000 South Africa

Giles & Gosliner, 1983.

Alexander McGregor Memorial Museum [MMK]
P.O. Box 316
Kimberley South Africa

Anonymous, 1958.

Natal Museum [NM]
Private Bag 9070
Pietermaritzburg 3200 South Africa

Anonymous, 1962; Kilburn, 1973; Loch, ms. 10.

Port Elizabeth Museum [PEM]
Beach Road, Humewood
Port Elizabeth 6013 South Africa

Anonymous, 1962; Bruggen, 1963.

3. Asia and Oceania.

AUSTRALIA

South Australian Museum [SAM]
North Terrace
Adelaide, South Australia 5000 Australia

Cotton, 1945; Gowlett-Holmes, 1989; Gowlett-Holmes & McHenry, 1988; Hewish & Gowlett-Holmes, 1991; Laws & Mincham, 1968, 1973; Loch, mss. 3-5, 7, 9, 12, 13; Ludbrook, 1959, 1961, 1965; Macphail & Zeidler, 1977-1978; Sweeney, *et al.*, 1988; Zeidler, 1983, 1985; Zeidler & Gowlett, 1986; Zeidler & Macphail, 1978.

Department of Geology
University of New England
Armidale, New South Wales 2351 Australia

Philip, 1971.

Queensland Museum [QM]
P.O. Box 300
South Brisbane, Queensland 4101 Australia

Iredale, 1958b; Loch, mss. 3, 8; Rozefelds, *et al.*, 1990.

Commonwealth Palaeontological Collection
Bureau of Mineral Resources, Geology and Geophysics
P.O. Box 378
Canberra, Australian Capital Territory 2600 Australia

Crespin, 1960, 1974; Loch, ms. 8.

Tasmanian Museum and Art Gallery [TMH]
G.P.O. Box 1166M
5 Argyle Street
Hobart, Tasmania 7001 Australia

Crespin, 1964a; Hardy, 1916; Loch, mss. 1, 4, 7, 9, 12, 13; Ludbrook, 1965, 1967; May, 1903; E. Turner & Dartnall, 1971.

Queen Victoria Museum & Art Gallery [QVMT]
Wellington Street
Launceston, Tasmania 7250 Australia

Crespin, 1964a; Green, 1974; Loch, mss. 7, 9, 12, 13.

Geological Collection
University of Melbourne
Parkville
Melbourne, Victoria 3052 Australia

Singleton, 1945.

Museum of Victoria [MV]
285-321 Russell Street
Melbourne, Victoria 3000 Australia

[formerly National Museum of Victoria]

Baldwin-Knight, 1901; Boyd & Phillips, 1985; Gill, 1953; Gill & Davies, 1968; Kenyon, 1899, 1902; Loch, mss. 2-4, 10-13; Lu, 1983; Ludbrook, 1965; B.J. Smith, 1968; B.J. Smith & Black, 1969; B.J. Smith & Robertson, 1970; Trew, 1987b.

Western Australian Museum [WAM]
Francis Street
Perth, Western Australia 6000 Australia

Crespin, 1964b; Loch, mss. 2, 3, 10; Slack-Smith, 1983; Wells, 1977.

Department of Geology and Geophysics
University of Sydney
Sydney, New South Wales 2006 Australia

Foldvary, 1981; Foldvary & Sanderson, 1972 [collections are being transferred to the Australian Museum Sydney].

Macleay Museum [MAMU]
University of Sydney
Sydney, New South Wales 2006 Australia

Hedley, 1901; Ponder & Stanbury, 1972.

Australian Museum [AMS]
P.O. Box A 285
Sydney South, New South Wales 2000 Australia

Fletcher, 1971; Iredale, 1958a-1959; Iredale & Whitley, 1958; Loch, mss. 1-3, 7-13; Ludbrook, 1961; McMichael & Whitley, 1956, 1961; Natsukari & Okutani, 1975; Richardson, 1971; Rudman, 1983; Sweeney, *et al.*, 1988; Whitley, 1968, 1972.

INDIA

Zoological Museum Calcutta
Indian Museum
27 Jawaharal Nehru Road
Calcutta 700013 India

Nevill, 1878, 1885.

Zoological Survey of India [ZSI]
"M" Block, New Alipore
Calcutta 700053 India

Rajagopal & Mitra, 1978; Thomson, [in press].

Central Marine Fisheries Research Institute
Marine Fisheries P.O.
Mandapam Camp India

James, 1969.

INDONESIA

Museum Zoologicum Bogoriense [MZB]
Juanda 3, Kebun Raya
Bogor, Java Indonesia

Somadikarta, *et al.*, 1964.

JAPAN

General: Hanzawa, *et al.*, 1961.

Seto Marine Biological Laboratory [SMBL]
Kyoto University
Sirahama 649-22
Wakayama
Japan

Harada, 1991.

University Museum [UMT]
University of Tokyo
Hongo 7-3-1, Bunkyo-ku
Tokyo 113 Japan

Ichikawa, 1983, 1988; Ichikawa & Hayami, 1978; Oyama, 1973.

National Science Museum [NSMT]
3-23-1 Hyakunin-cho
Shinjuku-ku
Tokyo 169 Japan

Hayami & Kase, 1977; Matsukuma & Okutani, 1986.

Yokosuka City Museum
95 Fukadadai
Yokosuka 238 Japan

Maeda, *et al.*, 1983, 1987.

NEW ZEALAND

Auckland Institute and Museum [AIM]
Private Bag
Auckland 1 New Zealand

Cernohorsky, 1972, 1988; Fleming, 1966; Loch, mss. 10, 11; A.W.B. Powell, 1941, 1949.

Canterbury Museum [CMC]
Rolleston Avenue
Christchurch 1 New Zealand

Allan, 1938, 1941; Speight, 1913.

New Zealand Geological Survey [NZGS]
P.O. Box 30368
Lower Hutt New Zealand

Boreham, 1959, 1965; Fleming, 1966; Keyes, 1972; Loch, mss. 8, 10, 11.

National Museum of New Zealand [NMNZ]
P.O. Box 467
Wellington New Zealand

[formerly Colonial Museum (1865-1907); Dominion Museum (1907-1973)]

Hamilton, 1906; Keyes, 1971; Loch, mss. 3, 10, 11.

New Zealand Oceanographic Institute [NZOI]
P.O. Box 12 346
Wellington North New Zealand

Dawson, 1979; Loch, ms. 10.

PAKISTAN

Zoological Survey of Pakistan [ZSP]
Hotel Nazli
Nishtar Road
Karachi 3 Pakistan

Siddiqi, 1973.

THAILAND

Phuket Marine Biological Center
P.O. Box 60
Phuket 83000 Thailand

Nateewathana, 1990.

4. North America.

CANADA

Redpath Museum [RMMGU]
McGill University
85, rué Sherbrooke
Montreal 110, Québec H3A 2K6 Canada

Alison & Carroll, 1972; Ardley, 1916; Kuroda & Habe, 1952; Palmer, 1945a, 1950, 1958, 1963.

Geological Survey [CGS]
601 Booth Street
Ottawa, Ontario K1A 0E8 Canada

Bolton, 1965-1982; Ingram, 1942.

National Museum of Natural Science [NMC]
National Museums of Canada
P.O. Box 3443, Station D
Ottawa, Ontario K1P 6P4 Canada

M.F.I. Smith, 1981.

New Brunswick Museum [NBM]
277 Douglas Avenue
Saint John, New Brunswick E2K 1E5 Canada

R.F. Miller, 1988.

Royal Ontario Museum [ROM]
100 Queen's Park
Toronto, Ontario M5S 2C6 Canada

Fritz, 1944; Waddington, *et al.*, 1978.

British Columbia Provincial Museum [BCPM]
Victoria, British Columbia V8V 1X4 Canada

Peden & Green, 1982.

CUBA

Museo Felipe Poey
Capitolio Nacional
Habana Cuba

Aguayo & Jaume, 1950; Boss & Jacobson, 1975.

MEXICO

Instituto de Geologia [UNAM]
Museo de Paleontologia
Universidade Nacional Autónoma de Mexico
Ciudad Universitaria
04510 Mexico City, D.F. Mexico

Carreño, *et al.*, 1989; Perrilliat, 1981.

UNITED STATES

New York State Museum [NYSM]
Empire State Plaza
Albany, New York 12230

J.M. Clarke, 1893-1907; Kilfoyle, 1954-1971; Marshall, 1892; Palmer, 1951; R.D. Turner, 1962; Whitfield, 1899. [The A.A. Gould types were transferred to the Museum of Comparative Zoology (Johnson, 1964); the P.P. Carpenter types were transferred to the Smithsonian Institution (Coan & Rosewater, 1985)].

Museum of Zoology [MZUM]
University of Michigan
Ann Arbor, Michigan 48109

Breure, 1973a; Burch, 1980, 1983; Coan, 1989a; Johnson, 1967, 1972, 1979; Rosewater, 1959.

Texas Memorial Museum [TNHC]
University of Texas
2400 Trinity
Austin, Texas 78705

Pritchett, 1905.

Museum of Paleontology [UCB]
University of California
Berkeley, California 94720

Addicott, *et al.*, 1971; Coan, 1982, 1989a; Coan & Bogan, 1988; Hanna & Smith, 1932; Ingram, 1942; Keen & Bentson, 1944; Merriam, 1895; Murphy & Rodda, 1977; Palmer, 1958; Peck, 1957; Peck & McFarland, 1954; Roth, 1988; R.B. Stewart, 1927, 1930; A.G. Smith & Emerson, 1955.

Boston Society of Natural History: collections now in Museum of Comparative Zoology, Cambridge. [see also Cushman, 1907].

University of Colorado Museum [UCM]
Campus Box 218
Boulder, Colorado 80309

Coan & Roth, 1987; McCoy, 1964; Rodeck, 1938; Wu & Brandauer, 1982.

Bowling Green State University (Ohio): collections transferred to the Smithsonian Institution, Washington D.C.; Ohio State University, Columbus; and University of Michigan, Ann Arbor [Hoare, 1991].

Museum of Comparative Zoology [MCZ]
Harvard University
Cambridge, Massachusetts 02138

A. Mollusk Department: Boss, 1987; Boss, *et al.*, 1968; Cernohorsky, 1975, 1987; Champion, 1947; Clench, 1936, 1946, 1959; Clench & Turner, 1950a, 1950b; Coan, 1982; Counts, 1991; Ferreira, 1978; Hartman, 1881; Hertz, 1984; Jacobson & Boss, 1973; Johnson, 1946, 1949, 1956-1967, 1973b, 1975a, 1975b, 1981, 1989, in prep.; Johnson & Boss, 1972; Kabat & Finet, 1992; Kay & Clench, 1975; Michelson, 1953; Pilsbry, 1946; Rosewater, 1959; R.D. Turner, 1946-1962.

B. Invertebrate Paleontology: Cushman, 1907; Eng & d'Escrivan, in prep.; Keen & Bentson, 1944; Kummel, 1963; Palmer & Brann, 1965-1966; Raymond, 1936; R.B. Stewart, 1927, 1930; Wilson, 1967.

Charleston Museum [CHM]
360 Meeting Street
Charleston, South Carolina 29403

Blackwelder, 1967; Clench, 1967.

Chicago Academy of Sciences [CA]
2001 N. Clark Street
Chicago, Illinois 60614

Ball & Greacen, 1946; Franzen, 1958.

Field Museum of Natural History [FMNH]
Roosevelt Road & Lake Shore Drive
Chicago, Illinois 60605-2496

[formerly Chicago Museum of Natural History]

Geology Department: Forney & Nitecki, 1976; Palmer & Brann, 1965-1966; Weller, 1929.

Zoology Department (Invertebrates): Roscoe, 1963; Solem, 1967; Trew, 1987b.

Cincinnati Museum of Natural History [CMNH]
1720 Gilbert Avenue
Cincinnati, Ohio 45202

R.A. Davis & Troike, 1990.

University of Cincinnati Museum [UCC]
2624 Clifton Avenue
Cincinnati, Ohio 45221

Chappars, 1936; Hansman, *et al.*, 1962.

Orton Museum–Geological Museum
Ohio State University
Columbus, Ohio 43120

Hoare, 1991; Marple, *et al.*, 1964; Morningstar, 1924; G.A. Stewart, 1930.

Biological Museum [UMRC]
University of Miami
Coral Gables, Florida 33124

F.M. Bayer, 1948.

Florida State Museum [UF]
University of Florida
Gainesville, Florida 32611

Franz & Thompson, 1974.

Zoology Department (Malacology)
Bernice Pauahi Bishop Museum [BPBM]
P.O. Box 19000A
Honolulu, Hawai'i 96817

Cernohorsky, 1987; Clench, 1979; Cooke, 1918; Eldredge, 1965; Kawamoto, in prep.; Kondo & Clench, 1952; Loch, ms. 8.

Cornell University [CU]
Ithaca, New York 14850

A.H. Clarke, 1960; Jacobson, 1975; Van Winkle, 1921 [transferred to Paleontological Research Institution; see next entry].

Paleontological Research Institute [PRI]
1259 Trumansburg Road
Ithaca, New York 14850

Brann & Kent, 1960; Fast, 1978; Ingram, 1942; Palmer, 1945b; Palmer & Brann, 1965-1966.

Los Angeles County Museum of Natural History [LACM]
900 Exposition Boulevard
Los Angeles, California 90007

Coan, 1989b; Hertz, 1984; Saul, 1991; Sphon, 1971, 1973; Wilson, 1986; Wilson & Bing, 1970; Wilson & Saul, 1986.

University of California [UCLA]
Los Angeles, California 90024

Keen & Bentson, 1944 [collections transferred to Los Angeles County Museum (Saul, 1991; Wilson & Saul, 1986)].

Zoological Museum [UWZM]
University of Wisconsin
Lowell Noland Boulevard
Madison, Wisconsin 53706

Franzen, 1957; Teller, 1911.

University of Miami: see under Coral Gables [there is also a separate collection at the Rosenstiel School of Marine and Atmospheric Sciences, Miami].

Milwaukee Public Museum [MPM]
800 West Wells Street
Milwaukee, Wisconsin 53233

Munthe, 1980; Sumpter, *et al.*, 1990; Teller, 1911.

Peabody Museum of Natural History [YPM]
P.O. Box 6666
Yale University
New Haven, Connecticut 06511

Beecher, 1900; Johnson, 1989.

Department of Invertebrates
American Museum of Natural History [AMNH]
Central Park West at 79th Street
New York, New York 10024

Breure, 1973a; Chubb, 1955; Coan & Roth, 1987; Faber, 1988; Gratacap, 1901; Habe, 1977a, 1977b; Hertz, 1984; Horenstein, 1983; Palmer & Brann, 1965-1966; Richards & Old, 1969; Roth, 1982; Solem, 1967; Whitfield, 1899; Whitfield & Hovey, 1898-1901.

California Institute of Technology
Pasadena, California 91125

Keen & Bentson, 1944 [collections transferred to Los Angeles County Museum (Wilson & Saul, 1986)].

The Academy of Natural Sciences [ANSP]
19th & The Parkway
Philadelphia, Pennsylvania 19103

A. Malacology Department: Abbott, 1965; Baker, 1962, 1963, 1964; Cernohorsky, 1987; Clench, 1946; Clench & Turner, 1962; Coan, 1989a; Coan & Bogan, 1988; Coan & Roth, 1987; Coan & Scott, 1990; Counts, 1991; G.M. Davis, *et al.*, 1979; J.D. Davis, 1964; Hertz, 1986; Ingram, 1942; Jacobson & Boss, 1973; Johnson, 1967, 1975b, 1980; Johnson & Baker, 1973; Kay & Clench, 1975; Kondo & Clench, 1952; Loch, mss. 3, 10; Mol, 1971, 1972; Palmer, 1958; Richardson, *et al.*, 1991; Robertson, *et al.*, 1981-1987; A.G. Smith & Emerson, 1955; Spamer & Bogan, 1992; Thomé, 1988c; Trew, 1987b; R.D. Turner, 1962; Vanatta, 1915; Voss, 1962.

B. Invertebrate Paleontology: Campbell & Campbell, 1986; C.W. Johnson, 1905; Keen & Bentson, 1944; Moore, 1962; Murphy & Rodda, 1977; Palmer & Brann, 1965-1966; Richards, 1968; Rodda & Murphy, 1991; Spamer, *et al.*, 1989; R.B. Stewart, 1927, 1930; Ward & Germon, 1988.

Wagner Free Institute of Science [WFIS]
Montgomery Avenue & 17th Street
Philadelphia, Pennsylvania 19121

Spamer & Forster, 1988.

Carnegie Museum of Natural History [CM]
4400 Forbes Avenue
Pittsburgh, Pennsylvania 15213

Brooks & Brooks, 1931a, 1931b; Johnson, 1977a, 1977b, 1981; Parodiz, 1967; Parodiz & Tripp, 1988; H.H. Smith, 1902.

Department of Geological Sciences
University of California
Riverside, California 92502

Mount, 1973a, 1973b.

Utah Museum of Natural History [UU]
University of Utah
Salt Lake City, Utah 84112

Roscoe, 1963 [collections transferred to Field Museum (Chicago) in 1974].

San Diego Natural History Museum [SDSNH]
Balboa Park
P.O. Box 1390
San Diego, California 92112

Drake, 1957; Hertz, 1984, 1986; Keen & Bentson, 1944; Wilson, 1966; Wilson & Kennedy, 1967.

California Academy of Sciences [CAS]
Golden Gate Park
San Francisco, California 94118

Coan, 1966a, 1982, 1986a, 1986b, 1989a; Coan & Kellogg, 1990; Coan & Roth, 1987; Hertz, 1984; Ingram, 1942; Keen & Bentson, 1944; Kellogg, 1986; Murphy & Rodda, 1977; Roth, 1970; A.G. Smith, 1974; A.G. Smith & Emerson, 1955; J.T. Smith, 1978; Stasek, 1966a, 1966b; Sweeney, *et al.*, 1988; Taylor & Smith, 1971; Trew, 1987b; Zullo & Hertlein, 1970.

Santa Barbara Museum of Natural History [SBMNH]
2559 Puesta del Sol Road
Santa Barbara, California 93105

Coan, 1989a; Coan & Scott, 1990; Hertz, 1984; Keen & Bentson, 1944; Scott, *et al.*, 1990; Scott, Hochberg & Moe, in prep.; Sphon, 1962, 1966.

Department of Geology
University of California
Santa Barbara, California 93106

Coan & Scott, 1990.

New Mexico Bureau of Mines and Mineral Resources (Soccorro): fossil cephalopod collections transferred to the Smithsonian Institution, Washington D.C. [Wolberg, 1990a-1991d].

Illinois State Museum
Spring and Edwards Streets
Springfield, Illinois, 62706

Leary, 1972.

Stanford University Museum: see California Academy of Sciences, San Francisco.

Florida Bureau of Geology
Tallahassee, Florida 32304

Shaak, 1980.

University of Alabama Museum of Natural History
Smith Hall, P.O. Box 5897
University of Alabama
University, Alabama 35846

Ingram, 1942; Rosewater, 1959.

Museum of Natural History [UIMNH]
1301 W. Green Street
University of Illinois
Urbana, Illinois 61801

Franzen, 1956.

Illinois State Geological Survey [ISGS]
Natural Resources Building
615 East Peabody Drive
Urbana, Illinois 61820

Hansman & Scott, 1967; Kent, 1982; Leonard, 1957.

National Museum of Natural History [USNM]
Smithsonian Institution
Washington, D.C. 20560

[formerly United States National Museum]

A. Division of Mollusks: Binney, 1885; Boss, *et al.*, 1968; Breure, 1973a; Cernohorsky, 1975; Clench, 1946; Coan, 1966b, 1982, 1985; Coan & Rosewater, 1985; Coan & Roth, 1987; Counts, 1991; Dall, 1892, 1925; J.D. Davis, 1965; Drake, 1957; Habe, 1978b, 1978d; Johnson, 1964, 1967, 1973b, 1974a-1975c, 1989; Kosuge, 1969, 1972; Loch, ms. 10; Mol, 1971; Palmer, 1951, 1958, 1963; Roper & Sweeney, 1978; Rosewater, 1984a, 1984b; Ruhoff, 1973; Sweeney, *et al.*, 1988; Thomé & Pitoni, 1976; Trew, 1987b; Warén, 1980, 1983; Yen, 1944.

B. Department of Paleobiology: Hoare, 1991; Keen & Bentson, 1944; Marcou, 1885, 1886; Palmer & Brann, 1965-1966; Purnell, 1968; Schuchert, 1905; R.B. Stewart, 1927, 1930; Trumbull, 1958; Wolberg, 1990a-1991d.

Delaware Museum of Natural History
P.O. Box 3937
Wilmington, Delaware 19807-0937

Bieler & Bradford, 1991.

5. South America.

ARGENTINA

Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" [MACN]
Av. Angel Gallardo 470
1405 Buenos Aires Argentina

Breure, 1973b.

Museo de La Plata [MLP]
Paseo del Bosque
Universidade Nacional
1900 La Plata Argentina

Breure, 1973b.

BRASIL

Museu de História Natural–Malacologia
CDDC–Universidade Federal de Juiz de Fora
Rua Benjamin Constant 79
36100 Juiz de Fora, Minas Gerais Brasil

Oliveira, *et al.*, 1981.

Museu Oceanografico [FURG]
Fundaçao Universidade do Rio Grande
Caixa Postal 474
96200 Rio Grande, Rio Grande do Sul Brasil

Rios, 1979.

Museu de Zoologia [MZUSP]
Universidade de Sao Paulo
Caixa Postal 7172
04263 Sao Paulo Brasil

Breure, 1973b; Perez & Haimovici, 1991.

CHILE

Museo de Zoologiá
Universidad de Concepción
Barrio Universitario
Concepción Chile

Cekalovic & Artigas, 1981a, 1981b.

Museo Nacional de Historia Natural [MNHNC]
Quinta Normal, Interior
Casilla 787
Santiago Chile

Frassinetti, 1974; Pérez & Reyes, 1989.

URUGUAY

Museo Nacional de Historia Natural [MHNM]
Buenos Aires 652
Montevideo Uruguay

Olazarri, *et al.*, 1972.

SYSTEMATIC INDEX

The following index is arranged by molluscan class. For the four "minor" classes, the papers are listed alphabetically by author. For the Bivalvia, Gastropoda Prosobranchia & Opisthobranchia, and Gastropoda Pulmonata, the references are arranged by family, with the families in alphabetical order. The only exceptions to this family-level analysis are the Unionacea and Mutelacea (Bivalvia) for which the type catalogues often did not differentiate between these two superfamilies, let alone families. For that reason, all the references to those two groups are listed under Unionacea.

We would like to emphasize that many but not all of the references are listed in this index. Not included are papers listing more than ten families of gastropods or bivalves: in particular, single item papers which cover all the types in a given collection, often covering fifty or more families.

1. APLACOPHORA [Caudofoveata & Solenogastres].

Belloc, 1959; Stasek, 1966b.

2. BIVALVIA.

Anomiidae: Gray, 1850b; Lamy, 1941.
Arcidae: Lamy, 1904, 1906; Ludbrook, 1965; Oliver, 1981a; Stevenson, 1972.
Arcticidae: Deshayes, 1853; Lamy, 1916a.
Astartidae: Oliver, 1982a.
Bernardinidae: Meecham, 1987a.
Cardiidae: Lamy, 1942; Meecham, 1987b.
Carditidae: Lamy, 1915c, 1916b; Oliver, 1982a.
Chamidae: Lamy, 1917a.
Condylocardiidae: Oliver, 1982a.
Conocardiidae: Branson, 1942.

Corbiculidae: Counts, 1989, 1991; Deshayes, 1855; Johnson, 1959a; Kennard & Woodward, 1926; Meecham, 1989; Salisbury & Woodward, 1926.
Corbulidae: Lamy, 1926.
Crassatellidae: Oliver, 1982a.
Cucullaeidae: Ludbrook, 1965.
Cuspidariidae: Oliver, 1981b.
Donacidae: Fischer-Piette & Lamy, 1943a; Lamy, 1914c.
Dreissenidae: Meecham, 1987a.
Gastrochaenidae: Lamy, 1922d.
Gaimardiidae: Meecham, 1987a.
Glauconomidae: Deshayes, 1853.
Glossidae: Lamy, 1916a.
Glycymeridae: Lamy, 1912a; Ludbrook, 1965; Oliver, 1984c.
Hiatellidae: Lamy, 1916a, 1921b.
Limidae: Lamy, 1919b; Oliver, 1987b.
Limopsidae: Ludbrook, 1965; Oliver, 1984c.
Lucinidae: Lamy, 1915b.
Mactridae: Lamy, 1913, 1914b, 1925b.
Malleidae: Lamy, 1935a.
Malletiidae: Okutani, 1976.
Mesodematidae: J.D. Davis, 1964, 1965; Lamy, 1912b.
[Mutelidae: see Unionacea]
Myidae: Lamy, 1925a.
Mytilidae: Kleemann, 1981, 1983; Lamy, 1920a, 1920b, 1933; Oliver, 1984d.
Nucinellidae: Oliver, 1984a.
Nuculanidae: Ludbrook, 1961; Okutani, 1976; Oliver, 1984a.
Nuculidae: Ludbrook, 1961; Oliver, 1984a; Schenck, 1935.
Ostreidae: Habe, 1983; Lamy, 1924.
Pandoridae: Boss, 1965; Oliver, 1981b.
Parilimyidae: Oliver, 1981b.
Pectinidae: Allan, 1941; Anderson, 1962; Fleming, 1951; Oliver, 1982b; Wagner, 1982-1985.
Periplomatidae: Oliver, 1981b.
Petricolidae: Deshayes, 1855; Lamy, 1921c.
Philobryidae: Oliver, 1984c.
Pholadidae: Lamy, 1921a, 1922c.

Pinnidae: Lamy, 1932c; Wilkins, 1953c.
Pisidiidae: Binder, 1970; Deshayes, 1855; Favre, 1943; Kuiper, 1967; Meecham, 1989; Stelfox, 1922.
Placunidae: Gray, 1850b.
Plicatulidae: Lamy, 1919a.
Poromyidae: Oliver, 1981b.
Pristiglomidae: Okutani, 1976.
Psammobiidae: Dautzenberg & Fischer, 1914; Lamy, 1914a.
Pteriidae: Lamy, 1935b.
Rudistidae: Chubb, 1955.
Solenidae: Lamy, 1932b.
Sphaeridae: Anonymous, 1958; Deshayes, 1855; Johnson, 1959a.
Spondylidae: Lamy, 1917b.
Teredinidae: Eldredge, 1965; Lamy, 1922b.
Thraciidae: Oliver, 1981b.
Trapeziidae: Lamy, 1916a.
Tridacnidae: Lamy, 1932a.
Trigoniidae: Anonymous, 1962; Jeannet, 1932; Pérez & Reyes, 1989.
Unionacea: Binder, 1970; Fechter, 1983b; Haas, 1913; Johnson, 1952-53, 1956, 1967-1973a, 1974a, 1974b, 1975b-1980; Johnson & Baker, 1973; Parodiz, 1967; Trew, 1987c; Vanatta, 1915; Wheeler, 1963; Woodward, 1979; Zagar-Sakac, 1981; Zilch, 1967c, 1983d.
Veneridae: Deshayes, 1853; Fischer-Piette & Lamy, 1943b; Lamy, 1922a, 1937; Lamy & Fischer-Piette, 1937a-1939f.
Vesicomyidae: Boss, 1970; Oliver, 1987a.
Yoldiidae: Okutani, 1976; Oliver, 1984c.

3. CEPHALOPODA.

A. Recent [Coleoidea: Sepiodea, Teuthoidea & Octopoda]

Belloc, 1950; Borri, *et al.*, 1985, 1989; Gray, 1849; Heppell & Smith, 1983; Hertz, 1984; Kristensen & Knudsen, 1983; Lu, 1983; Lu & Philipps, 1985; Natsukari & Okutani, 1975; Perez & Haimovici, 1991; Roper & Sweeney, 1978; Rudman, 1983; Schäfer, 1938; Scott, *et al.*, 1990; Slack-Smith, 1983; A.G. Smith, 1974; Spamer & Bogan, 1992; Sweeney & Roper, 1984 & in press; Sweeney, *et al.*, 1988; Voss, 1962; Zeidler, 1983; Zeidler & Macphail, 1978.

B. Fossil [Nautiloidea; Ammonoidea]

Anonymous, 1962; Barbera Lamagna, 1968; Bassett, 1972; Benier & Berset, 1989; Berset, 1985; Boda, 1964; Buckman, 1909-1930; Bulot, 1991; Bulot & Autran, 1990; Clark, 1982; J.M. Clarke, 1893, 1903-1907; Crick, 1898-1922; Cushman, 1907; R.A. Davis & Troike, 1990; Decrouez, 1986a, 1986b, 1987; Delanoy & Bulot, 1991; Eng & d'Escrivan, [in prep.]; Fletcher, 1971; Foldvary & Sanderson, 1972; Gill & Davies, 1968; Gray, 1849; Hanzawa, *et al.*, 1961; Hardetert & Riegraf, 1990; Howarth, 1962; Jackson, 1952; C.W. Johnson, 1905; Kilfoyle, 1954-1969; Kummel, 1963; Meiburg, *et al.*, 1969; Mihajlovic-Pavlovic, 1985; A.K. Miller, 1936; Mongerau, 1965; Munthe, 1980; Murphy & Rodda, 1977; Nitsch, 1990; Nudds, 1988; Palmer & Brann, 1965; Peck & McFarland, 1954; D. Phillips, 1977, 1982, 1987; Pinna & Spezia, 1975; Pritchett, 1905; Purnell, 1968; Pyrah, 1978; Rodda & Murphy, 1991; Serret, 1986b; Singleton, 1945; A.G. Smith, 1974; J.T. Smith, 1978; Stenzel, 1942; Stubblefield, 1936; Tatzreiter, 1982, 1986; Tozer, 1990; Waddington, *et al.*, 1978; Wilson, 1986; Wolberg, 1990a-1991d; Woodward, 1908; Zullo & Hertlein, 1970.

4. GASTROPODA: PROSOBRANCHIA & OPISTHOBRANCHIA.

Aciculidae: Pfeiffer, 1853.
Acmaeidae: Robertson, *et al.*, 1981; Trew, 1983d.
Acteonidae: Mermod & Binder, 1963.
Adeorbidae: Richardson, *et al.*, 1991.
Amnicolidae: Richardson, *et al.*, 1991.
Ampullaridae: Binder, 1970; Mermod, 1952; Mol, 1972; Pain, 1949, 1951; Richardson, *et al.*, 1991; Sowerby, 1909.
Anabathridae: Richardson, *et al.*, 1991.
Aporrhaidae: Blake & Oliver, 1981; P.-H. Fischer, 1967.
Architectonicidae: Trew, 1986b.
Assimineidae: Richardson, *et al.*, 1991; Zilch, 1967a.
Barleeidae: Richardson, *et al.*, 1991.
Bellerophontidae: Weller, 1929.
Bithynidae: Richardson, *et al.*, 1991.
Buccinidae: Dodge, 1956; Fischer-Piette & Beigbeder, 1944b; Nelson & Pain, 1986; Talmadge, 1977; Trew, 1990a; Zilch, 1969a.
Bursidae: Trew & Oliver, 1981a.
Caecidae: Folin, 1890; Kisch, 1959a; Richardson, *et al.*, 1991.
Calyptraeidae: P.-H. Fischer, 1970; Hoagland, 1983; Mermod, 1950b; Trew, 1985a.
Cancellariidae: Cernohorsky, 1969b; Trew, 1990d.
Capulidae: Harada, 1991.
Cassidae: Trew & Oliver, 1981a.
Cerithiidae: Shuto, 1978.
Cingulopsidae: Richardson, *et al.*, 1991.
Columbellidae: Cernohorsky, 1969b; Fischer-Piette & Beigbeder, 1945b; Pace, 1902.
Conidae: Burnay, 1989; Bruun, 1945; Coomans & de Visser, 1987; Coomans, *et al.*, 1979-1986; Cotton, 1945; Dodge, 1946, 1953; Fischer-Piette & Beigbeder, 1945b; Kohn, 1963-1992; Kohn & Riggs, 1979; Kohn, *et al.*, 1988; Korn, 1983; Mermod, 1947; Rajagopal & Mitra, 1978; Richard, 1980; Trew, 1982; Zeidler, 1985.

Coralliophilidae: Tomlin, 1935; Trew & Oliver, 1981b.
Costellariidae: Cernohorsky, 1981; Trew, 1985b.
Cyclophoridae: Baird, 1850; P.-H. Fischer, 1964; Mol, 1972; Pfeiffer, 1853; Robertson, *et al.*, 1986; Zilch, 1953a, 1954b, 1955b-1959.
[Cyclostrematidae: see Skeneidae]
[Cymatiidae: see Ranellidae]
Cypraeidae: Dodge, 1953; Ingram, 1942; Kilias, 1973; McMillan, 1957; Mienis, 1981; F. Schilder, 1930-1966; F. Schilder & M. Schilder, 1952; M. Schilder, 1971; Trew, 1987a.
Diplommatinidae: Robertson, *et al.*, 1987.
Elachisinidae: Richardson, *et al.*, 1991.
Epitoniidae: Blake & Oliver, 1982a; Boury, 1891-1909, 1917; Mermod & Binder, 1963.
Eratoidae: Trew, 1987a.
Eubranchidae: James, 1969.
Eulimidae: Warén, 1989.
Falsicingulidae: Richardson, *et al.*, 1991.
Fasciolariidae: Fischer-Piette & Beigbeder, 1944b; Trew, 1990a; Trew & Oliver, 1981a.
Fissurellidae: Cernohorsky, 1972; Mermod, 1950b; Robertson, *et al.*, 1981; Trew, 1983d.
Fossaridae: Trew, 1985a.
Galeodidae: Trew, 1990a.
Haliotidae: Coan, 1966b; Habe, 1983; Mermod & Binder, 1963; Robertston, *et al.*, 1981; Talmadge, 1977; Trew, 1983d.
Harpidae: Gray, 1865.
Helicinidae: Jacobson, 1975; Mermod, 1951; Pfeiffer, 1853, 1857; Robertson, *et al.*, 1986; Zilch, 1979a.
Hipponicidae: Trew, 1985a.
Hydrobiidae: Anonymous, 1958; Binder, 1970; Jovanovic, 1991; Mol, 1972; Okáli, 1984; Pinter, 1982; Pons da Silva & Davis, 1983; Zilch, 1970; Zdun, 1969.
Hydrocenidae: Robertson, *et al.*, 1986; Zilch, 1973b.
Janthinidae: Mermod, 1953.
Lamellariidae: Hamada, 1991; Trew, 1987a.
Lepetidae: Robertson, *et al.*, 1981.
Liotiidae: Robertson, *et al.*, 1986.

Littorinidae: Binder, 1970; Mienis, 1975a; Richardson, *et al.*, 1991.
Marginellidae: Fischer-Piette & Beigbeder, 1945b; Hewish & Gowlett-Holmes, 1991; Mienis, 1976a; Roth & Clover, 1973; Tomlin, 1913-1919; Trew, 1990d.
Mathildidae: Boury, 1911; Shuto, 1974.
[Melaniidae: see Thiaridae]
Micromelaniidae: Zilch, 1983e.
Mitridae: Cernohorsky, 1969a, 1969b, 1981; Fischer-Piette & Beigbeder, 1945b; Trew, 1985b.
Muricidae: Dodge, 1957; Finet & Houart, 1989; Fischer-Piette & Beigbeder, 1943a, 1943b, 1944a; Lamy, 1918; Trew & Oliver, 1981b; Zilch, 1983a.
Nassariidae: Adam, 1976; Cernohorsky, 1975; Fischer-Piette & Beigbeder, 1945a; McMillan, 1985; Tomlin, 1932a, 1932b, 1940; Trew, 1990a.
Naticidae: Blake & Oliver, 1982b; P.-H. Fischer, 1964; Kabat, 1990; Kabat & Kilias, 1991; Mermod, 1953; Mermod & Binder, 1963.
Neritidae: Binder, 1970; Kabat & Finet, 1992; Knipper, 1958; Lamy, 1931; Mermod, 1953; Robertson, *et al.*, 1986.
Olividae: Fischer-Piette & Beigbeder, 1945b; Ford, 1953; Gray, 1865; McMillan, 1985; Olsson & Dance, 1966; Trew, 1990c.
Ovulidae: Hamada, 1991; Kilias, 1973; Mienis, 1981; F. Schilder, 1966.
Patellidae: Christiaens, 1968; Lamy, 1931; Mermod, 1950b; Robertson, *et al.*, 1981; Trew, 1983d.
Pediculariidae: Kilias, 1973; Trew, 1987a.
Phasianellidae: Robertson, *et al.*, 1986.
Pleurotomariidae: Nieuwenhuis, 1990; Robertson, *et al.*, 1981.
Pomatiasidae: Mermod, 1952.
Potamididae: Shuto, 1978.
Poteriidae: Robertson, *et al.*, 1987.
Pteropoda: A.W. Janssen, 1984.
Pupinidae: Robertson, *et al.*, 1987.
Pyramidellidae: Boury, 1911; Kisch, 1959b; Mermod & Binder, 1963; Mienis, 1975b, 1976d.

Pyrenidae: Trew, 1990a.
Ranellidae: Fischer-Piette & Beigbeder, 1944a; Trew & Oliver, 1981a.
Rissoidae: Boury, 1911; Moolenbeek, *et al.*, 1991.
Scissurellidae: Cernohorsky, 1972; Trew, 1983d.
Skeneidae: Robertson, *et al.*, 1986; Trew, 1984.
Stenothyridae: Zilch, 1981c.
Stomatellidae: Mermod & Binder, 1963; Robertson, *et al.*, 1983; Trew, 1984.
Strombidae: Blake & Oliver, 1981; Dodge, 1956; Wilkins, 1951.
Terebridae: Bratcher, 1977; Cernohorsky, 1969c; A. Tillier, 1979; Trew, 1989.
[Thecosomata]: Gray, 1850a.
Thiaridae: Binder, 1970; Brot, 1872; Knipper, 1958; Mermod, 1952; Mol, 1971, 1972.
Tonnidae: Trew & Oliver, 1981a.
Trichotropidae: Trew, 1985a.
Tricoliidae: Trew, 1984.
Triviidae: Kilias, 1973; Mienis, 1981; F. Schilder, 1966; Trew, 1987a.
Trochidae: Dodge, 1958; Cernohorsky, 1972; Robertson, *et al.*, 1983; Trew, 1984.
Truncatellidae: Pfeiffer, 1857; Zilch, 1973c.
Turbinellidae: Fischer-Piette & Beigbeder, 1945a.
Turbinidae: Cernohorsky, 1972; Dodge, 1959b; Mermod & Binder, 1963; Robertson, *et al.*, 1987; Trew, 1984.
Turridae: Gatto, 1984; Shuto, 1970a-1971, 1975; Tomlin, 1934; Trew, 1991.
Turritellidae: Shuto, 1974.
Valvatidae: Richardson, *et al*, 1991.
Vasidae: Trew, 1990c.
Vitrinellidae: Pilsbry, 1946.
Viviparidae: Richardson, *et al.*, 1991; Zilch, 1955a, 1981d.
Volutidae: Baldwin-Spencer, 1901; Dodge, 1955; Fischer-Piette & Beigbeder, 1945a; Gray, 1855c; Kenyon, 1899, 1902; B.J. Smith, 1968; Thomas & Oliver, 1982.

5. GASTROPODA: PULMONATA.

Acavidae: Mol, 1972.
Achatinellidae: Clarke, 1960; Clench, 1959; Kilias, 1969; Zilch, 1962a.
Achatinidae: Mermod, 1951; Mol, 1971, 1972; Oliver, 1983; Zilch, 1951.
Aciculidae: Zilch, 1976b.
Amastridae: Cooke, 1918; Zilch, 1962b.
Amphibolidae: Kilias, 1967a.
Ancylidae: Anonymous, 1962; Kilias, 1961; Mol, 1971.
[Aperidae: see Chlamydephoridae]
Ariophantidae: Anonymous, 1962.
Athoracophoridae: Kilias, 1974a.
Bradybaenidae: Habe, 1982; Maeda, *et al.*, 1983; Trew, 1986a; Zilch, 1968, 1982.
Bulimulidae: Breure, 1973c-1976b; Mienis, 1977; Zilch, 1972d.
Bulinidae: Chevalier & Pothier, 1972.
Camaenidae: Habe, 1982; Trew, 1986c; Zilch, 1953b, 1960, 1964a, 1966b, 1966c.
Carychiidae: Pfeiffer, 1857.
Chilinidae: Kilias, 1961.
Chlamydephoridae: Anonymous, 1962; Mol, 1972.
Chondrinidae: Kilias, 1969; Zilch, 1984.
Clausiliidae: Corocleanu, 1968; Habe, 1982, 1984a; Kilias, 1974b, 1974c; Knipper, 1954; Pinter, 1982; Zilch, 1954a, 1972e, 1976a, 1977a, 1977c, 1978a, 1981b.
Cochlicopidae: Zilch, 1962b.
Corallidae: Irish, 1985.
Ellobiidae: Kilias, 1967a; Mermod, 1951; Pfeiffer, 1857.
Endodontidae: Anonymous, 1962.
Enidae: Anonymous, 1962; Kilias, 1971; Mol, 1971, 1972; Zilch, 1986.
Ferrissiidae: Kilias, 1961.
Ferrussaciidae: Kilias & Kilias, 1982; Zilch, 1973a.
Haplotrematidae: Zilch, 1983c.

Helicidae: Couturier, 1903; Giannuzzi-Savelli, *et al.*, 1986; Mermod, 1950b, 1951; Trew, 1983a; Zilch, 1952a, 1952b, 1965b, 1987a, 1987b.
Helminthoglyptidae: Roth, 1982, 1988; Trew, 1985c.
[*Liguus*: see Orthalicidae]
Lymnaeidae: Kilias, 1961; Mermod, 1951.
Megalobulimidae: Mermod, 1951.
Oleacinidae: Zilch, 1980b.
Orculidae: Kilias, 1969.
Oreohelicidae: Trew, 1986c.
Orthalicidae: F.M. Bayer, 1948; Clench, 1946.
Otinidae: Pfeiffer, 1857.
Partulidae: Fulton, 1917; Hartman, 1881; Kilias, 1969; H.H. Smith, 1902.
Paryphantidae: Marston, 1968.
Physidae: Kilias, 1961; Mermod, 1951.
Planorbidae: Anonymous, 1958; Binder, 1970; Burch, 1983; Chevalier & Pothier, 1972; Cushman, 1907; Kilias, 1963, 1967a; Mermod, 1951; Michelson, 1953; Mol, 1972.
Pleurodiscidae: Zilch, 1969b.
[Pleurodontidae: see Camaenidae]
Pupillidae: Kilias, 1969; Zilch, 1985.
Pyramidulidae: Kilias, 1969; Zilch, 1962b.
Rhytididae: Zilch, 1983c.
Siphonariidae: Trew, 1983b.
Sphincterochilidae: Zilch, 1966a.
Stenogyridae: Anonymous, 1958.
Streptaxidae: Anonymous, 1958, 1962; Kaiser, 1980; Mol, 1971, 1972; Verdcourt, 1985, 1990b; Zilch, 1961; 1983c.
Strophocheilidae: Crowley & Pain, 1961.
Subulinidae: Anonymous, 1962; Kilias & Kilias, 1982; Mol, 1972; Naggs [in press]; Zilch, 1973a.
Succineidae: Kilias, 1974a; Mol, 1971; Zilch, 1978b.
Systrophidae: Zilch, 1983c.
Testacellidae: Zilch, 1980b.
Tornatellinidae: Cooke, 1918; Kilias, 1969; Zilch, 1962a.
Triptychiidae: Zilch, 1978a.
Urocoptidae: Drake, 1957.

Valloniidae: Kilias, 1969; Zilch, 1969b.
Veronicellidae: Forcart, 1952; Thomé, 1969-1990; Thomé & Pitoni, 1976.
Vertiginidae: Anonymous, 1962; Kilias, 1969; Mol, 1972; Zilch, 1983b.
Vitrinidae: Zilch, 1979b.
Zonitidae: Pinter, 1982; Zilch, 1965a, 1980a.

6. POLYPLACOPHORA.

Ashby, 1922; Boreham, 1959; Burnay, 1989; G.M. Davis, *et al.*, 1979; Dodge, 1952; Ferreira, 1978; P.-H. Fischer, 1959; Forney & Nitecki, 1976; Giles & Gosliner, 1983; Gowlett-Holmes, 1989; Gowlett-Holmes & McHenry, 1988; Lamy, 1923; Loch, ms. 3; Macphail & Zeidler, 1977-1978; Mermod, 1950b; Palmer, 1945a, 1958, 1963; Palmer & Brann, 1965; Peden & Green, 1982; Scott, *et al.*, 1990; B.J. Smith & Robertson, 1970; J.T. Smith, 1978; Trew, 1983c; E. Turner & Dartnall, 1971; Wallin, 1991; Wilson & Kennedy, 1967; Zeidler & Gowlett, 1986.

7. SCAPHOPODA

Berset & Benier, 1989; Boreham, 1959; Giles & Gosliner, 1983; Forney & Nitecki, 1976; Hanzawa, *et al.*, 1961; Keyes, 1972; Kilias, 1972; Ludbrook, 1959; Oliver, 1984b; Palmer, 1958; Palmer & Brann, 1965; Peck & McFarland, 1954; Richards & Old, 1969; Riley, 1974; Scott, *et al.*, 1990; J.T. Smith, 1978; Spamer & Bogan, 1992; Speight, 1913; Tichy, 1970; E. Turner & Dartnall, 1971; R.D. Turner, 1955; Wilson, 1986; Zeidler & Macphail, 1978.

BIBLIOGRAPHY

Abbott, R.T. 1955. The Titian R. Peale shell collection. The Nautilus, **68**(4): 123-127.

Adam, W. 1971. New names introduced by M. Connolly and by H.B. Preston in the Mollusca. Bulletin du Institut Royal des Sciences Naturelles de Belgique / Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, **47**(24): 1-77.

Adam, W. 1976. Quelques espèces Ouest-Africaines de *Nassarius* (*s.l.*) décrites par F.P. Marrat (1877, 1878) et par H. von Maltzan (1884) (Mollusca Prosobranchia). Bulletin du Institut Royal des Sciences Naturelles de Belgique / Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, **51**(2): 1-29, pls. 1-3.

Adam, W. and E. Leloup. 1947. Paul Pelseneer (1863-1945), Notice biographique. Bulletin du Musée royal d'Histoire naturelle de Belgique / Medeedelingen van het Koninklijk Natuurhistorisch Museum van België, **23**(1): 1-45, pls. 1-2.

Addicott, W.O., S. Kanno, K. Sakamoto, and D.J. Miller. 1971. Clark's Tertiary Molluscan Types from the Yakataga District, Gulf of Alaska. United States Geological Survey Professional Paper, **750**(C): 18-33, 6 pls.

Aguayo, C.G. and M.L. Jaume. 1950. Bibliografía Malacológica de Don Carlos de la Torre. Agonía, Organo de la Federación de Doctores en Ciencias y en Filosofía y Letras, Número Póstumo Extraordinario en Homenaje al Primer Centenario de la Bandera Cubana [La Habana], pp. 119-129, 1 pl.

Alison, D. & R. Carroll. 1972. Catalogue of type and figured specimens, fossil vertebrates, invertebrates and plants in the Redpath Museum, McGill University. Redpath Museum, Montreal, ii + 173 pp.

Allan, R.S. 1938. Type Mollusca in the Canterbury Museum. Part I. Pelecypoda. Records of the Canterbury Museum, **4**(4): 177-197.

Allan, R.S. 1941. Type Mollusca in the Canterbury Museum. Part II: *Pecten hilli* Hutton. Records of the Canterbury Museum, **4**(7): 355-357, pl. 54.

Allen, H.A. 1900. Catalogue of types and figured specimens from the Eocene and Oligocene Series preserved in the Museum of Practical Geology. Summary of Progress of the Geological Survey of the United Kingdom for 1899: 195-208.

Allen, H.A. 1901a. Catalogue of types and figured specimens from British Pliocene and Pleistocene strata preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1900: 182-195.

Allen, H.A. 1901b. Catalogue of types and figured specimens from British Devonian strata preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1900: 196-216.

Allen, H.A. 1903. Catalogue of types and figured specimens of British Gasteropoda and Scaphopoda from the Rhaetic Beds, Lias and Inferior Oolite, preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1902: 217-228.

Allen, H.A. 1904. Catalogue of the type and figured specimens of British Gasteropoda and Scaphopoda from the Lower, Middle and Upper Oolites, preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1903: 175-187.

Allen, H.A. 1905. Catalogue of types and figured specimens of British Lamellibranchiata from the Rhaetic Beds and Lias, preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1904: 172-177.

Allen, H.A. 1906. Catalogue of types and figured specimens of British Lamellibranchiata from the Lower, Middle and Upper Oolites, preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1905: 175-195.

Allen, H.A. 1915. Catalogue of types and figured specimens of British Cretaceous Lamellibranchiata preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of Great Britain and Museum of Practical Geology for 1914: 66-79.

Allen, H.A. 1916. Catalogue of types and figured specimens of British Cretaceous Gasteropoda preserved in the Museum of Practical Geology, London. Summary of Progress of the Geological Survey of Great Britain and Museum of Practical Geology for 1915: 47-51.

Altena, C.O. van R. 1964. Bibliography and list of new names. pp. 9-21, [*in*] H. Engel and P.J. Van der Feen, The life of Woutera S. S. van Benthem Jutting. Beaufortia, **11**(130): 1-21.

Anderson, E.M. 1936. Catalogue of type and figured specimens of fossils in the Geological Survey collections now exhibited in the Royal Scottish Museum. H.M.S.O., London, 77 pp.

Anderson, H.-J. 1962. Die Typen der chattischen Pectiniden in Goldfuss' "Petrefacta Germaniae". Notizblatt des Hessischen Landesamtes für Bodenforschung zu Wiesbaden, **90**: 93-105, pls. 11-13.

Anonymous. 1958. A list of zoological and botanical types preserved in collections in Southern and East Africa. Volume I–Zoology, Part 1. South African Museums' Association, Pretoria, vi + 147 pp.

Anonymous. 1962. A list of zoological and botanical types preserved in collections in Southern and East Africa. Volume I–Zoology, Part 2. South African Museums' Association, Pretoria, viii + 119 pp.

Ardley, E. 1916. A list of the type fossils in the Peter Redpath Museum (McGill University). Part I. The Canadian Record of Science, **9**(8): 464-482.

Arnaud, P.M. "1975" [1977]. Les taxa malacologiques d'Albert Vayssière. pp. 336-338, [*in*] P. Vayssière (ed.), Albert Vayssière (1854-1942), entomologiste et malacologiste: sa vie, ses publications, ses taxa. Tethys, 7(4): 321-338.

Arnaud, P.M. "1977" [1978]. Révision des taxa malacologiques méditerranéens introduits par Antoine Risso. Annales du Muséum d'Histoire Naturelle de Nice, 5: 101-150, pls. 8-12.

Ashby, E. 1922. Types of species of Australasian Polyplacophora described by de Blainville, Lamarck, de Rochbrune, and others, now in the Muséum d'Histoire Naturelle, in Paris. Transactions of the Royal Society of South Australia, **46**: 572-582.

Astre, G. 1921. La série de types conchyliologiques établie par l'abbé Dupuy pour le Muséum de Toulouse. Bulletin de la Société d'Histoire Naturelle de Toulouse, **49**: 251-263.

Astre, G. 1950. Les collections conchyliologiques du Muséum de Toulouse. Journal de Conchyliologie, **90**(2): 143-146.

Backhuys, W. 1990. Edouard Fischer-Piette (1899-1988): Biography, Bibliography, New Taxa. Universal Book Services, Oegstgeest [The Netherlands], 48 pp.

Baker, H.B. 1962. Type land snails in the Academy of Natural Sciences of Philadelphia. I. North America, north of Mexico. Proceedings of the Academy of Natural Sciences of Philadelphia, **114**(1): 1-21.

Baker, H.B. 1963. Type land snails in the Academy of Natural Sciences of Philadelphia. II. Land Pulmonata, exclusive of North America, North of Mexico. Proceedings of the Academy of Natural Sciences of Philadelphia, **115**(8): 191-259.

Baker, H.B. 1964. Type land snails in the Academy of Natural Sciences of Philadelphia. Part III. Limnophile and thalassophile Pulmonata. Part IV. Land and fresh-water Prosobranchia. Proceedings of the Academy of Natural Sciences of Philadelphia, **116**(4): 149-193.

Baird, W. 1850. Nomenclature of Molluscous Animals and Shells in the Collection of the British Museum. Part I. Cyclophoridae. Spottiswoodes and Shaw, London, 69 pp.

Baldwin-Spencer, W. 1901. On the fate of the type-specimen of *Voluta roadnightae*. Proceedings of the Malacological Society of London, **4**(4): 184.

Ball, J.R. & K.F. Greacen. 1946. Catalogue of the Egan Collection of Silurian invertebrate fossils at The Chicago Academy of Sciences. Chicago Academy of Sciences, Special Publication, 7: 1-55.

Banfield, A.W. 1968. Une liste préliminaire de catalogues des spécimens types en zoologie et paléontologie. Revista Muzeelor, Bucarest, 30 pp.

Barbera Lamagna, C. 1968. Le collezioni paleontologiche del Museo di Paleontologia dell'Università di Napoli. Cefalopodi. I. Revisione degli Ammoniti della collezione Costa. Atti della Accademia Pontaniana, (n.s.) **17**: 35-56, pls. 1-5.

Bassett, M.G. 1972. Catalogue of type, figured & cited fossils in the National Museum of Wales. Amgueddfa Genedlaethol Cymru / National Museum of Wales, Cardiff, 113 pp.

Bassett, M.G. 1975. Bibliography and index of catalogues of type, figured, and cited fossils in museums in Britain. Palaeontology, **18**(4): 753-773.

Bassett, M.G. (ed.). 1979. Curation of palaeontological collections. Special Papers in Palaeontology, **22**: 1-280.

Bayer, C. 1950. Les collections malacologiques du Rijksmuseum van Natuurlijke Historie, Leiden. Journal de Conchyliologie, **90**(1): 56-58.

Bayer, F.M. 1948. Charles T. Simpson's types in the molluscan genus *Liguus*. Smithsonian Miscellaneous Collections, **107**(16): 1-8, pl. 1.

Bechon, F., D. Decrouez, and O. de Villoutreys. 1984. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 7. La collection F.-J. Pictet (Annelida, Bryozoa, Brachiopoda, Arthropoda, Bivalvia). Revue de Paléobiologie, **3**(2): 281-296, pls. 1-3.

Bechon, F., D. Decrouez, and O. de Villoutreys. 1985a. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 10. La collection F.-J. Pictet (Bivalvia, suite en fin). Revue de Paléobiologie, **4**(1): 167-176.

Bechon, F., D. Decrouez, and O. de Villoutreys. 1985b. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 13. La collection F.-J. Pictet (Gastropoda). Revue de Paléobiologie, **4**(2): 401-408.

Beecher, C.E. 1900. Conrad's types of Syrian fossils. American Journal of Science, (ser. 4) **9**(51): 176-178.

Bell, A. 1917. A list of type and figured specimens in the Geological Gallery, Ipswich Museum. Journal of the Ipswich & District Field Club, 5(1): 41-49.

Belloc, G. 1950. Catalogue des types de Céphalopodes du Musée Océanographique de Monaco. Bulletin de l'Institut Océanographique, **970**: 1-10.

Belloc, G. 1959. Catalogue des types de Solénogastres du Musée Océanographique de Monaco. Bulletin de l'Institut Océanographique, **1136**: 1-4.

Belloc, G. 1962. Catalogue des types de Pélécypodes du Musée Océanographique de Monaco. Bulletin de l'Institut Océanographique, **1246**: 1-8.

Benier, C. and S. Berset. 1989. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 35. La collection A. Favre (Cephalopoda, Trilobita, Decapoda, Cirripedia). Revue de Paléobiologie, Volume spécial **3**: 115-142.

Benthem Jutting, T. van. 1939a. Notes on the types of some pulmonate shells from the Scheepmaker collection, now in the Amsterdam Zoological Museum. Basteria, 4(2): 28-32, pl. 2.

Benthem Jutting, W.S.S. van. 1939b. A brief history of the conchological collections at the Zoological Museum of Amsterdam, with some reflections on 18th century shell cabinets and their proprietors, on the occasion of the centenary of the Royal Zoological Society "Natura Artis Magistra". Bijdragen tot de Dierkunde, **27**: 167-246.

Benthem Jutting, W.S.S. van. 1950. Aperçu sur les collections malacologiques du Musée Zoologique d'Amsterdam. Journal de Conchyliologie, **90**(1): 139-143.

Benthem Jutting, W.S.S. van. 1962. Selection of lectotypes of non-marine Mollusca of New Guinea, described by Tapparone-Canefri and now preserved in the Museo Civico di Storia Naturale "Giacomo Doria" in Genoa. Annali del Museo Civico di Storia Naturali di Genoa, **73**: 1-18, pls. 1-2.

Benthem Jutting, W.S.S. van and A.C. van Bruggen. 1972. Carel Octavius van Regteren Altena, een schets van zijn leven en werken. Basteria, **36**(2-5): 31-54.

Benton, M.J. 1979. H. A. Nicholson (1844-1899), invertebrate paleontologist: bibliography and catalogue of his type and figured material. Royal Scottish Museum, Information Series, Geology, **7**: viii + 94 pp.

Berry, W.B.N. 1985. The significance of type specimens and old collections to research in the biological sciences. Occasional Papers of the British Columbia Provincial Museum, 25: 23-27.

Berset, S. 1985. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 12. La collection des Voirons. Revue de Paléobiologie, 4(2): 397-399.

Berset, S. 1986. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 21. La collection C.H.T. Ebray. Revue de Paléobiologie, 5(2): 387-394.

Berset, S. and C. Benier. 1989. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 32. La collection A. Favre (Gastropoda, Scaphopoda). Revue de Paléobiologie, 8(2): 615-628.

Berset, S. and D. Decrouez. 1989. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 29. La collection Alphonse Favre (Bivalvia). Revue de Paléobiologie, 8(1): 225-254.

Berset, S. and D. Decrouez. 1990a. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 37. La collection De Luc. Revue de Paléobiologie, 9(1): 199-213.

Berset, S. and D. Decrouez. 1990b. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 38. La collection Delessert. Revue de Paléobiologie, 9(1): 215-242.

Besprozvannykh, N.I. 1987. Katalog originalov, khranyashchikhsya v paleontologicheskom otdele tsentrl'nogo sibirskogo geologicheskogo muzeya pri institute geologii i geofiziki. Dvustvorchatye mollyuski. [Catalogue of originals, held in the paleontological department of the Central Siberian Geological Museum at the Institute of Geology and Geophysics. Bivalve Mollusks]. Akademiya Nauk SSSR. Sibirskoe Otdelenie Institut Geologii i Geofiziki [Academy of Sciences of the USSR. Siberian Department. Institute of Geology and Geophysics], Novosibirsk, 184 pp. [with Latin name indices].

Besprozvannykh, N.I. 1989. Katalog originalov, khranyashchikhsya v paleontologicheskom otdele tsentrl'nogo sibirskogo geologicheskogo muzeya pri institute geologii i geofiziki. Ammonoidei. [Catalogue of originals, held in the paleontological department of the Central Siberian Geological Museum at the Institute of Geology and Geophysics. Ammonoids]. Akademiya Nauk SSSR. Sibirskoe Otdelenie Institut Geologii i Geofiziki [Academy of Sciences of the USSR. Siberian Department. Institute of Geology and Geophysics], Novosibirsk, 99 pp. [with Latin name indices; not seen].

Bieler, R. and A. Bradford. 1991. Annotated catalog of type specimens in the malacological collection of the Delaware Museum of Natural History. Gastropoda (Prosobranchia and Opisthobranchia). Nemouria, Occasional Papers of the Delaware Museum of Natural History: **36**: 1-48.

Bigot, A. 1906. Catalogue critique de la collection Defrance, conservée au Musée d'Histoire Naturelle de Caen. Troisième partie: Pélécypodes décrits et figurés par Lamarck d'après échantillons de cette collection. Bulletin de la Société Linnéenne de Normandie, (sér. 5) **9**: 3-40.

Bigot, A. 1907. Catalogue critique de la collection Defrance, conservée au Musée d'histoire naturelle de Caen. Quatrième partie: Gastéropodes décrits et figurés par Lamarck d'après des échantillons de cette collection. Bulletin de la Société Linnéenne de Normandie, (sér. 5) **10**: 81-135.

Bigot, A. 1945. Collections Géologiques. Bulletin de la Société Linnéenne de Normandie, (sér. 9) 4 (Supplémentaire): 5-31.

Bigot, A. and M. Matte. 1902. Catalogue critique de la collection Defrance, conservée au Musée d'Histoire Naturelle de Caen. Bulletin de la Société Linnéenne de Normandie, (sér. 5) **6**: 152-185.

Bigot, A. and M. Matte. 1904. Catalogue critique de la collection Defrance, conservée au Musée d'Histoire Naturelle de Caen. Première partie: Pélécypodes. Bulletin de la Société Linnéenne de Normandie, (sér. 5) **7**: 243-268.

Bigot, A. and M. Matte. 1905. Catalogue critique de la collection Defrance, conservée au Musée d'Histoire Naturelle de Caen. Deuxième partie: Pélécypodes. Bulletin de la Société Linnéenne de Normandie, (sér. 5) **8**: 251-273.

Binder, E. 1970. Liste de types et paratypes de Mollusques africains d'eau douce et d'eau saumâtre se trouvant au Musée de Genève. Achatina, **1**: 16-17.

Binney, W.G. 1885. Catalogue of the Binney collection. pp. 474-499, [*in*] W.G. Binney, A Manual of American Land Shells. Bulletin of the United States National Museum, **28**: 1-528.

Bishop, M.J. and K. Way. 1976. Type specimens in the Jane Saul collection, University Museum of Zoology, Cambridge. Journal of Conchology, **29**(1): 41-46.

Blackwelder, B.W. 1967. Invertebrate fossil collections at the Charleston Museum. South Carolina Division of Geology, Geologic Notes, **11**(1): 5-19.

Blake, A.F. and P.G. Oliver. 1981. The Melvill-Tomlin Collection, Part 7, Strombacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 20 pp.

Blake, A.F. and P.G. Oliver. 1982a. The Melvill-Tomlin Collection, Part 12, Epitoniacea (Epitoniidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 36 pp.

Blake, A.F. and P.G. Oliver. 1982b. The Melvill-Tomlin Collection, Part 13, Naticacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 40 pp.

Blake, J.F. 1902. List of the types and figured specimens recognized by C. D. Sherborn, F.G.S., in the collection of the Geological Society of London. Geological Society, London, iv + 100 + xxxii pp.

Boda, J. 1964. Magyarországi Ösmaradványtípusok Jegyzéke Ösállatok [Catalogus Originalium Fossilium Hungariae, Pars Zoologica]. Magyar Allami Földtani Intézet, Budapest, 229 pp.

Boeters, H.D. 1987. Walter Klemm (1898-1981). Archiv für Molluskenkunde, **118**(1-3): 1-7.

Bolton, H. 1892. A catalogue of the types and figured specimens contained in the Geological Department of the Manchester Museum, Owens College. Museums Association, Report of Proceedings, Third Annual General Meeting held in Manchester, July 5, 6 & 7, 1892, pp. 96-129.

Bolton, H. 1894. Supplementary list of type and figured specimens in the Geological Department, Manchester Museum, Owens College. Museums Association, Report of Proceedings, Fifth Annual General Meeting held in Dublin, June 26 to 29, 1894, pp. 250-254.

Bolton, T.E. 1965-1982. Catalogue of type invertebrate fossils of the Geological Survey of Canada, volumes 2 [1965], 4 [1968], 5 [1974], 6 [1977] and 7 [1982]. Ottawa, Geological Survey of Canada.

Boreham, A. 1959. Biological type specimens in the New Zealand Geological Survey. I. Recent Mollusca. New Zealand Geological Survey, Paleontological Bulletin, **30**: 1-87.

Boreham, A.U.E. 1965. A revision of F. W. Hutton's pelecypod species described in the Catalogue of Tertiary Mollusca and Echinodermata (1873). New Zealand Geological Survey, Paleontological Bulletin, **37**: 1-125, pls. 1-20.

Borri, M., P. Mannini, and C. Volpi. 1985. The Mediterranean Cephalopoda in A. Targioni Tozzetti Collection (1869). Rapports et Procès-Verbaux des Réunions de la Commission Internationale pour l'Exploration Scientifique de la Mer Méditerranée, **29**(8): 241-243.

Borri, M., P. Mannini, C. Volpi, and V. Biagi. "1987-88" [1989]. Cephalopod molluscs from the Mediterranean in the Adolfo Targioni Tozzetti Collection. Oebalia, **14**: 21-32.

Boss, K.J. 1965. Catalogue of the family Pandoridae (Mollusca: Bivalvia). Occasional Papers on Mollusks, **2**(33): 413-424.

Boss, K.J. 1970. Redescription of the Valdivia *Vesicomya* of Thiele and Jaeckel. Mitteilungen aus dem Zoologischen Museum in Berlin, **46**(1): 67-84, 26 figs.

Boss, K.J. 1987. Henry Drummond Russell (1908-87) with a bibliography of his malacological publications and a list of new taxa introduced by him. The Nautilus, **101**(3): 151-153.

Boss, K.J. and M.K. Jacobson. 1975. Felipe Poey with a catalogue of the Mollusca described by him. Occasional Papers on Mollusks, **4**(53): 105-132, pl. 14.

Boss, K.J., J. Rosewater, and F.A. Ruhoff. 1968. The zoological taxa of William Healey Dall. Bulletin of the United States National Museum, **287**: 1-427.

Bouchet, P. and F. Danrigal. 1982. Napoleon's Egyptian campaign (1798-1801) and the Savigny collection of shells. The Nautilus, **96**(1): 9-24, 103 figs.

Boury, E. de. 1884. Observations sur quelques espèces nouvelles du Bassin de Paris décrites par M. le marquis de Raincourt. Bulletin de la Société Géologique de France, (sér. 3) **12**: 667-670.

Boury, E. de. 1891. Étude critique des Scalidae Miocènes et Pliocènes d'Italie décrits ou cités par les auteurs et description d'espèces nouvelles. Bullettino della Società Malacologica Italiana, **15**: 81-160, 161-213, pl. 5.

Boury, E. de. 1909. Observations sur les Scalidae des expéditions scientifiques du *Travailleur* et du *Talisman*. Bulletin du Muséum National d'Histoire Naturelle, **15**(7): 478-484.

Boury, E. de. 1911. Observations sur les *Mathilda*, de la collection de Folin. Bulletin du Muséum National d'Histoire Naturelle, **17**(2): 68-69.

Boury, E. de. 1917. Étude sur les scalaires de la collection Locard et nouvelles observations sur les espèces du *Travailleur* et du *Talisman* décrites ou cités par lui. Bulletin du Muséum National d'Histoire Naturelle, **23**(5): 325-330.

Boyd, S.E. and J.U. Phillips. 1985. Molluscan types in the Museum of Victoria. Occasional Papers from the Museum of Victoria, 2: 37-64.

Brann, D.C. 1966. Illustrations to "Catalogue of the collection of Mazatlan Shells" by Philip P. Carpenter. Paleontological Research Institution, Ithaca [N.Y.], 111 pp., 60 pls.

Brann, D.C. and L.S. Kent. 1960. Catalogue of the type and figured specimens in the Paleontological Research Institution. Bulletins of American Paleontology, **40**(184): 1-995, pl. 1.

Branson, C.C. 1942. Type Invertebrate Fossils of North America (Devonian). Division V. Pelecypoda. B. Conocardiidae. Wagner Free Institute of Science, Philadephia, 30 pp.

Bratcher, T. 1977. Deshayes' terebrid types in École des Mines, Paris. The Nautilus, **91**(2): 39-42.

Brauer, F. 1878. Bemerkungen über die im kaiserlich zoologischen Museum aufgefundenen Original-Exemplare zu Ign. v. Born's Testaceis Musei Caesarei Vindobonensis. Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Classe, 77(1) [2]: 117-192.

Breure, A.S.H. 1973a. Over de historie der neotropische malacologie, II. Ernst Marcus (1893-1968) en Eveline Du Bois-Raymond Marcus. De Kreukel, **9**(4): 40-62, pl. 5.

Breure, A.S.H. 1973b. Over de historie der neotropische malacologie, IV. María Isabel Hylton Scott. De Kreukel, **9**(9): 113-122.

Breure, A.S.H. 1973c. Catalogue of Bulimulidae (Gastropoda, Euthyneura), I. Amphibuliminae. Basteria, **37**: 51-56.

Breure, A.S.H. 1974. Catalogue of Bulimulidae (Gastropoda, Euthyneura), II. Odontostominae. Basteria, **38**: 109-127.

Breure, A.S.H. "1975" [1976a]. Types of Bulimulidae (Mollusca, Gastropoda) in the Muséum National d'Histoire Naturelle, Paris. Bulletin du Muséum National d'Histoire Naturelle, (sér. 3), Zoologie, **233**: 1137-1187, pls. 1-10.

Breure, A.S.H. 1976b. Types of Bulimulidae (Gastropoda, Euthyneura) in the Zoologisches Museum, Universität Zürich. pp. 1-4, pls. 1-3, [*in*] W. Backhuys, (ed.), Malacologische Opstellen, Feestbundel Malacologische Contactgroep Amsterdam [a supplement to De Kreukel].

Brind, R. 1979. The Montagu collection of Mollusca at the Royal Albert Memorial Museum, Exeter. Biology Curators Group Newsletter, 2(4): 135-137.

Brooks, S.T. and B.W. Brooks. 1931a. List of the types of Pelecypoda in the collection of the Carnegie Museum on January 1, 1931. Annals of the Carnegie Museum, **20**(2): 171-177 [101-107].

Brooks, S.T. and B.W. Brooks. 1931b. List of types of Amphineura and Gastropoda in the collection of the Carnegie Museum on January 1, 1931. Annals of the Carnegie Museum, **20**(2): 179-253 [109-181].

Brot, A. 1872. Matériaux pour servir a l'étude de la famille des mélaniens. Notice sur les mélanies de Lamarck conservées dans le Musée Delessert et sur quelques espèces nouvelles ou peu connues. Chez Georg, Genève, 55 pp., pls. 1-4.

Bruggen, A.C. van. 1963. A re-examination of the types of Recent Mollusca of the Port Elizabeth Museum. Annals of the Cape Provincial Museums, **3**: 75-81, 6 figs.

Bruggen, A.C. van. 1977a. In memorian Dr. C.O. van Regteren Altena 1907-1976. Basteria, **41**(1): 1-6.

Bruggen, A.C. van. 1977b. Malacology in the Netherlands: Systematic and descriptive malacology. pp. 7-31, [*in*] A.C. van Bruggen (ed.), Malacology in the Netherlands. Nederlandse Malacologische Vereniging, Leiden, 53 pp.

Brunton, C.H.C., T.B. Besterman, and J.A. Cooper (eds.). 1985. Guidelines for the curation of geological materials. Geological Society of London, Miscellaneous Paper, **17**: c. 150 pp. (various paginations).

Bruun, A.Fr. 1945. On the type specimen of *Conus gloria maris*. Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening i Kjøbenhavn, **108**: 95-101, pl. 1.

Buckman, S.S. (ed.). 1909-1930. Yorkshire type ammonites. The original descriptions reprinted, and illustrated by figures of the types. Wheldon and Wesley, London, 7 volumes (72 parts), 1046 pls. [Volumes 3-7 titled as "Type ammonites"; series reprinted 1972 (J. Cramer, Lehre, Germany) with appendix by H.S. Torrens, *et al.*].

Bulot, L. "1990" [1991]. Révision des types et figurés de la collection Matheron. 2. *Olcostephanus* (*Olcostephanus*) *perinflatus* (Matheron, 1878) et *Olcostephanus* (*Olcostephanus*) ? *mittreanus* (Matheron *non* d'Orb., 1850). Mésogée, Bulletin du Muséum d'Histoire Naturelle de Marseille, **50**: 3-8, pls. 1-2.

Bulot, L. and G. Autran. "1989" [1990]. Révision des types et figurés de la collection Matheron. 1. *Olcostephanus stephanophorus* (Matheron, 1878). Mésogée, Bulletin du Muséum d'Histoire Naturelle de Marseille, 49: 15-19, pl. 1.

Burch, J.B. 1980. The mollusk collection and malacology at the University of Michigan. Walkerana, Transactions of the Physiological, Oecological, Experimental Taxonomic and Systematics Society, **1**(1): 1-18, 4 figs.

Burch, J.B. 1983. Mina L. Winslow 1890-1982. Malacological Review, **16**(1-2): 133-134.

Burnay, L.P. "1987" [1989]. Lista anotado dos espécimes-tipos, depositados nas colecçoes do Centro de Zoologia do Instituto de Investigaçao Científica Tropical. I–Moluscos (Gastropoda e Poliplacophora). Garcia de Orta, Série de Zoologia, **14**(1): 13-16.

Cailliez, J.C. 1983. Petite histoire et grandes coquilles. Bulletin de la Société International de Conchyliologie, 5(4): 1-22.

Campbell, L.D. and S.C. Campbell. 1986. Isaac Lea's Virginia Neogene species. American Malacological Bulletin, 4(1): 39-42.

Capocaccia, L. and G. Arbocca. 1963. Collezioni e studi malacologici nel Museo di Storia Naturale di Genova. Doriana, Supplemento agli Annali del Museo Civico di Storia Naturale "G. Doria", **3**(132): 1-7.

Carpenter, P. P. 1857. Catalogue of the Collection of Mazatlan Shells, in the British Museum: Collected by Frederick Reigen. Oberlin Press, Warrington, xii + 552 pp. [Also titled as the "Catalogue of the Reigen Collection of Mazatlan Mollusca, in the British Museum", viii + xii + 552 pp.].

Carreño, A.L., M. del C. Perrilliat, C. Gonzalez-Arreola, S.P. Applegate, O. Carranza-Castañeda, and E. Martinez-Hernandez. 1989. Fosiles Tipo Mexicanos. Universidad Nacional Autonoma de Mexico, Instituto de Geologia, Mexico City, ii + 531 pp., 207 figs.

Caziot, E. [transl. by W.H. Dall]. 1919. Synonymic study on the mollusks of the Departement des Alpes-Maritimes mentioned by Antoine Risso, with notes on their classification. Proceedings of the Academy of Natural Sciences of Philadelphia, 71: 156-170.

Cekalovic, T. and J.N. Artigas. 1981a. Catalogo de los tipos depositados en la coleccion del Departamento de Zoologia de la Universidad de Concepción, Chile. (Parte III). Boletin del Sociedad Biologia de Concepción, **51**: 75-107.

Cekalovic, T. and J.N. Artigas. 1981b. Catalogo de los tipos depositados en la colecciones del Departamento de Zoologia de la Universidad de Concepción, Chile. (Parte IV; incluye fosiles). Boletin del Sociedad Biologia de Concepción, **52**: 203-224.

Cernohorsky, W.O. 1969a. Type specimens of Mitridae (Mollusca: Gastropoda) described by Linnaeus in the genera *Voluta*, *Buccinum* and *Bulla* between 1758 and 1771. Zoological Journal of the Linnean Society, **48**: 351-362, 2 pls.

Cernohorsky, W.O. 1969b. The types of the Lamarck collection in the Museum d'Histoire Naturelle in Geneva. Recent Mollusca of the genera *Mitra*, *Columbella* (part) and *Cancellaria* (part). Revue Suisse de Zoologie, **76**(49): 953-994, pls. 1-7.

Cernohorsky, W.O. 1969c. List of type specimens of Terebridae in the British Museum (Natural History). The Veliger, **11**(3): 210-222.

Cernohorsky, W.O. 1972. Type specimens of Recent and fossil Mollusca described by H. J. Finlay. Part 1 (Scissurellidae -Turbinidae). Records of the Auckland Museum, **9**: 213-247.

Cernohorsky, W.O. 1974. Type specimens of Mollusca in the University Zoological Museum, Copenhagen. Records of the Auckland Museum, **11**: 143-192, 67 figs. [Only a small number of the ZMUC types are recorded in this paper].

Cernohorsky, W.O. 1975. The taxonomy of some west American and Atlantic Nassariidae based on their type-specimens. Records of the Auckland Museum, **12**: 121-173, 38 pls.

Cernohorsky, W.O. 1977. The taxonomy of some molluscan species reported from New Zealand. Records of the Auckland Museum, **14**: 87-104, 22 figs.

Cernohorsky, W.O. 1981. Revision of J. Hervier's type-specimens of Mitracea (Mollusca, Gastropoda) from the Loyalty Islands. Bulletin du Muséum National d'Histoire Naturelle, Paris, (sér. 4) **3** (A): 93-109, pls. 1-3.

Cernohorsky, W.O. 1987. Type specimens of Pacific Mollusca described mainly by A. Garrett and W. Pease with description of a new *Morula* species (Mollusca: Gastropoda). Records of the Auckland Institute and Museum, **24**: 93-105, 31 figs.

Cernohorsky, W.O. 1988. Arthur William Baden Powell (1901-1987). A brief biography and bibliography with a list of molluscan taxa. Records of the Auckland Institute and Museum, **25**: 1-38, frontispiece.

Champion, M.E. 1947. Edward Sylvester Morse with a bibliography and a catalogue of his species. Occasional Papers on Mollusks, **1**(11): 129-144, pl. 18.

Chappars, M.S. 1936. Catalog of the type specimens of fossils in the University of Cincinnati Museum. The Ohio Journal of Science, **36**(1): 1-45.

Chevalier, C. 1971. Catalogue des "types" et "figurés" conservés à la Faculté des Sciences de Lyon. Gastropodes (suite). Documents des Laboratoires de Géologie de la Faculté des Sciences de Lyon, 44: 1-126.

Chevallier, H. 1964. Catalogue des exemplaires de Crosse et Fischer correspondant aux planches des mollusques de Madagascar. Journal de Conchyliologie, **104**(1): 29-34.

Chevallier, H. 1965a. Catalogue des collections du Muséum correspondant à l'Histoire Naturelle des Mollusques de Férussac. 1re partie. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **37**(1): 162-172.

Chevallier, H. 1965b. Les mollusques de l'Expédition du Mexique. Journal de Conchyliologie, **105**(1): 4-39.

Chevallier, H. 1965c. Catalogue des collections du Muséum correspondant à l'Histoire Naturelle des Mollusques de Férussac. 2e partie. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **37**(3): 476-489.

Chevallier, H. "1965" [1966a]. Catalogue des collections du Muséum correspondant à l'Histoire Naturelle des Mollusques de Férussac. 3e partie. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **37**(4): 678-689.

Chevallier, H. "1965" [1966b]. Catalogue des collections du Muséum correspondant à l'Histoire Naturelle des Mollusques de Férussac. 4e partie. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **37**(6): 1001-1012.

Chevallier, H. 1966c. Catalogue des collections du Muséum correspondant à l'Histoire Naturelle des Mollusques de Férussac. 5e partie. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **38**(5): 669-682.

Chevallier, H. 1966d. Addendum pour les mollusques de l'Expédition du Mexique. Journal de Conchyliologie, **105**(2): 62-65.

Chevallier, H. 1976. Types des espèces continentales de la collection Risso du Muséum national d'Histoire naturelle (Département de Malacologie). Elona, **3**: 38-40.

Chevallier, H. and R. Pothier. 1972. *Biomphalaria* et *Bulinus* africains. Types d'espèces conserves au Muséum National d'Histoire Naturelle de Paris. Achatina, **3**: 50-52.

Christiaens, J. "1967" [1968]. Quelques considérations sur les Patellidae de la collection Lamarck. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **39**(5): 970-978.

Chubb, L.J. 1955. A Revision of Whitfield's Type Specimens of the Rudist Mollusks from the Cretaceous of Jamaica, British West Indies. American Museum of Natural History, Novitates, **1713**: 1-15.

Clark, R.D. 1982. Type, figured and cited Jurassic Cephalopoda in the collection of the Institute of Geological Sciences. Report, Institute of Geological Sciences, **82**(9): ii + 1-104, pls. 1-2.

Clarke, A.H., Jr. 1960. Catalogue and illustrations of mollusks described by Wesley Newcomb, with a biographical résumé. Bulletins of American Paleontology, **41**(188): 131-160, pl. 17.

Clarke, J.M. 1893. List of the original and illustrated specimens in the Palaeontological Collections. Part II. Annelida and Cephalopoda. 46th Annual Report of the New York State Museum, pp. 201-250.

Clarke, J.M. 1903. Catalogue of type specimens of Paleozoic fossils in New York State Museum. New York State Museum, Bulletin, **65**: 1-847.

Clarke, J.M. 1905a. Appendix 3. Catalogue of type specimens of Paleozoic fossils. Supplement 1. New York State Museum, Bulletin, **80**: 43-133.

Clarke, J.M. 1905b. Appendix 3. [Catalogue of type specimens of Paleozoic fossils]. Supplement 2. 58th Annual Report of the New York State Museum, pp. 58-130.

Clarke, J.M. 1905c. List of type specimens of Tertiary fossils from the Pebas on the Maranhao River, Brazil. Described by T. A. Conrad in the American Journal of Conchology 1871. 58th Annual Report of the New York State Museum, pp. 131-133.

Clarke, J.M. 1907. Appendix B. Catalogue of type specimens of Paleozoic fossils. Supplement 3. 60th Annual Report of the New York State Museum, pp. 125-178.

Cleevely, R.J. 1974. The Sowerbys, the *Mineral Conchology*, and their fossil collection. Journal of the Society for the Bibliography of Natural History, **6**(6): 418-481.

Cleevely, R.J. 1983. World Palaeontological Collections. British Museum (Natural History), London, 365 pp.

Clench, W.J. 1936. The collection of mollusks. pp. 69-72, [*in*] T. Barbour (ed.), Notes concerning the history and contents of the Museum of Comparative Zoölogy. Harvard University, Cambridge, 89 pp.

Clench, W.J. 1946. A catalogue of the genus *Liguus* with a description of a new subgenus. Occasional Papers on Mollusks, **1**(10): 117-128. [Supplement, 1954, *ibid.*, **1**(18); 442-444].

Clench, W.J. 1948. The Hirase collection of mollusks. The Nautilus, **62**(1): 34-35.

Clench, W.J. 1959. John T. Gulick's Hawaiian land shells. The Nautilus, 72(3): 95-98.

Clench, W.J. 1967. William Gaillard Mazÿck (1846-1942) with a bibliography and catalogue of his species. Occasional Papers on Mollusks, **3**(36): 37-43.

Clench, W.J. 1979. A biography of Andrew Garrett, early naturalist of Polynesia: Part 2. Catalogue of molluscan species and bibliography. The Nautilus, **93**(2/3): 96-102.

Clench, W.J. and R.D. Turner. 1950a. The western Atlantic marine mollusks described by C. B. Adams. Occasional Papers on Mollusks, **1**(15): 233-403, pls. 28-49. [Supplement, 1954, *ibid.*, **1**(18): 447].

Clench, W.J. and R.D. Turner. 1950b. Edward Chitty, with a bibliography and a catalogue of his species of Jamaica land mollusks. Occasional Papers of the Museum of the Institute of Jamaica, **1**: 1-12, 1 pl.

Clench, W.J. and R.D. Turner. 1962. New names introduced by H.A. Pilsbry in the Mollusca and Crustacea. Academy of Natural Sciences of Philadephia, Special Publication, **4**: 1-218.

Coan, E.V. 1966a. Concerning the Stanford University set of Mollusca from the Branner-Agassiz Expedition to Brazil. The Veliger, **8**(4): 313-314.

Coan, E.V. 1966b. Charles Russell Orcutt, pioneer Californian malacologist, and *The West American Scientist*. Transactions of the San Diego Society of Natural History, **14**(8): 85-96.

Coan, E.V. 1982. James Graham Cooper. Pioneer western naturalist. University Press of Idaho, Moscow, 255 pp., 31 figs.

Coan, E.V. 1985. A bibliography and list of molluscan names of Josiah Keep. The Veliger, **28**(2): 211-215.

Coan, E.V. 1986a. Some additional taxonomic units that first appear in publications by J. G. Cooper. The Nautilus, **100**(1): 30-32.

Coan, E.V. 1986b. A. Myra Keen (1905-1986): list of molluscan taxa; malacological bibliography. Malacologia, **27**(2): 383-387; 388-397.

Coan, E.V. 1989a. The publications and taxa of the Reverend Joseph Rowell (1820-1918). The Veliger, **32**(1): 43-46.

Coan, E.V. 1989b. The malacological papers and taxa of Martha Burton Woodhead Williamson, 1843-1922, and the Isaac Lea Chapter of the Agassiz Association. The Veliger, **32**(3): 296-301.

Coan, E.V. and A.E. Bogan. 1988. The Recent invertebrate taxa described by William More Gabb 1839-1878. Proceedings of the Academy of Natural Sciences of Philadelphia, **140**(1): 273-284.

Coan, E.V. and M.G. Kellogg. 1990. The malacological contributions of Ida Shepard Oldroyd and Tom Shaw Oldroyd. The Veliger, **33**(2): 174-184.

Coan, E.V. and J. Rosewater. 1985. Concerning Carpenter's "First Duplicate Series" of Mazatlan shells. The Veliger, **28**(2): 216.

Coan, E.V. and B. Roth. 1987. The malacological taxa of Henry Hemphill. The Veliger, **29**(3): 322-339.

Coan, E.V. and P.H. Scott. 1990. The molluscan publications and taxa of Lorenzo Gordin Yates (1837-1909). The Veliger, **33**(4): 402-407.

Cocks, L.R.M. 1976. Irish type specimens and Davidson's monograph. Newsletter of the Geological Curator's Group, **1**(6): 310.

Conci, C. 1966. Il centenario di Giorgio Jan, la sua attività malacologica e le collezioni di Molluschi del Museo Civico di Storia Naturale di Milano. Lavori della Società Malacologica Italiana, **3**: 1-8.

Conte, G. "1988" [1989]. Les invertébrés fossiles dédiés à Espirit Requien par A. d'Orbigny et Ph. Matheron. Bulletin de la Société d'étude des Sciences Naturelles de Vaucluse, Numéro Spécial, "Mélanges Requien", pp. 27-32.

Cooke, C.M., Jr. 1918. Leptachatinae and Tornatellinidae in the B. P. Bishop Museum. Occasional Papers of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History, **6**(5): 285-300 [39-54].

Coomans, H.E. 1981. Prof. Dr. Hendrik Engel (1898-1981) als malacoloog. Basteria, **45**(4-5): 91-96.

Coomans, H.E. 1991. In memoriam W.S.S. van der Feen-van Benthem Jutting, 1899-1991. Basteria, **55**(1-3): 55-59.

Coomans, H.E. and J.S. de Visser. 1987. Studies on Conidae (Mollusca: Gastropoda). 10. The holotype and identity of *Conus coffeae* Gmelin. The Veliger, **29**(4): 437-441, figs. 1-7.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1979a. Alphabetical revision of the (sub)species in Recent Conidae. 1. *abbas* to *adansonii*. Basteria, **43**(1-4): 9-26, figs. 1-25.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1979b. Alphabetical revision of the (sub)species in Recent Conidae. 2. *adansoni* to *albuquerquei*. Basteria, **43**(5-6): 81-105, figs. 26-50.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1980. Alphabetical revision of the (sub)species in Recent Conidae. 3. *albus* to *antillarum* with the description of *Conus algoensis agulhasi*, nov. subspecies. Basteria, **44**(1-4): 17-49, figs. 51-93.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1981. Alphabetical revision of the (sub)species in Recent Conidae. 4. *aphrodite* to *azona* with the description of *Conus arenatus bizona*, nov. subspecies. Basteria, **45**(1-3): 3-55, figs. 94-171.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1982. Alphabetical revision of the (sub)species in Recent Conidae. 5. *baccatus* to *byssinus*, including *Conus brettinghami nomen novum*. Basteria, **46**(1-4): 3-67, figs. 172-292.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1983. Alphabetical revision of the (sub)species in Recent Conidae. 6. *cabritii* to *cinereus*. Basteria, 47(5-6): 67-143, figs. 293-430.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1985a. Alphabetical revision of the (sub)species in Recent Conidae. 7. *cingulatus* to *cylindraceus*, including *Conus shikamai nomen novum*. Basteria, **48**(6): 223-311, figs. 431-581.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1985b. Alphabetical revision of the (sub)species in Recent Conidae. 8. *dactylosus* to *dux*. Basteria, **49**(4-6): 145-195, figs. 582-666.

Coomans, H.E., R.G. Moolenbeek, and E. Wils. 1986. Alphabetical revision of the (sub)species in Recent Conidae. 9. *ebraeus* to *extraordinarus* with the description of *Conus elegans ramalhoi*, nov. subspecies. Basteria, **50**(4-6): 93-150, figs. 667-760.

Cooper, J. [in prep.]. Catalogue of type and figured Cainozoic Mollusca (excluding Cephalopoda) of the world, contained in the British Museum (Natural History). The Natural History Museum, London. [This work is complete on cards and is available for consultation].

Cooper, J.A. [in prep.]. A catalogue of the published specimens from the geological collections of the Booth Museum of Natural History, Brighton U.K. [For publication in the Geological Curator; not the same author as the previous entry].

Copp, C.J.T. 1985. The growth and significance of the nineteenth century shell collections in the City of Bristol Museum and Art Gallery. Newsletter, South West Natural Science Collections Research Unit, **1**(3): 4-19. [Also published in Biology Curators Group Newsletter, **4**(1): 10-25. Appendix 1, "List of Shell Donations" was not published.].

Corocleanu, I. 1968. Tipurile Cîtorva specii si varietati ale genului *Alopia* H. et A. Adams, 1855 pastrate în Colectia de Moluste a Muzeului Brukenthal. Revista Muzeelor, **5**(5): 422-424.

Cotton, B.C. 1945. A catalogue of the cone shells (Conidae) in the South Australian Museum. Records of the South Australian Museum, **8**(2): 229-280, 5 pls.

Cottreau, J. 1925-1932. Types du Prodrome de Paléontologie Stratigraphique Universelle d'Alcide d'Orbigny. Tome II. Callovien–Portlandien. Paris: Masson et Cie. 222 pp., pls. 1-68. [Originally published in Annales de Paléontologie, volumes 14-21; for Tome I see Thevenin (1906-1923)].

Cottreau, J. 1934-1937. Types du Prodrome de Paléontologie Stratigraphique Universelle d'Alcide d'Orbigny. Tome III. Néocomien. Paris: Masson et Cie. 84 pp., pls. 69-81. [Originally published in Annales de Paléontologie, volumes 23-26].

Couffon, O. and T. Surrault. 1909. Collection malacologique T. Letourneux offerte au Musée d'Histoire Naturelle de la ville d'Angers par M. le Commandant E. Letourneux. Bulletin de la Société d'Études Scientifiques d'Angers, (n.s.) **38**: xiv + 202 pp.

Counts, C.L., III. 1989. Bivalves in the genus *Corbicula* (Bivalvia: Corbiculidae) in the Soviet Union with a catalogue of type materials in the Zoological Institute, Academy of Sciences of the U.S.S.R., Leningrad. American Malacological Bulletin, 7(1): 81-86.

Counts, C.L., III. 1991. *Corbicula* (Bivalvia: Corbiculidae). Part 1. Catalogue of fossil and Recent nominal species. Part 2. Compendium of zoogeographic records of North America and Hawaii, 1924-1984. Tryonia, Miscellaneous Publications of the Department of Malacology, The Academy of Natural Sciences of Philadelphia, 21: ii + 1-134.

Couturier, M. 1903. Catalogue des coquilles paléarctiques de la collection Hagenmüller. Annales du Musée d'Histoire Naturelle de Marseille, Zoologie, 8(2): 21-67.

Cox, L.R. 1956. Fossil invertebrate collections from India and Pakistan in the British Museum (Natural History). Journal of the Paleontological Society of India, 1(1): 94-98.

Crane, E. 1892. Catalogue of types and figured specimens now in the Brighton Museum. Brighton Public Museum, Royal Pavilion, Report for the years 1891-92, Appendix B: 9-20.

Crane, E. 1893. Museum Sub-committee. Report for 1892-3. Brighton Public Museum, Royal Pavilion, Report for the years 1892-93, pp. 5-8.

Crespin, I. 1960. Catalogue of type and figured specimens in the Commonwealth Palaeontological Collection, Canberra. Bureau of Mineral Resources, Geology, and Geophysics, Report, **54**: 1-92.

Crespin, I. 1964a. Catalogue of fossil types and figured specimens in Tasmania. Bureau of Mineral Resources, Geology, and Geophysics, Report, **69**: 1-30.

Crespin, I. 1964b. Catalogue of fossil types and figured specimens in Western Australia. Bureau of Mineral Resources, Geology, and Geophysics, Report, **71**: 1-113.

Crespin, I. 1974. Catalogue of additional type and figured specimens other than Protista in the Commonwealth Palaeontological Collection, Canberra. Bureau of Mineral Resources, Geology, and Geophysics, Report, **160**: 1-161.

Crick, G.C. 1898. List of the types and figured specimens of fossil Cephalopoda in the British Museum (Natural History). British Museum (Natural History), London, iv + 103 pp.

Crick, G.C. 1902. Note on the type-specimen of *Belemnoteuthis montefiorei*, J. Buckman, from the Lower Lias Shales between Charmouth and Lyme Regis, Dorset. Proceedings of the Malacological Society of London, 5(1): 13-16, pl. 1.

Crick, G.C. 1903. Note on Dr. J.E. Gray's type-specimens of Jurassic ammonites from India. Proceedings of the Malacological Society of London, **5**(4): 285-289.

Crick, G.C. 1917. Note on the type-specimen of *Crioceratites bowerbankii*, J. de C. Sowerby. Proceedings of the Malacological Society of London, **12**(4): 138-139, pl. 7.

Crick, G.C. 1922. Notes on specimens of Cephalopoda figured in Tate and Blake's "Yorkshire Lias," 1876. The Naturalist, 787-788: 273-288.

Crowley, T.E. and T. Pain. 1961. Pfeiffer's unfigured species of *Strophocheilus* (*Megalobulimus*). Breviora, **183**: 1-8, 2 pls.

Crowther, P.R. 1990. Collection care and status material. pp. 515-519, [*in*] D.E.G. Briggs and P.R. Crowther (eds.), Palaeobiology: A Synthesis. Blackwell Scientific Publications, Oxford, xiv + 583 pp.

Currie, E.D. and T.N. George. 1963. Catalogue of described and figured specimens in the Begg Collection in the Hunterian Museum of the University of Glasgow. Palaeontology, **6**(2): 378-396.

Curtis, M.L.K. 1956. Type and figured specimens from the Tortworth Inlier, Gloucestershire. Proceedings of the Bristol Naturalists' Society, **29**(2): 147-154.

Cushman, J.A. 1907. Types in the paleontological collections of the Boston Society of Natural History. Proceedings of the Boston Society of Natural History, **33**(6): 249-279.

Dall, W.H. 1892. Gould's "North Pacific Exploring Expedition" types. The Nautilus, **6**(7): 84.

Dall, W.H. 1925. Illustrations of unfigured types of shells in the collection of the United States National Museum. Proceedings of the United States National Museum, **66**(17): 1-41, pls. 1-36.

Dance, S.P. 1966. Shell Collecting: an illustrated history. Faber and Faber, London, 345 pp., 35 pls.

Dance, S.P. 1967. Report on the Linnaean shell collection. Proceedings of the Linnean Society of London, **178**(1): 1-24, pls. 1-10.

Dance, S.P. 1986. A History of Shell Collecting. E.J. Brill, Leiden, xvi + 265 pp., 32 pls.

Darteville, E. 1951. Les collections malacologiques du Musée du Congo Belge à Tervuren. Journal de Conchyliologie, **91**(1): 22-26.

Dautzenberg, P. and H. Fischer. 1914. Sur quelques types de Garidés de la collection de Lamarck existant au Museum de Paris. Journal de Conchyliologie, **61**(2): 215-228, pls. 6-7.

David, L. 1963. Catalogue des "types" et "figurés" conservés à la Faculté des Sciences de Lyon. 1e Liste: Gasteropodes Secondaires. Documents des Laboratoires de Géologie de la Faculté des Sciences de Lyon, 2: 1-152.

Davies, G.L. 1975. A national collection put into hospital. Newsletter of the Geological Curators Group, **1**(5): 236-237.

Davis, G.M., R. Robertson, and M. Miller. 1979. Catalog of the chiton types of the Academy of Natural Sciences of Philadelphia. Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **1**: 1-60.

Davis, J.D. 1964. Lectotype designation for *Mesodesma arctatum*. The Nautilus, **78**(1): 3-6, pl. 2.

Davis, J.D. 1965. *Mesodesma deauratum*: synonymy, holotype and type locality. The Nautilus, **78**(3): 96-100, pl. 9.

Davis, R.A. and D.E. Troike. 1990. Repository for the Welch collection of Silurian cephalopods described by August F. Foerste. Journal of Paleontology, **64**(6): 1041-1042.

Dawson, E.W. 1979. Catalogue of type and figured specimens in the New Zealand Oceanographic Institute. New Zealand Oceanographic Institute Memoir, **76**: 1-110.

Dean, J.D. 1936. Conchological cabinets of the last century. Journal of Conchology, **20**(8): 225-252.

Decrouez, D. 1985. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 14. La collection du Salève (suite en fin). Revue de Paléobiologie, 4(2): 409-420.

Decrouez, D. 1986a. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 18. La collection Rochat. Revue de Paléobiologie, 5(1): 169-174.

Decrouez, D. 1986b. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 20. La collection F.-J. Pictet (Cephalopoda, 1ère partie). Revue de Paleobiologie, 5(2): 381-386.

Decrouez, D. 1987. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 24. La collection F.J. Pictet (Cephalopoda, 2ème partie). France (Haute-Savoie, Ain et types des autres régions). Revue de Paléobiologie, **6**(2): 443-458.

Decrouez, D. and P. Kunz. 1985. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 9. La collection du Salève (Fossiles kimméridgiens, portlandiens et purbeckiens). Revue de Paléobiologie, 4(1): 163-166.

Delanoy, G. and L. Bulot. "1990" [1991]. Révision des types et figurés des collections Matherons et Reynes. 3. Genres: *Acrioceras*, *Heteroceras*, *Kutatissites*, et *Pseudocrioceras* (Ancyloceratina, Cephalopoda). Mésogée, Bulletin du Muséum d'Histoire Naturelle de Marseille, **50**: 15-21, pls. 1-2.

Delessert, B. 1841. Recueil de coquilles décrites par Lamarck dans son Histoire Naturelle des Animaux sans Vertébres et non encore figurées. Fortin, Masson et Cie, Paris, 40 pls. + captions.

Dell, R.K. 1963. Notes on some New Zealand Mollusca in the British Museum. Transactions of the Royal Society of New Zealand, Zoology, **3**(17): 171-177, pls. 1-2.

Deshayes, G. P. 1853. Catalogue of the Conchifera or Bivalve Shells in the Collection of the British Museum. Part I. Veneridae, Cyprinidae and Glauconomidae. Taylor and Francis, London, [ii] + 216 pp.

Deshayes, G. P. 1855. Catalogue of the Conchifera or Bivalve Shells in the Collection of the British Museum. Part II. Petricoladae (concluded); Corbiculadae. Taylor and Francis, London, pp. 217-292.

Dietrich, W.O. 1960. Geschichte der Sammlungen des Geologisch-Paläontologischen Instituts und Museums der Humboldt-Universität zu Berlin. Ein Beitrag zur Paläontologie-Geschichte. Berichte der Geologischen Gesellschaft in der Deutschen Demokratischen Republik, 5(4): 247-289, pls. 1-2.

Dodge, H. 1946. A letter concerning the cones of Hwass and other collections in Switzerland. The Nautilus, **59**(3): 97-101.

Dodge, H. 1952. A historical review of the mollusks of Linnaeus. Part 1. The classes Loricata and Pelecypoda. Bulletin of the American Museum of Natural History, **100**(1): 1-264.

Dodge, H. 1953. A historical review of the mollusks of Linnaeus. Part 2. The class Cephalopoda and the genera *Conus* and *Cypraea* of the class Gastropoda. Bulletin of the American Museum of Natural History, **103**(1): 1-134.

Dodge, H. 1955. A historical review of the mollusks of Linnaeus. Part 3. The genera *Bulla* and *Voluta* of the class Gastropoda. Bulletin of the American Museum of Natural History, **107**(1): 1-158.

Dodge, H. 1956. A historical review of the mollusks of Linnaeus. Part 4. The genera *Buccinum* and *Strombus* of the class Gastropoda. Bulletin of the American Museum of Natural History, **111**(3): 153-312.

Dodge, H. 1957. A historical review of the mollusks of Linnaeus. Part 5. The genus *Murex* of the class Gastropoda. Bulletin of the American Museum of Natural History, **113**(2): 73-224.

Dodge, H. 1958. A historical review of the mollusks of Linnaeus. Part 6. The genus *Trochus* of the class Gastropoda. Bulletin of the American Museum of Natural History, **116**(2): 153-224.

Dodge, H. 1959a. Evidential factors in the identification of the Linnaean molluscs. The Journal of the Linnean Society of London, Zoology, 44(296): 170-179.

Dodge, H. 1959b. A historical review of the mollusks of Linnaeus. Part 7. Certain species of the genus *Turbo* of the class Gastropoda. Bulletin of the American Museum of Natural History, **118**(5): 207-258.

Drake, R.J. 1957. Type material of *Eucalodium orcutti* Dall (Gastropoda: Pulmonata) from Oaxaca, Mexico. Transactions of the San Diego Society of Natural History, **12**(17): 309-310, 1 fig.

Dupuy, J.P., D. Slovick, and A. Vadet. 1989. Catalogue des types et figurés in D. Brice, ed., Le Devonien de Ferques, Bas-Boulonnais, France. Mémoires de la Société Academique du Boulonnais, **6**(2): 68-77.

Eagar, M. & R. Preece. 1977. Collections and collectors of note. 14. The Manchester Museum. Newsletter of the Geological Curators Group, 2(1): 12-40.

Eldredge, L.G. 1965. Catalog of Invertebrate Type Specimens, Division of Invertebrates, Department of Zoology, Bernice P. Bishop Museum. Pacific Scientific Information Center, Bernice P. Bishop Museum, Honolulu, Hawaii, 22 pp. [The only mollusks listed are the teredinid bivalves].

Eng, R.C. & F.C. d'Escrivan. [in prep.] Catalogue of type specimens of fossil cephalopods in the Museum of Comparative Zoology.

Engel, H. 1939. Alphabetical list of Dutch zoological cabinets and menageries. Bijdragen tot de Dierkunde, **27**: 247-346.

Engel, H. 1986. Hendrik Engel's alphabetical list of Dutch zoological cabinets and menageries [Second, enlarged edition prepared by P. Smit with the assistance of A.P.M. Sanders and J.P.F. Van der Veer]. Nieuwe Nederlandse Bijdragen tot de Geschiedenis der Geneeskunde en der Natuurwetenschappen, **19**: x + 340 pp., 21 pls.

Faber, M.J. 1988. Studies on West Indian marine mollusks. 13. The malacological taxa of Gordon W. Nowell-Usticke. De Kreukel, 24(4-5): 67-102.

Fabre, S. 1942. Catalogue des types de la collection Philippe Matheron. Bulletin du Museum d'Histoire Naturelle Marseille, 2(2): 121-140.

Falkner, G. 1982. Die tertiären Land- und Süßwasser-Gastropoden in der Bayerischen Staatssammlung für Paläontologie und historische Geologie in München (Direktor: Prof. Dr. Dietrich Herm). Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **3**(Supplement): 5-10.

Fast, S.J. 1978. First supplement to the catalogue of the type and figured specimens in the Paleontological Research Institution. Bulletins of American Paleontology, **74**(302): 1-251.

Favre, J. 1918. Catalogue illustré de la collection Lamarck appartenant au Muséum d'Histoire Naturelle de Genève. Muséum d'Histoire Naturelle, Genève, 10 + 12 + 20 pp., 117 pls. [issued in six parts].

Favre, J. 1943. Revision des espèces de *Pisidium* de la Collection Bourguignat du Muséum d'Histoire naturelle de Genève. Revue Suisse de Zoologie, **50**(Supplémentaire): 1-64, 24 figs.

Fechter, R. 1982. Die Sektion Mollusca in der Zoologischen Staatssammlung München. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **3**(Supplement): 11-14.

Fechter, R. 1983a. Liste des Typenmaterials der von J. B. v. Spix in Brasilien gesammelten Gastropoda. Spixiana, Supplement **9**: 221-223.

Fechter, R. 1983b. Das Typenmaterial der von J. B. Spix in Brasilien gesammelten Unionacea. Spixiana, Supplement **9**: 225-255, pls. A-M.

Ferber, I., ed. 1985. Israel national collections of natural history. Israel Academy of Sciences and Humanities, Jerusalem, ii + 78 + viii pp. [Mollusc collections: pp. 41-44].

Ferreira, A.J. 1978. The chiton species described by C. B. Adams, 1845, from Jamaica. Bulletin of Marine Science, **28**(1): 81-91.

Ferrero Mortara, E., L. Montefameglio, G. Pavia, and R. Tampieri. "1981" [1982]. Cataloghi VI. Catalogo dei tipi e degli esemplari figurati della collezione Bellardi e Sacco. Parte I. Museo Regionale di Scienze Naturali, Turin (Torino), 327 pp., 58 pls.

Ferrero Mortara, E., L. Montefamiglio, M. Novelli, M. G. Opesso, G. Pavia, and R. Tampieri. 1984. Cataloghi VII. Catalogo dei tipi e degli esemplari figurati della collezione Bellardi e Sacco. Parte II. Museo Regionale di Scienze Naturali, Turin (Torino), 484 pp., 56 pls.

Férussac, [A.É.J.P.J.F.] d'A. 1837. Catalogue de la collection de coquilles formée par feu le Baron d'Audebard de Férussac. Bourgogne et Martinet, Paris, 23 pp.

Finet, Y. and R. Houart. 1989. On the taxonomic status of *Murex trigonulus* Lamarck, 1816, *Murex trigonulus* Lamarck, 1822 and related taxa (Gastropoda: Muricidae). Apex, **4**(1-2): 1-18, 15 figs.

Fischer, J.-C. 1957. La collection de mollusques Jurassiques d'Édouard Piette. Journal de Conchyliologique, **97**(1): 33-38.

Fischer, J.-C. & A. Vadet. 1985. Catalogue critique des types et figures de mollusques bathoniens du Musée de Boulogne sur Mer. Annales de la Société Histoire Naturelle Boulonnais (sér. A), **1**(1): 1-18, pls. 1-3.

Fischer, P.-H. 1951. La collection conchyliologique de l'École Nationale Supérieure des Mines de Paris. Journal de Conchyliologie, **90**(4): 296-297.

Fischer, P.-H. 1959. Catalogue des types et exemplaires figurés, conservés dans la collection de l'École des Mines de Paris, Polyplacophores et Bellerophontacea. Journal de Conchyliologie, **99**(2): 77-80.

Fischer, P.-H. 1962a. Les Tryblidacés de la Collection de École des Mines de Paris. Journal de Conchyliologie, **102**(3): 92-94.

Fischer, P.-H. 1962b. Catalogue des types et exemplaires figurés, conservés dans la collection de l'École des Mines de Paris (Gastéropodes Prosobranches). Première partie: Archaeogastropoda. Journal de Conchyliologie, **102**(3): 98.113.

Fischer, P.-H. 1962c. Mollusques fluviatiles de l'Indo-Chine et du Yunnan conservés dans la collection de l'École des Mines de Paris. Journal de Conchyliologie, **102**(4): 169-172.

Fischer, P.-H. 1963. Mollusques terrestres de l'Indo-Chine et du Yunnan conservés dans la collection de l'École des Mines de Paris. Journal de Conchyliologie, **103**(1): 32-37.

Fischer, P.-H. 1964. Catalogue des types et exemplaires figurés conservés dans la collection de l'École des Mines de Paris (Gastéropodes Prosobranches). Seconde partie: Mesogastropoda, 1. Cyclophoridae et Naticidae. Journal de Conchyliologie, **104**(1): 35-40.

Fischer, P.-H. 1967. Sur quelques "types" Bathoniens d'Aporrhaidae conservés dans la Collection de l'École des Mines de Paris. Journal de Conchyliologie, **106**(3): 100-110.

Fischer, P.-H. 1970. Sur quelques types de *Calyptraea* conservés dans la Collection de l'École des Mines de Paris. Journal de Conchyliologie, **108**: 16-17.

Fischer, P.-H. and E. Fischer. 1945. Nécrologie. Édouard Lamy 1866-1942. Journal de Conchyliologie, **86**(1): 6-28.

Fischer, P.-H. and E. Fischer. 1946. Nécrologie. Paul Pallary 9 Mars 1869–9 Janvier 1942. Journal de Conchyliologie, **87**(1): 5-27.

Fischer-Piette, E. [avec la collaboration de P.-H. Fischer, L. Germain et P. Pallary]. 1942. Les mollusques d'Adanson. Journal de Conchyliologie, **85**(2, 3, 4): 101-366, pls. 1-16.

Fischer-Piette, E. 1947. Nécrologie. Louis Germain 1878-1942. Journal de Conchyliologie, **87**(3): 85-95.

Fischer-Piette, E. 1950. Liste des types décrits dans le Journal de Conchyliologie et conservés dans la collection de ce journal. Journal de Conchyliologie, **90**(1): 8-23; **90**(2): 65-82; **90**(3): 149-180, pls. 1-5.

Fischer-Piette, E. 1951. Les collections de mollusques actuels du Muséum National d'Histoire Naturelle. Journal de Conchyliologie, **90**(4): 282-292; **91**(1): 12-22.

Fischer-Piette, E. 1952. Liste d'espèces décrites par le Dr. Jousseaume d'après un manuscript de feu A. Jousseaume. Journal de Conchyliologie, **92**(2): 80-86.

Fischer-Piette, E. and J. Beigbeder. 1943a. Catalogue des types de gastéropodes marins conservés au Laboratoire de Malacologie. I.–Genre *Murex*. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **15**(4): 203-209.

Fischer-Piette, E. and J. Beigbeder. 1943b. Catalogue des types de gastéropodes marins conservés au Laboratoire de Malacologie. II.–*Tritonalia*, *Typhis*, *Trophon*. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **15**(5): 324-328.

Fischer-Piette, E. and J. Beigbeder. "1943" [1944a]. Catalogue des types de gastéropodes marins conservés au Laboratoire de Malacologie. III.–*Purpura* et genres voisins; Tritonidae. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **15**(6): 429-436.

Fischer-Piette, E. and J. Beigbeder. 1944b. Catalogue des types de gastéropodes marins conservés au Laboratoire de Malacologie. IV.–Fusidae, Buccinidae. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **16**(1): 70-77.

Fischer-Piette, E. and J. Beigbeder. "1944" [1945a]. Catalogue des types de gastéropodes marins conservés au Laboratoire de Malacologie. V.–Nassidae, Vasidae, Volutidae. Bulletin du Muséum National d'Histoire Naturelle, (ser. 2), **16**(5): 321-330.

Fischer-Piette, E. and J. Beigbeder. "1944" [1945b]. Catalogue des types de gastéropodes marins conservés au Laboratoire de Malacologie. VI.–Mitridae, Marginellidae, Olividae, Columbellidae, et Conidae. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **16**(6): 448-462.

Fischer-Piette, E. and É. Lamy. "1942" [1943a]. Note sur trois espèces de Veneridae rangées par Lamarck dans le genre *Donax* Linné. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **14**(1): 69-73.

Fischer-Piette, E. and É. Lamy. "1942" [1943b]. Notes sur les Veneridae (Moll. Lamellibr.) de Quoy et Gaimard. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **14**(2): 130-137.

Fleming, C.A. 1951. Some Australasian Mollusca in the British Museum (Natural History). Transactions and Proceedings of the Royal Society of New Zealand, **79**(1): 126-139, pls. 15-20.

Fleming, C.A. 1965. The description of the New Zealand Cenozoic Mollusca: a historical survey. New Zealand Journal of Geology and Geophysics, **8**(6): 1149-1174, figs. 1-16.

Fleming, C.A. 1966. Marwick's illustrations of New Zealand shells, with a checklist of New Zealand Cenozoic Mollusca. New Zealand Department of Scientific and Industrial Research [New Zealand Geological Survey Handbook], Bulletin, **173**: 465 pp., 145 pls.

Fletcher, H.O. 1971. Catalogue of type specimens of fossils in the Australian Museum, Sydney. Australian Museum Memoirs, **13**: 1-167.

Flügel, E. [transl. by J.T. Kingma]. 1959. Statement concerning the types and figured originals from the collections of the *Novara* Expedition in the custody of the Geological-Paleontological section of the Museum of Natural History, Vienna, Austria. New Zealand Journal of Geology and Geophysics, **2**(5): 826-840.

Foldvary, G.Z. 1981. Supplement to Report 149. Bureau of Mineral Resources, Geology, and Geophysics, Report, **224** [on microfiche].

Foldvary, G.Z. and J.L. Sanderson. 1972. Catalogue of paleontological type specimens located in the Department of Geology and Geophysics, University of Sydney. Bureau of Mineral Resources, Geology, and Geophysics, Report, **149**: 1-74.

Folin, L. de. 1890. Catalogue de la collection de Cæcidæ de M. de Folin. A. Lamaignère, Biarritz, 4 pp. [undated; Smithsonian copy received by W.H. Dall June 3, 1890].

Forcart, L. 1950. Les collections malacologiques du Musée d'Histoire Naturelle de Bâle et de quelques autres musées Suisses. Journal de Conchyliologie, **90**(3): 222-224.

Forcart, L. 1952. Revision des types de *Vaginula maillardi* Fischer et *Vaginula gayi* Fischer. Journal de Conchyliologie, **92**(4): 176-179.

Forcart, L. 1957. Ipsa Studeri Conchylia. Professor Samuel Studer (1757-1834), seine Bedeutung als Naturforscher und die von ihm hinterlassene Molluskensammlung. Mitteilungen der Naturforschenden Gesellschaft in Bern, (n.f.), **15**: 157-210, 7 pls.

Ford, W.K. 1953. Notes by J. R. le B. Tomlin, M. A. on Marrat's species of *Oliva*. The North Western Naturalist, (n.s.) **1**(3): 442-449.

Ford, W.K. 1954. Notes on the collections in the Department of Invertebrate Zoology at the City of Liverpool Public Museums. The North Western Naturalist, (n.s.) **2**(2): 191-203.

Forney, G.G. and M.H. Nitecki. 1976. Type fossil Mollusca (Hyolitha, Polyplacophora, Scaphopoda, Monoplacophora, and Gastropoda) in Field Museum. Fieldiana, Geology, "35" [36]: ii, 1-240.

Fouray, M. 1979. Liste des types et figurés de la collection Fortin: Section paléontologie des Invertébrés. Actes du Muséum de Rouen, **5**: 51-59, pls. 1-3.

Franz, R. and F.G. Thompson. 1974. Recent molluscs (Class Gastropoda), [*in*] C.R. Gilbert (ed.), Catalogue of type specimens in the Department of Natural Sciences, Florida State Museum. Florida State Museum, Bulletin **18**(2): 107-110.

Franzen, D.S. 1956. Types of mollusks described by F. C. Baker. Part I, University of Illinois. The Nautilus, **70**(1): 21-27.

Franzen, D.S. 1957. Types of mollusks described by F. C. Baker, Part II, University of Wisconsin. The Nautilus, **71**(1): 30-35.

Franzen, D.S. 1958. Types of mollusks described by F. C. Baker, Part III, Chicago Academy of Sciences. The Nautilus, **72**(1): 30-34.

Frassinetti, D. 1974. El género *Venus* en la Colección de Fósiles Terciarios y Cuartarios de R. A. Philippi (1887). Museo Nacional de Historia Nacional, Boletin, **33**: 43-51, 1 pl.

Fricke, R. 1985. Types of species-group taxa, and their nomenclatural status. Zeitschrift für Zoologische Systematik und Evolutionsforschung, **23**(2): 81-89.

Frieß, H. 1978. Die Sammlungen des gelehrten Superintendenten Johann Samuel Schröter (1735-1808). Ihre Entstehung unter dem Gesichtspunkt seiner wirtschaftlichen Verhältnisse und ihr Schicksal. Medizinhistorisches Journal, **13**: 78-92.

Fritz, M.A. 1944. Catalogue of types in the Royal Ontario Museum of Palaeontology. Part IV. Contributions of the Royal Ontario Museum of Paleontology, **8**: 1-46.

Frizzell, D.L. 1933. Terminology of types. The American Midland Naturalist, **14**(6): 637-668.

Füköh, L. and E. Krolopp. "1988" [1989]. Gebhardt Antal Pleisztocén malakológiai anyagának revíziója és értékelése. [Revision and re-evaluation of A. Gebhardt's Pleistocene malacological collection]. A Janus Pannonius Múzeum Évkönyve, Pécs, **33**: 43-51.

Fulton, H.C. 1908. A list of species of shells described by Dr. Grateloup, with critical notes. Proceedings of the Malacological Society of London, **8**(1): 43-44.

Fulton, H.C. 1917. Molluscan Notes. III. No. 11. On the type-specimen of *Partula newcombianum*, Hartmann. No. 16. On the type-specimens in the collection of the late J.S. Gibbons, M.B. Proceedings of the Malacological Society of London, **12**(5): 238-240.

Fulton, H.C. 1920. Molluscan Notes IV. No. 23. On type-specimens of the "Morelet Collection". Proceedings of the Malacological Society of London, **14**(1): 4.

Gage, A.T. & W.T. Stearn. 1988. A bicentenary history of the Linnean Society of London. Academic Press, London, x + 242 pp. [collections, pp. 175-181].

Gatto, L. 1984. I tipi di Bellardi della collezione Doderlein conservati presso il Museo di Paleontologia dell'Università di Palermo. Il Naturalista Siciliano, Palermo, (4) **8**(3-4): 107-114.

Gerber, E. 1936. Verzeichnis der palaeontologischen Originalien und abgebildeten oder beschriebenen Arten im Naturhistorischen Museum Bern. Mitteilungen der Naturforschenden Gesellschaft Bern, **1935**: 1-23.

Gerber, E. 1937. Verzeichnis der palaeontologischen Originalien und abgebildeten oder beschriebenen Arten im Naturhistorischen Museum Bern. Mitteilungen der Naturforschenden Gesellschaft Bern, **1936**(2): 1-25.

Géret, P. 1909. Liste des genres, sections et espèces décrits par C.-F. Ancey avec leurs références orignales. Journal de Conchyliologie, **57**(1): 1-38.

Germain, L. 1905. Arnould Locard, sa vie, ses travaux. Annales de la Société Linnéenne de Lyon, **52**: 189-222, 1 pl.

Gestro, R. 1926a. La Collezione Malacologica del Museo Civico di Genova. Annali del Museo Civico di Storia Naturale de Genova, **52**: 108-115.

Gestro, R. 1926b. La Collezione Sulliotti. (Appendice alle note sulla Collezione Malacologica del Museo Civico di Genova). Annali del Museo Civico di Storia Naturale de Genova, **52**: 131-137.

Gianuzzi-Savelli, R., I. Sparacio, and N. Oliva. 1986. I tipi di molluschi terrestri della collezione Pirajno del Museo Mandralisca di Cefalu. Atti del I Congresso Società Italiana di Malacologia, Palermo 13-15 settembre 1984. Lavori della Società Italiana di Malacologia, **22**: 195-208.

Giles, E. and T. Gosliner. 1983. Primary type specimens of marine Mollusca (excluding Cephalopoda) in the South African Museum. Annals of the South African Museum, **92**(1): 1-52.

Gill, E.D. 1953. Catalogue of Quaternary types and figured specimens in the National Museum, Melbourne. Memoirs of the National Museum of Victoria, **18**: 157-168, pl. 1.

Gill, E.D. and E.M. Davies. 1968. Catalogue of Middle Palaeozoic types and figured specimens in the National Museum of Victoria, Part 2. Memoirs of the National Museum of Victoria, **28**: 77-96.

Glenister, B.F., T.E. Bolton, T.W. Broadhead, N. Eldredge, N.J. Silberling, W.C. Sweet, and T.R. Waller. 1977. Fossil Invertebrates–collections in North American repositories, 1976. The Paleontological Society, Columbus, ii + 67 pp.

Gowlett-Holmes, K.L. 1989. Fossil mollusc type specimens in the South Australian Museum. Additions and corrections to Part 1. Polyplacophora. Records of the South Australian Museum, **23**(2): 153.

Gowlett-Holmes, K.L. and B.J. McHenry. 1988. Fossil mollusc type specimens in the South Australian Museum. 1. Polyplacophora. Records of the South Australian Museum, **22**(1): 1-11.

Gratacap, L.P. 1901. Catalogue of the Binney and Bland collection of the terrestrial air-breathing mollusks of the United States and Territories, in the American Museum of Natural History, with enumeration of types and figured specimens, and supplementary notes. Bulletin of the American Museum of Natural History, **14**(23): 335-403, pls. 41-46.

Gray, J. E. 1849. Catalogue of the Mollusca in the Collection of the British Museum. Part I. Cephalopoda Antepedia. Spottiswoodes and Shaw, London, viii + 164 pp.

Gray, J. E. 1850a. Catalogue of the Mollusca in the Collection of the British Museum. Part II. Pteropoda. Edward Newman, London, iv + 45 pp.

Gray, J. E. 1850b. Catalogue of the Bivalve Mollusca in the Collection of the British Museum. Part I. Placentadae and Anomiadae. Edward Newman, London, 22 pp.

Gray, J. E. 1854a. List of the Shells of the Canaries in the Collection of the British Museum. Collected by MM. Webb and Berthelot. Described and Figured by Prof. Alcide d'Orbigny in the "Histoire Naturelle des Iles Canaries". Taylor and Francis, London, 32 pp.

Gray, J. E. 1854b. List of the Shells of Cuba in the Collection of the British Museum, Collected by M. Ramon de la Sagra. Described by Prof. Alcide d'Orbigny in the "Histoire de l'Ile de Cuba." Taylor and Francis, London, [ii] + 48 pp.

Gray, J. E. 1855a. List of the Shells of South America in the Collection of the British Museum. Collected and described by M. Alcide d'Orbigny, in the "Voyage dans l'Amérique Méridionale." Taylor and Francis, London, [ii] + 89 pp.

Gray, J. E. 1855b. List of Mollusca and Shells in the Collection of the British Museum, collected and described by MM. Eydoux and Souleyet, in the "Voyage autour du Monde," exécuté pendant les années 1836 et 1837, sur la Corvette 'La Bonite', and in the "Histoire naturelle des Mollusques Ptéropodes," par MM. P.-C.-A.-L. Rang et Souleyet. Taylor and Francis, London, 27 pp.

Gray, J. E. 1855c. List of the Mollusca in the Collection of the British Museum. Part I. Volutidae. Taylor and Francis, London, [ii] + 23 pp.

Gray, J. E. 1865. List of the Mollusca in the Collection of the British Museum. Part II. Olividae. Taylor and Francis, London, 41 pp.

Green, R.H. 1974. A catalogue of the type material in the Queen Victoria Museum, Launceston. Records of the Queen Victoria Museum, **52**: 1-15.

Greenwood, E.F. 1980. A history of Liverpool natural history collections. Journal of the Society for the Bibliography of Natural History, **9**(4): 375-382.

Greppin, E. 1903. Über Originalien der geologischen Sammlungen des Basler Naturhistorischen Museums. Verhandlungen der Naturforschenden Gesellschaft in Basel, **15**(1): 25-134.

Haas, F. 1913. Bemerkungen über Spenglers Unionen. Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening i Kjøbenhavn, **65**: 51-66, pl. 3.

Habe, T. 1953. Notes on the type specimens of three species of Japanese molluscs described by F. Jousseaume. Publications of the Seto Marine Biological Laboratory, **3**(2): 169-172, pl. 9.

Habe, T. 1961. Notes on some Japanese Mollusca described by A. Adams, whose specimens are deposited in the British Museum (Natural History). pp. 191-205, pls. 1-4, [*in*], Professor Jiro Makiyama Memorial Volume. Amagusa Biological Station, Kyushu University.

Habe, T., ed. 1975. Publication for commemorate [sic] 77th anniversary of the birth of Mr. Ryosuke Kawamura. Illustration of shells described by and dedicated to Mr. R. Kawamura. Privately published, Tokyo, ii + 10 pp., pls. 1-5.

Habe, T. 1977a. Deposition of Japanese shells collected by the Admiral M.C. Perry. Venus, The Japanese Journal of Malacology, **36**(1): 24.

Habe, T. 1977b. Type specimens of four Japanese shells described by J. C. Jay. Venus, The Japanese Journal of Malacology, **36**(3): 153-156, pls. 1-2.

Habe, T. 1977c. Six species of Japanese shells described by A. Adams. Venus, The Japanese Journal of Malacology, **36**(3): 157-159, figs. 1-6.

Habe, T. 1978a. Two Japanese bivalves housed in the Muséum National d'Histoire Naturelle de Paris. Venus, The Japanese Journal of Malacology, **36**(4): 194-196, figs. 1-6.

Habe, T. 1978b. Notes on the type specimens of three Japanese shells described by W.H. Dall and held in the National Museum of Natural History, Smithsonian Institution, U.S.A. Venus, The Japanese Journal of Malacology, **37**(2): 98-100, figs. 1-8.

Habe, T. 1978c. Comments on the type specimens of four Japanese Mollusca in the Muséum National d'Histoire Naturelle, Paris. Venus, The Japanese Journal of Malacology, **37**(3): 124-126, figs. 1-4.

Habe, T. 1978d. Notes on seven species of shells described by A.A. Gould. Venus, The Japanese Journal of Malacology, **37**(4): 217-222, figs. 1-7.

Habe, T. 1982. On the eleven species of Japanese land snails housed in the Natur-Museums Senckenberg, Frankfurt. Venus, The Japanese Journal of Malacology, **41**(1): 20-25, figs. 1-17.

Habe, T. 1983. Type specimens of *Haliotis gigantea* Gmelin and *Ostrea japonica* Gmelin housed in the Zoological Museum, Copenhagen. Venus, The Japanese Journal of Malacology, **41**(4): 259-263, figs. 1-8.

Habe, T. 1984a. Type specimens of three Japanese clausilid species described by E.R. Sykes and housed in the British Museum (N.H.). Venus, The Japanese Journal of Malacology, **43**(3): 255-258, figs 1-3.

Habe, T. 1984b. Type specimens of the Japanese land and freshwater molluscs collected during the *Vega* Expedition and housed in the Swedish Natural History Museum in Stockholm. Venus, The Japanese Journal of Malacology, **43**(4): 305-313, 1 pl.

Habe, T. 1985. Illustrations of type specimens of the Japanese molluscan species described by A. Adams and housed in the British Museum (Natural History). Special Publication of the Mukaishima Marine Biological Station, Contribution from the Mukaishima Marine Biological Station, **232**: 7-15.

Hamilton, A. "1905" [1906]. The marine Mollusca of New Zealand. Colonial Museum [Wellington], Bulletin, **1**: 23-51. [List of type specimens of Mollusca, pp. 50-51].

Hanley, S. 1855. Ipsa Linnaei Conchylia. The shells of Linnaeus, determined from his manuscripts and collection. Williams and Norgate, London, 556 pp., 5 pls.

Hanna, G.D. and A.G. Smith. 1932. Location of the collection of shells assembled by Rev. J. Rowell. The Nautilus, **46**(2): 70.

Hanna, G.D. and A.G. Smith. 1968. The Diguet-Mabille land and freshwater mollusks of Baja California. Proceedings of the California Academy of Sciences, (ser. 4) **30**(18): 381-399, 24 figs.

Hanshin Shell Club [compiled by the members]. 1986. Bibliography of Dr. Tokubei Kuroda. (1907-1984). (For commemoration of his 99th birthday). Nishinomiya, pp. [i-iv], 1-103, pls. 1-33. [In Japanese and English].

Hansman, R.H. and H.W. Scott. 1967. Catalog of Worthen type and figured specimens at the University of Illinois. Journal of Paleontology, **41**(4): 1013-1028.

Hansman, R.H., F.C. Shaw, and W.A. Pettyjohn. 1962. Supplement to the catalog of the type specimens of fossils in the University of Cincinnati Museum. University of Cincinnati, Cincinnati (Ohio), iv + 131 pp.

Hanzawa, S., K. Asano, and F. Takai. 1961. Catalogue of the type-specimens of fossils in Japan. Palaeontological Society of Japan, Twenty-fifth Anniversary Volume, Published by the Society, pp. i-vii, 1-422.

Harada, E. 1991. Inventory of zoological type specimens in the Museum of the Seto Marine Biological Laboratory. Publications of the Seto Marine Biological Laboratory, **35**(1-3): 171-233.

Hardetert, P. and W. Riegraf. 1990. The Tübingen fossil collections of Werner Quenstedt (1893-1960): Mesozoic cephalopod jaws (Rhyncholites, Aptychi) from the Achensee area (Tyrol, Austrian Alps). Paläontologisches Zeitschrift, **64**(1-2): 63-73.

Hardy, G.H. 1916. List of the Tenison Woods types of Recent Mollusca in the Tasmanian Museum. Royal Society of Tasmania, Papers and Proceedings, **1915**: 61-73, 229-230.

Harper, D.A.T. 1992. The James Mitchell Museum. A museum of a museum in University College Galway. Geological Curator, **5**(7): 292-297.

Hartman, W.D. 1881. Observations on the duplicates of the genus *Partula* Fér., contained in the Museum of Comparative Zoölogy, Cambridge, Mass., formerly belonging to the collection of the late William H. Pease. Bulletin of the Museum of Comparative Zoölogy at Harvard College, **9**(5): 191-196.

Hayami, I. and T. Kase. 1977. A systematic survey of the Paleozoic and Mesozoic Gastropoda and Paleozoic Bivalvia from Japan. University Museum, University of Tokyo, Bulletin, **13**: vi + 132, 11 pls. ["Appendix: Registered specimens preserved in the University Museum, University of Tokyo", pp. 107-110].

Hedley, C. 1901. A revision of the types of the marine shells of the Chevert Expedition. Records of the Australian Museum, **4**(3): 121-130, pls. 16-17.

Hedley, C. 1913. Studies on Australian Mollusca. Part XI. The Proceedings of the Linnean Society of New South Wales, **38**(2): 258-340, pls. 16-19.

Heppell, D. and S.M. Smith. 1983. Recent Cephalopoda in the collections of the Royal Scottish Museum, Edinburgh. Royal Scottish Museum, Information Series, Natural History, **10**: vi, 1-81.

Hertz, C.M. 1984. Illustrations of the types named by S. Stillman Berry in his "Leaflets in Malacology." The Festivus, **15** (Supplement): 1-42, figs. 1-92.

Hertz, C.M. 1986. Herbert Nelson Lowe 1880-1936. A gifted amateur conchologist from southern California. The Festivus, **18**(3): 26-43, figs. 1-17.

Hewish, D.R. and K.L. Gowlett-Holmes. 1991. Mollusc type specimens in the South Australian Museum. 4. Gastropoda: Marginellidae. Records of the South Australian Museum, **25**(1): 57-70.

Hoagland, K.E. 1983. Notes on type specimens of *Crepidula* (Prosobranchia: Calyptraeidae) in the Muséum National d'Histoire Naturelle, Paris. Proceedings of the Academy of Natural Sciences of Philadelphia, **135**(1): 1-8, 9 figs.

Hoare, R.D. 1991. Relocation of type specimens from the Department of Geology, Bowling Green State University. Journal of Paleontology, **65**(5): 887-889.

Holm, A. 1957. Specimina Linnaeana i Uppsala bevarade Zoologiska Samlingar från Linnés tid. Uppsala Universitets Ärsskrift, **1957**(6): 1-68.

Horenstein, S. 1983. [Announcement] American Museum of Natural History catalogue of fossil invertebrates. Journal of Paleontology, **57**(3): 514.

Howarth, M.K. 1962. The Yorkshire type ammonites and nautiloids of Young and Bird, Phillips, and Martin Simpson. Palaeontology, **5**(1): 93-136, pls. 13-19.

Ichikawa, T. 1983. Catalogue of type and illustrated specimens in the Department of Historical Geology and Palaeontology of the University Museum, University of Tokyo. Part 2. Cenozoic fossils and Recent specimens. University Museum, University of Tokyo, Material Reports, **9**: iv, 1-536.

Ichikawa, T. 1988. Catalogue of type and illustrated specimens in the Department of Historical Geology and Palaeontology of the University Museum, University of Tokyo. Part 3. Supplement (1). University Museum, University of Tokyo, Material Reports, **15**: iv, 1-273.

Ichikawa, T. and I. Hayami. 1978. Catalogue of type and illustrated specimens in the Department of Historical Geology and Palaeontology of the University Museum, University of Tokyo. Part 1. Paleozoic and Mesozoic fossils. University Museum, University of Tokyo, Material Reports, **2**: x, 1-396.

Impey, O. and A. MacGregor, eds. 1985. The origins of museums: the cabinet of curiosities in sixteenth and seventeenth century Europe. Clarendon Press, Oxford, xiv + 335 pp., 108 figs.

Inaba, T. and K. Oyama. 1977. Catalogue of molluscan taxa described by Tadashige Habe during 1939-1975, with illustrations of hitherto unfigured species. Okinaebisu-no-kai, Kashiva, 185 pp., 7 pls. [In Japanese].

Ingram, W.M. 1942. Type fossil Cypraeidae of North America. Bulletins of American Paleontology, 27(104): 95-123 [1-33], pls. 8-11 [1-4].

International Commission on Zoological Nomenclature [ICZN]. 1985. International Code of Zoological Nomenclature, Third Edition. University of California Press, Berkeley, xx + 338 pp.

Iredale, T. 1958a. John (William) Brazier. Proceedings of the Royal Zoological Society of New South Wales, **1956-57**: 105-118.

Iredale, T. 1958b. Charles Hedley's papers indexed. Proceedings of the Royal Zoological Society of New South Wales, **1956-57**: 118-139.

Iredale, T. 1959. George French Angas: the father of Australian conchology. The Australian Zoologist, **12**(4): 362-371.

Iredale, T. and A.F.B. Hull. 1927. A monograph of the Australian Loricates. (Phylum Mollusca–Order Loricata). IX. Appendix C. Biography and Bibliography. The Australian Zoologist, 4(6): 339-359.

Iredale, T. and G.P. Whitley. 1958. A bibliography of Lee Woolacott with an index to her new scientific names. Proceedings of the Royal Zoological Society of New South Wales, **1956-57**: 82.

Irish, J. 1985. Zoological types in the State Museum. Cimbebasia, Staatsmuseum Windhoek, (ser. A) 7(8): 107-132.

Ivanov, D.L. and Yu.I. Kantor. 1991. Malakologicheskaya Kollektsya P.G. Demidova v Zoologicheskom Muzee MGU. Paul Demidoff's malacological collection in the Zoological Museum of Moscow University. Moscow, Izdatel'stvo Moskovskogo Universiteta / Moscow University Press, 96 pp.

Jackson, B.D. 1913. Catalogue of the Linnean specimens of Amphibia, Insecta, and Testacea, noted by Carl von Linné. Proceedings of the Linnean Society of London, supplement to the Proceedings of the 125th session, **1912-13**: 1-48.

Jackson, J.W. 1952. Catalogue of types and figured specimens in the Geological Department of the Manchester Museum. Manchester Museum, Publication, **6**: i-viii + 1-170.

Jackson, P.N.W. 1992. The geological collections of Trinity College, Dublin. Geological Curator, 5(7): 263-274.

Jacobson, M.K. 1975. Type material of some Cuban helicinids. The Nautilus, **89**(2): 54-55.

Jacobson, M.K. and K.J. Boss. 1973. The Jamaican land shells described by C. B. Adams. Occasional Papers on Mollusks, 3(47): 305-519, pls. 54-91.

James, P.S.B.R. 1969. Catalogue of types in the collections of the Central Marine Fisheries Research Institute. Bulletin of the Central Marine Fisheries Research Institute, Mandapam Camp, 7: 1-12.

Janssen, A.W. 1984. Type specimens of pteropod species (Mollusca, Gastropoda) described by Rolle (1861), Reuss (1867) and Kittl (1886) kept in the collection of the Naturhistorisches Museum at Vienna. Mededelingen van de Werkgroep voor Tertiaire en Kwartaire Geologie, **21**(2): 61-91, 6 pls., 1 table.

Janssen, R. "1987" [1988]. Fritz Nordsieck (1906-1984). Archiv für Molluskenkunde, **118**(4-6): 105-128.

Janus, H. 1961. Die Typen und Typoide südafrikanischer Meeresmollusken im Staatlichen Museum für Naturkunde. 1. Gastropoda. Stuttgarter Beiträge zur Naturkunde, **70**: 1-19, pls 1-4.

Jeannet, A. 1932. Les Trigonies fossiles originales conservées a l'Institut de Géologie de l'Université de Neuchâtel. Bulletin du Société Neuchâteloise des Sciences Naturelles, **56**: 369-374.

Jeffreys, J.G. 1879. Notes on Colonel Montagu's collection of British shells. The Journal of Conchology, **2**(1): 1-4.

Jeffreys, J.G. 1884. Notes on Brocchi's collection of Subapennine shells. Quarterly Journal of the Geological Society, **40**: 28-34.

Johnson, C.W. 1905. Annotated list of the types of invertebrate Cretaceous fossils in the collection of the Academy of Natural Sciences, Philadelphia. Proceedings of the Academy of Natural Sciences of Philadelphia, **57**: 4-28.

Johnson, R.I. 1946. Joseph Pitty Couthouy–a bibliography and catalogue of his species. Occasional Papers on Mollusks, **1**(5): 33-40, pl. 3. [Supplement, 1954, *ibid.*, **1**(18): 441-442].

Johnson, R.I. 1949. Jesse Wedgwood Mighels with a bibliography and a catalogue of his species. Occasional Papers on Mollusks, **1**(14): 213-231, pls. 26-27. [Supplement, 1954, *ibid.*, **1**(18): 447, pl. 58, fig. 1].

Johnson, R.I. 1952-1953. A study of Lamarck's types of Unionidae and Mutelidae. The Nautilus, **66**(2): 63-67; **66**(3): 90-95.

Johnson, R.I. 1956. The types of naiades (Mollusca: Unionidae) in the Museum of Comparative Zoology. Bulletin of the Museum of Comparative Zoology, **115**(4): 101-142, pls. 1-2.

Johnson, R.I. 1959a. The types of Corbiculidae and Sphaeriidae (Mollusca: Pelecypoda) in the Museum of Comparative Zoology, and a bio-bibliographic sketch of Temple Prime, an early specialist of the group. Bulletin of the Museum of Comparative Zoology, **120**(4): 429-479, pls. 1-8.

Johnson, R.I. 1959b. The Charles M. Wheatley collections. The Nautilus, **73**(2): 72-74.

Johnson, R.I. 1964. The Recent Mollusca of Augustus Addison Gould. Bulletin of the United States National Museum, **239**: i-vi, 1-182, pls. 1-45.

Johnson, R.I. 1967. Illustrations of all the mollusks described by Berlin Hart and Samuel Hart Wright. Occasional Papers on Mollusks, **3**(35): 1-35, pls. 1-13.

Johnson, R.I. 1969a. The Unionacea of William Irvin Utterback. The Nautilus, **82**(4): 132-135.

Johnson, R.I. 1969b. Illustrations of Lamarck's types of North American Unionidae mostly in the Paris Museum. The Nautilus, **83**(2): 52-61, figs. 1-14.

Johnson, R.I. 1971. The types and figured specimens of Unionacea (Mollusca: Bivalvia) in the British Museum (Natural History). Bulletin of the British Museum (Natural History), Zoology, **20**(3): 73-108, pls. 1-2.

Johnson, R.I. 1972. Illustrations of all the mollusks described by Lorraine Screven Frierson. Occasional Papers on Mollusks, **3**(41): 137-173, pls. 22-32.

Johnson, R.I. 1973a. The types of Unionidae (Mollusca: Bivalvia) described by C. S. Rafinesque in the Museum National d'Histoire Naturelle, Paris. Journal de Conchyliologie, **110**(2): 35-37, pl. 1.

Johnson, R.I. 1973b. Heude's molluscan types or Asian land and freshwater mollusks, mostly from the People's Republic of China, described by P. M. Heude. Special Occasional Publication, Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, **1**: 1-111.

Johnson, R.I. 1974a. Lea's unionid types or Recent and fossil taxa of Unionacea and Mutelacea introduced by Isaac Lea, including the location of all the extant types. Special Occasional Publication, Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, **2**: 1-159.

Johnson, R.I. 1974b. Marshall's unionid types or types of Recent and fossil Unionacea and Mutelacea introduced by William B. Marshall, including a bibliography of all his writings on mollusks. Special Occasional Publication, Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, **3**: 1-14.

Johnson, R.I. 1975a. R. Ellsworth Call with a bibliography of his works on mollusks and a catalogue of his taxa. Occasional Papers on Mollusks, 4(54): 134-144, pl. 15.

Johnson, R.I. 1975b. William A. Marsh, his introduced taxa of Unionidae or fresh water mussels. Occasional Papers on Mollusks, 4(54): 144-147.

Johnson, R.I. 1975c. Simpson's unionid types and miscellaneous unionid types in the National Museum of Natural History. Special Occasional Publication, Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, 4: 1-56, pls. 1-3.

Johnson, R.I. 1977a. Norman Macdowell Grier, a bibliography of his work on mollusks, with a catalogue of his unionid taxa. Occasional Papers on Mollusks, 4(57): 226-227.

Johnson, R.I. 1977b. Arnold Edward Ortmann, a bibliography of his work on mollusks, with a catalogue of his Recent molluscan taxa. Occasional Papers on Mollusks, 4(58): 229-241, pls. 26-27.

Johnson, R.I. 1979. The types of Unionacea (Mollusca: Bivalvia) in the Museum of Zoology, the University of Michigan. Malacological Review, 12: 29-36.

Johnson, R.I. 1980. The types of Unionacea (Mollusca: Bivalvia) in the Academy of Natural Sciences of Philadelphia: additions and corrections. Proceedings of the Academy of Natural Sciences of Philadelphia, 132: 277-278.

Johnson, R.I. 1981. Stanley Truman Brooks, a bibliography of his work on mollusks with a catalogue of his molluscan taxa. Occasional Papers on Mollusks, 4(59): 266-268.

Johnson, R.I. 1989. Molluscan taxa of Addison Emery Verrill and Katharine Jeannette Bush, including those introduced by Sanderson Smith and Alpheus Hyatt Verrill. Occasional Papers on Mollusks, 5(67): 1-143, pls. 1-19.

Johnson, R.I. [in prep.] Types of shelled mollusks described by William Harper Pease. Bulletin of the Museum of Comparative Zoology.

Johnson, R.I. and H.B. Baker. 1973. The types of Unionacea (Mollusca: Bivalvia) in the Academy of Natural Sciences of Philadelphia. Proceedings of the Academy of Natural Sciences of Philadelphia, 125(9): 145-186, pls. 1-10.

Johnson, R.I. and K.J. Boss. 1972. The fresh-water, brackish, and non-Jamaican land mollusks described by C.B. Adams. Occasional Papers on Mollusks, 3(43): 193-233, pls. 36-42.

Jordan, H.P., J. Schneider, and G. Künzel. 1976. Typenkatalog, Sektion Geowissenschaften, Paläontologische Sammlungen. Veröffentlichung der Sektion Geowissenschaften der Bergakademie Freiberg, 564: 1-82, pls. 1-12.

Joubin, L. 1905. Note sur la collection malacologique et sur les travaux scientifiques de M. Arnould Locard. Bulletin du Muséum d'Histoire Naturelle, **11**(2): 87-89.

Jovanovic, B. 1991 Katalog zbirke Hydrobioidea Pavla Radomana. [Catalogue of the collection of Hydrobioidea of Pavle Radoman]. Glasnik Prirodnjackog Museja u Beogradu, Biologicke Nauke (series B), **46**: 207-273, pls. 1-11. [In Serbian; English summary].

Jukes-Browne, A.J. and W.J. Else. 1907. A list of the type-fossils and figured specimens in the Museum of the Torquay Natural History Society. Report and Transaction of the Devonshire Association for the Advancement of Science, Literature, and Art, Axminster, **39**: 399-409.

Jung, P. 1972. The collection of Karl Mayer-Eymar. The Nautilus, **85**(4): iii. [Reprinted, 1973, Journal de Conchyliologie, 110(2): 68].

Kabat, A.R. 1989. The "Gray Catalogues" [Mollusca] of the British Museum. The Nautilus, **103**(3): 113-115.

Kabat, A.R. 1990. Species of Naticidae (Mollusca: Gastropoda) described by Linnaeus in the *Systema Naturae* (1758). Zoological Journal of the Linnean Society, **100**(1): 1-25.

Kabat, A.R. and Y. Finet. 1992. Catalogue of the Neritidae (Mollusca: Gastropoda) described by Constant A. Récluz including the location of the type specimens. Revue Suisse de Zoologie, **99**(2).

Kabat, A.R. and R. Kilias. 1991. Die Typen und Typoide der Naticidae (Gastropoda, Streptoneura) der Mollusken-Sammlung des Zoologischen Museums Berlin. Mitteilungen aus dem Zoologischen Museum in Berlin, **67**(2): 319-324.

Kaiser, P. "1979" [1980]. Eduard Degner (1886-1979). Archiv für Molluskenkunde, **110**(4-6): 109-114.

Kawamoto, R. [in prep.] Catalogue of marine molluscan types in the Bernice P. Bishop Museum. Bishop Museum Occasional Papers.

Kay, E.A. 1965. Marine molluscs in the Cuming collection, British Museum (Natural History) described by William Harper Pease. Bulletin of the British Museum (Natural History), Zoology, Supplement, **1**: 1-96, pls. 1-14.

Kay, E.A. "1968" [1969]. The Saul cowry collection. The Journal of Conchology, **26**(5): 309-320.

Kay, E.A. and W.J. Clench. 1975. A biobibliography of William Harper Pease, malacologist of Polynesia. Nemouria, Occasional Papers of the Delaware Museum of Natural History, **16**: 1-50.

Keen, A.M. 1966a. West American mollusk types at the British Museum (Natural History). I. T. A. Conrad and the Nuttall Collection. The Veliger, **8**(3): 167-172, fig. 1.

Keen, A.M. 1966b. West American mollusk types in the British Museum (Natural History). II. Species described by R. B. Hinds. The Veliger, **8**(4): 265-275, figs. 1-6, pls. 46-47 [corrections by editor: The Veliger, **9**(1): 87].

Keen, A.M. 1966c. Moerch's west central American molluscan types with proposal of a new name for a species of *Semele*. Occasional Papers of the California Academy of Sciences, **59**: 1-33, figs. 1-41.

Keen, A.M. 1966d. West American mollusk types at the British Museum (Natural History). III. Alcide d'Orbigny's South American collection. The Veliger, **9**(1): 1-7, pl. 1.

Keen, A.M. 1966e. Some notes on the molluscan collections at the University of Copenhagen [Abstract]. The American Malacological Union., Inc. [and] The American Malacological Union, Inc. Pacific Division, Annual Reports for 1966 [Bulletin 33]: 73.

Keen, A.M. 1968. West American mollusk types at the British Museum (Natural History). IV. Carpenter's Mazatlan collection. The Veliger, **10**(4): 389-439, 171 figs., pls. 55-59.

Keen, A.M. and H. Bentson. 1944. Check list of California Tertiary marine Mollusca. Geological Society of America Special Papers, **56**: i-viii, 1-280.

Kellogg, M.G. 1986. A bibliography and catalog of taxa for Allyn Goodwin Smith (1893-1976). Occasional Papers of the California Academy of Sciences, **145**: 1-12.

Kennard, A.S. 1944. Geological Survey Museum notes. Proceedings of the Malacological Society of London, **26**(1): 63-70.

Kennard, A.S. and B.B. Woodward. 1920. On the Linnean species of non-marine Mollusca that are represented in the British fauna, with notes on the specimens of these and other British forms in the Linnean Collection. The Journal of the Linnean Society, Zoology, **35**(227): 203-215.

Kennard, A.S. and B.B. Woodward. 1926. Note on F. O. [sic] Müller's types of *Tellina fluminalis*, *fluminea* and *fluviatilis*. Proceedings of the Malacological Society of London, **17**(2/3): 100-101, pl. 9, figs. 2-4.

Kent, L.S. 1982. Type and figured fossils in the Worthen Collection at the Illinois State Geological Survey. Illinois Department of Energy and Natural Resources, State Geological Survey Division, Circular, **524**: 1-65.

Kenyon, A. 1899. Note on *Voluta roadnightae*, McCoy. Proceedings of the Malacological Society of London, **3**(5): 267.

Kenyon, A. 1902. Further note on the type-specimen of *Voluta roadnightae*, McCoy. Proceedings of the Malacological Society of London, **5**(1): 10.

Keyes, I.W. 1971. Type specimens of New Zealand Cenozoic invertebrates in the Dominion Museum. Records of the Dominion Museum, 7(9): 65-84.

Keyes, I.W. 1972. Biological type specimens in the New Zealand Geological Survey. II. Cenozoic Bivalve and Scaphopod Molluscs. New Zealand Geological Survey, Paleontological Bulletin, **45**: 1-113.

Kilburn, R. 1973. The type material of South African marine Mollusca in the Natal Museum collection. Part 1. Bivalvia. Annals of the Natal Museum, **21**(3): 697-711.

Kilfoyle, C.F. 1954. Catalogue of type specimens of fossils in the New York State Museum. Supplement 4. New York State Museum, Bulletin, **348**: 1-719.

Kilfoyle, C.F. 1959. Catalogue of type specimens of fossils in the New York State Museum. Supplement 5. New York State Museum and Science Service, Bulletin, **376**: 1-134.

Kilfoyle, C.F. "1969" [1971]. Catalogue of type specimens of fossils in the New York State Museum. Supplement 6. New York State Museum and Science Service, Bulletin, **413**: vi, 1-305.

Kilias, R. 1961. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (1) I. Pulmonata, Basommatophora, Lymnaeacea: Chilinidae, Physidae, Lymnaeidae, Ferrissiidae, Ancylidae. Mitteilungen aus dem Zoologischen Museum in Berlin, **37**(1): 159-167, 1 pl.

Kilias, R. 1963. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (2) I. Pulmonata, Basommatophora, Lymnaeacea: Planorbidae 1 Bulininae und Planorbinae (Physastreae). Mitteilungen aus dem Zoologischen Museum in Berlin, **39**(2): 371-377, 1 pl.

Kilias, R. 1967a. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (3) I. Euthyneura (Pulmonata), Basommatophora, Lymnaeacea (2. Forts.), Ellobiacea und Amphibolacea. Mitteilungen aus dem Zoologischen Museum in Berlin, **43**(1): 151-160, 6 figs.

Kilias, R. 1967b. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (4) Nachtrag und alphabetisches Register zu I. Euthyneura (Pulmonata), Basommatophora. Mitteilungen aus dem Zoologischen Museum in Berlin, **43**(2): 337-344, 2 figs.

Kilias, R. 1969. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (5) II. Euthyneura, Stylommatophora, Orthurethra, Achatinellacea (Tornatellinidae, Achatinellidae, Partulidae) und Pupillacea (Pyramidulidae, Vertiginidae, Orculidae, Chondrinidae, Pupillidae, Valloniidae). Mitteilungen aus dem Zoologischen Museum in Berlin, **45**(2): 245-258, 2 figs.

Kilias, R. 1971. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (6) II. Euthyneura, Stylommatophora, Orthurethra, Pupillacea (Enidae). Mitteilungen aus dem Zoologischen Museum in Berlin, **47**(1): 215-238, 10 figs.

Kilias, R. 1972. Originalmaterial im Zoologischen Museum Berlin zu den von S.H.F. Jaeckel eingeführten Malakologischen Taxa. Mitteilungen aus dem Zoologischen Museum in Berlin, **48**(2): 437-448.

Kilias, R. 1973. Die Mollusken-Sammlung Schilder (Porzellanschnecken und Schnirkelschnecken) im Zoologischen Museum in Berlin. Mitteilungen aus dem Zoologischen Museum in Berlin, **49**(1): 185-188.

Kilias, R. "1973" [1974a]. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (7) II. Euthyneura, Stylommatophora, Heterurethra, Succineacea (Succineidae) und Athoracophoracea (Athoracophoridae). Mitteilungen aus dem Zoologischen Museum in Berlin, **49**(2): 345-350, 2 figs.

Kilias, R. "1973" [1974b]. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (8) II. Euthyneura, Stylommatophora, Sigmurethra, Clausiliacea (Clausiliidae 1: Phaedusinae, Neniinae, Baleinae und Mentissoideinae). Mitteilungen aus dem Zoologischen Museum in Berlin, **49**(2): 403-421, 15 figs.

Kilias, R. 1974c. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (9) II. Euthyneura, Stylommatophora, Sigmurethra, Clausiliacea (Clausiliidae 2: Clausiliinae und Alopiinae). Mitteilungen aus dem Zoologischen Museum in Berlin, **50**(1): 189-208, pl. 1.

Kilias, R. 1975. Lajos Soós und die von ihm eingeführten Malakologischen Taxa. Mitteilungen aus dem Zoologischen Museum in Berlin, **51**(1): 139-143.

Kilias, R. and I. Kilias. 1982. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin. 10. II. Euthyneura, Stylommatophora, Sigmurethra, Achatinoidea (Ferrussaciidae und Subulinidae). Mitteilungen aus dem Zoologischen Museum in Berlin, **58**(2): 357-384, pl. 8.

Kinkelin, F. 1903. Die Originale der paläontologischen Sammlung im Senckenbergischen Museum und die auf dieselben bezügliche Literatur. Bericht der Senckenbergischen Naturforschenden Gesellschaft, **34**: 3-88.

Kisch, B.S. 1959a. La collection de Caecidae du Marquis de Folin au Muséum National d'Histoire Naturelle; Supplément, Les Caecidae du "Challenger" (types au British Museum, Type Collection). Journal de Conchyliologie, **99**(1): 15-42, figs. 1-2.

Kisch, B.S. 1959b. La collection de Chemnitzidae du Marquis de Folin au Muséum National d'Histoire Naturelle. Description de *Turbonilla corpulens*. Catalogue des espèces publiées par de Folin. Journal de Conchyliologie, **99**(3): 89-112, fig. 1.

Kisch, B.S. 1960. Les Mollusques décrits par de Folin–à part les Caecidae et Chemnitzidae–avec catalogue. Journal de Conchyliologie, **100**(4): 137-162.

Kleemann, K.H. 1981. Typusexemplare der Gattungen *Lithophaga* und *Gastrochaena* aus der Sammlung Mayer-Eymar im Naturhistorischen Museum Basel. Verhandlungen der Naturforschenden Gesellschaft in Basel, **90**: 51-58, 8 figs.

Kleemann, K.H. 1983. Catalogue of Recent and fossil *Lithophaga* (Bivalvia). Journal of Molluscan Studies, Supplement, **12**: 1-46.

Knipper, H. 1954. Die Typen und Typoide des Überseemuseums Bremen, 1: Mollusca: Clausiliidae. Veröffentlichungen aus dem Überseemuseum Bremen (A), 2(4): 251-276, pls. 1-2.

Knipper, H. 1958. Die Typen und Typoide des Überseemuseums Bremen, 5: Mollusca (Gastrop. Prosobranch.): Neritidae und Thiaridae. Veröffentlichungen aus dem Überseemuseum Bremen (A), **3**(1): 39-74, pls. 5-9.

Knorre, D. von and R. Kilias. 1986. Malakologische Sammlungen in Museen der DDR. pp. 119-121, [*in*] L. Pintér (ed.), Proceedings of the Eighth International Malacological Congress (Budapest, Hungary) 28th August–4th September 1983. Hungarian Natural History Museum, Budapest, xviii + 342 pp.

Kobelt, W. 1904. Museum Loebbeckeanum. Nachrichtsblatt der Deutschen Malakozoologischen Gesellschaft, **36**(2): 81-87.

Kohn, A.J. 1963. Type specimens and identity of the described species of *Conus*. I. The species described by Linnaeus, 1758-1767. Journal of the Linnean Society of London, Zoology, **44**(302): 740-768, pls. 1-4.

Kohn, A. J. 1964. Type specimens and identity of the described species of *Conus*. II. The species described by Solander, Chemnitz, Born, and Lightfoot between 1766 and 1786. Journal of the Linnean Society of London, Zoology, 45(304): 151-167, pls. 1-2.

Kohn, A.J. 1966. Type specimens and identity of the described species of *Conus*. III. The species described by Gmelin and Blumenbach in 1791. Journal of the Linnean Society of London, Zoology, **46**(308): 73-102, pls. 1-3.

Kohn, A.J. 1968. Type specimens and identity of the described species of *Conus*. IV. The species described by Hwass, Bruguière and Olivi in 1792. Journal of the Linnean Society of London, Zoology, 47(313): 431-503, pls. 1-9.

Kohn, A.J. 1975. Type specimens and identity of the described species of *Conus*. V. The species described by Salis Marschlins and Röding, 1793-1798. Zoological Journal of the Linnean Society, **57**(3): 185-227, pls. 1-3.

Kohn, A.J. 1976. Chronological analysis of the species of *Conus* described during the 18th century. Zoological Journal of the Linnean Society, **58**(1): 39-69, pl. 1.

Kohn, A.J. 1981. Type specimens and identity of the described species of *Conus*. VI. The species described 1801-1810. Zoological Journal of the Linnean Society, **71**(3): 279-341, figs. 1-67.

Kohn, A.J. 1986. Type specimens and identity of the described species of *Conus*. VII. The species described 1810-1820. Zoological Journal of the Linnean Society, **86**: 1-41, figs. 1-34.

Kohn, A.J. 1988. Type specimens and identity of the described species of *Conus*. VIII. The species described 1821-1830. Zoological Journal of the Linnean Society, **93**: 19-70, figs. 1-39.

Kohn, A.J. 1991. Paintings of paralectotypes?: *Conus* of the *Museum Ludovicae Ulricae*. Journal of Conchology, **34**(1): 7-18, 2 pls.

Kohn, A.J. 1992. A chronology of *Conus*, 1758-1840. Smithsonian Institution Press, Washington D.C., ii + 292 pp., 26 pls. [a revision of Kohn, 1963-1988].

Kohn, A.J. and A.C. Riggs. 1979. Catalogue of Recent and fossil *Conus*, 1937-1976. Journal of Molluscan Studies, **45**(1): 131-147.

Kohn, A.J., P.E. Pointer, A.C. Riggs, and H.T. Dang. 1988. Catalogue of Recent and fossil *Conus*, 1937-1988. Privately published, Seattle, 57 pp.

Kondo, Y. and W.J. Clench. 1952. Charles Montague Cooke, Jr., A Bio-bibliography. Bernice P. Bishop Museum, Special Publication, **42**: iv + 56 pp.

Korn, W. 1983. Zur Conchyliensammlung des Natur-Museums Coburg. Jahrbuch der Coburger Landesstiftung, **28**: 203-242, 20 pls.

Kosuge, S. 1969. On some remarks on "The Recent Mollusca of A.A. Gould" by Johnson. Venus, The Japanese Journal of Malacology, **29**(2): 112-114.

Kosuge, S. 1972. Illustrations of type specimens of mollusks described by William Healey Dall (North-western Pacific Gastropods). National Science Museum, Tokyo, pls. 1-29.

Kristensen, T.K. and J. Knudsen. 1983. A catalogue of the type specimens of Cephalopoda (Mollusca) in the Zoological Museum, University of Copenhagen. Steenstrupia, **9**(10): 217-227.

Krolopp, E. "1978" [1980]. A Földtani Intézet Pleisztocén Malakógiai Típusanyaga / Pleistocene mollusc type material at the Hungarian Geological Institute. Évi Jelentése a Magyar Allami Földtani Intézet, Budapest, Az **1978** Évröl: 359-383, pls. 1-8.

Kroupa, O. "1988" [1989]. Kritische Revision der Weichtiertypenmaterialien in den Sammlungen des Nationalmuseums in Prag. 1. Teil. Sborník Národního Muzea V Praze, B, Prírodní Vedy, **44**(2): 105-126, 2 pls.

Kuiper, J.G.J. 1967. Zur senckenbergischen Sammlung von Süßwasser-Kleinmuscheln und einige Probleme ihrer Erforschung. Archiv für Molluskenkunde, **97**(1-6): 155-159.

Kummel, B. 1963. Miscellaneous nautilid type species of Alpheus Hyatt. Bulletin of the Museum of Comparative Zoology, **128**(6): 325-368, pls. 1-30.

Kuroda, T. and T. Habe. 1954. On some Japanese Mollusca described by A. Adams, whose specimens are deposited in the Redpath Museum of Canada (No. 1). Venus, The Japanese Journal of Malacology, **18**(1): 1-16, pls. 1-2.

Lamy, É. 1904. Liste des arches conservées avec étiquettes de Lamarck dans les collections du Muséum de Paris. Journal de Conchyliologie, **52**(2): 132-167, pl. 5.

Lamy, É. 1906. Sur quelques arches actuelles nommées par Lamarck dans la collection Defrance (Musée de Caen). Journal de Conchyliologie, **53**(3): 302-309, figs. 1-2.

Lamy, É. "1911" [1912a]. Liste des *Petunculus* conservés avec étiquettes de Lamarck dans les collections du Muséum de Paris. Bulletin du Muséum National d'Histoire Naturelle, **17**(6): 431-435.

Lamy, É. 1912b. Sur les espèces de Lamarck appartenant au genre *Mesodesma* Deshayes. Bulletin du Muséum National d'Histoire Naturelle, **18**(4): 245-254.

Lamy, É. 1913. Note sur les espèces rangées par Lamarck dans son genre *Lutraria*. Bulletin du Muséum National d'Histoire Naturelle, **19**(6): 343-349.

Lamy, É. 1914a. Notes sur les espèces Lamarckiennes de Garidae. Bulletin du Muséum National d'Histoire Naturelle, **20**(1): 19-25; **20**(2): 57-65.

Lamy, É. 1914b. Notes sur les espèces du genre *Mactra* décrites par Lamarck. Bulletin du Muséum National d'Histoire Naturelle, **20**(3): 127-135; **20**(4): 239-247.

Lamy, É. 1914c. Notes sur les espèces rangées par Lamarck dans ses genres *Donax* et *Capsa* (1818). Bulletin du Muséum National d'Histoire Naturelle, **20**(5): 286-292; **20**(6): 338-345.

Lamy, É. 1915a. Note sur une collection conchyliologique du commencement du XIXe siècle. Bulletin du Muséum National d'Histoire Naturelle, **21**(3): 101-104.

Lamy, É. 1915b. Notes sur les espèces Lamarckiennes appartenant au genre *Lucina* Bruguière, 1797. Bulletin du Muséum National d'Histoire Naturelle, **21**(4): 130-136; **21**(5): 154-160.

Lamy, É. 1915c. Sur quelques espèces de *Cardita* figurées par Valenciennes. Bulletin du Muséum National d'Histoire Naturelle, **21**(6): 195-200.

Lamy, É. "1915" [1916a]. Notes sur les espèces Lamarckiennes des genres *Cyprina*, *Cypricardia*, *Hiatella* et *Isocardia*. Bulletin du Muséum National d'Histoire Naturelle, **21**(7): 243-252.

Lamy, É. 1916b. Notes sur les espèces rangées par Lamarck dans les genres *Venericardia* et *Cardita*. Bulletin du Muséum National d'Histoire Naturelle, **22**(1): 50-58; **22**(2): 114-121.

Lamy, É. 1917a. Notes sur les espèces Lamarckiennes du genre *Chama*. Bulletin du Muséum National d'Histoire Naturelle, **23**(3): 201-207; **23**(4): 264-271.

Lamy, É. 1917b. Notes sur les espèces du genre *Spondylus* décrites par Lamarck. Bulletin du Muséum National d'Histoire Naturelle, **23**(5): 318-324; **23**(6): 402-409.

Lamy, É. 1918. Notes sur quelques espèces de *Purpura* déterminées par Blainville dans la collection du Muséum de Paris. Bulletin du Muséum National d'Histoire Naturelle, **24**(5): 352-357; **24**(6): 424-429.

Lamy, É. "1918" [1919a]. Notes sur les espèces du genre *Plicatula* décrites par Lamarck. Bulletin du Muséum National d'Histoire Naturelle, **24**(7): 510-513.

Lamy, É. 1919b. Notes sur les espèces Lamarckiennes du genre *Lima* Bruguière, 1792. Bulletin du Muséum National d'Histoire Naturelle, **25**(6): 480-486.

Lamy, É. 1920a. Notes sur les espèces rangées par Lamarck dans son genre *Modiola*. Bulletin du Muséum National d'Histoire Naturelle, **26**(1): 61-67; **26**(2): 148-154; **26**(3): 231-238.

Lamy, É. 1920b. Notes sur les espèces de *Mytilus* décrites par Lamarck. Bulletin du Muséum National d'Histoire Naturelle, **26**(4): 330-335; **26**(5): 415-422; **26**(6): 520-526.

Lamy, É. 1921a. Sur quelques Pholades figurées par Valenciennes. Bulletin du Muséum National d'Histoire Naturelle, **27**(2): 178-183.

Lamy, É. 1921b. Notes sur les espèces de *Saxicava* décrites par Lamarck. Bulletin du Muséum National d'Histoire Naturelle, **27**(5): 361-365.

Lamy, É. 1921c. Notes sur les espèces rangées par Lamarck dans son genre *Petricola*, 1801. Bulletin du Muséum National d'Histoire Naturelle, **27**(6): 432-436.

Lamy, É. 1922a. Notes sur les espèces rangées par Lamarck dans son genre *Venerupis*, 1818. Bulletin du Muséum National d'Histoire Naturelle, **28**(1): 82-86.

Lamy, É. 1922b. Notes sur les espèces Lamarckiennes de *Teredo* (Taret). Bulletin du Muséum National d'Histoire Naturelle, **28**(2): 177-181.

Lamy, É. 1922c. Notes sur les espèces Lamarckiennes de *Pholas*. Bulletin du Muséum National d'Histoire Naturelle, **28**(3): 243-246.

Lamy, É. 1922d. Notes sur les espèces Lamarckiennes appartenant à la famille des Gastrochaenidae. Bulletin du Muséum National d'Histoire Naturelle, **28**(4): 307-311.

Lamy, É. 1923. Notes sur les chitons rapportés au Muséum national de Paris par Péron et Lesueur (1803). Bulletin du Muséum National d'Histoire Naturelle, **29**(3): 260-265.

Lamy, É. 1924. Notes sur les espèces Lamarckiennes d'*Ostrea*. Bulletin du Muséum National d'Histoire Naturelle, **30**(1): 92-99; **30**(2): 151-158; **30**(3): 231-238; **30**(4): 316-320.

Lamy, É. "1924" [1925a]. Notes sur les espèces rangées par Lamarck dans le genre *Mya* Linné. Bulletin du Muséum National d'Histoire Naturelle, **30**(6): 494-496.

Lamy, É. 1925b. Notes sur les espèces rangées par Lamarck dans son genre *Anatina*. Bulletin du Muséum National d'Histoire Naturelle, **31**(5): 372-378.

Lamy, É. 1926. Notes sur les espèces rangées par Lamarck dans le genre *Corbula* Bruguière. Bulletin du Muséum National d'Histoire Naturelle, **32**(1): 81-85.

Lamy, É. "1926" [1927]. Sur diverses coquilles de la Mer Rouge figurées en 1830 par Léon de Laborde. Bulletin du Muséum National d'Histoire Naturelle, **32**(6): 378-383.

Lamy, É. 1928. Note sur la collection conchyliologique de Tournefort. Journal de Conchyliologie, **72**(3): 228-232.

Lamy, É. "1928" [1929a]. Note sur la collection conchyliologique d'Adanson. Journal de Conchyliologie, **72**(4): 314-316.

Lamy, É. 1929b. Note sur une collection conchyliologique du XVIIIe siècle. Journal de Conchyliologie, **73**(1): 68-70.

Lamy, É. 1931. Sur trois espèces de Brocchi: *Patella sinuosa*, *Nerita costata* et *Nerita sulcosa* (Moll. Gastéropodes). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **3**(2): 239-243.

Lamy, É. 1932a. Notes sur les espèces Lamarckiennes de Tridacnidae. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **4**(3): 307-312.

Lamy, É. 1932b. Notes sur les espèces Lamarckiennes de Solenidae. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **4**(4): 427-437.

Lamy, É. 1932c. Notes sur les espèces Lamarckiennes du genre *Pinna* Linné, 1758. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), 4(7): 895-902.

Lamy, É. 1933. Notes sur les espèces Lamarckiennes du genre *Perna* Bruguière, 1792. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), 5(5): 393-399.

Lamy, É. 1935a. Notes sur les espèces Lamarckiennes des genres *Crenatula*, *Malleus* et *Vulsella*. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), 7(1): 64-70.

Lamy, É. 1935b. Notes sur les espèces Lamarckiennes des genres *Avicula* et *Meleagrina*. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), 7(2): 127-134.

Lamy, É. 1937. Notes sur les espèces Lamarckiennes de *Katelysia* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(1): 73-77.

Lamy, É. "1940" [1941]. Notes sur les espèces Lamarckiennes d'*Anomia* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **12**(5-7): 344-347.

Lamy, É. "1941" [1942]. Notes sur les espèces Lamarckiennes de *Cardium* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **13**(5): 458-463; **13**(6): 561-566; **14**(1): 63-68; **14**(2): 126-129; **14**(3): 228-232; **14**(4): 346-348.

Lamy, É. and E. Fischer-Piette. 1937a. Notes sur les espèces Lamarckiennes de *Tivela* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(1): 77-81.

Lamy, É. and E. Fischer-Piette. 1937b. Notes sur les espèces Lamarckiennes de *Meretrix* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(2): 156-158.

Lamy, É. and E. Fischer-Piette. 1937c. Notes sur les espèces Lamarckiennes de *Callista* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(3): 212-216.

Lamy, É. and E. Fischer-Piette. 1937d. Notes sur les espèces Lamarckiennes d'*Amiantis*, d'*Hysteroconcha* et de *Lioconcha*. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(4): 270-274.

Lamy, É. and E. Fischer-Piette. "1937" [1938a]. Notes sur les espèces Lamarckiennes de *Pitar* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(5): 326-329.

Lamy, É. and E. Fischer-Piette. "1937" [1938b]. Notes sur les espèces Lamarckiennes de *Circe* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **9**(6): 384-386.

Lamy, É. and E. Fischer-Piette. 1938c. Notes sur les espèces Lamarckiennes de *Crista* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **10**(1): 82-85.

Lamy, É. and E. Fischer-Piette. 1938d. Notes sur les espèces Lamarckiennes d'*Anomalocardia* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **10**(2): 173-175.

Lamy, É. and E. Fischer-Piette. 1938e. Notes sur les espèces Lamarckiennes d'*Antigona* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **10**(3): 292-297.

Lamy, É. and E. Fischer-Piette. 1938f. Notes sur les espèces Lamarckiennes de *Venus s. str.* et de *Chione*. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **10**(4): 401-405.

Lamy, É. and E. Fischer-Piette. 1938g. Notes sur les espèces Lamarckiennes de *Timoclea* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **10**(5): 509-511.

Lamy, É. and E. Fischer-Piette. "1938" [1939a]. Notes sur les espèces Lamarckiennes de *Clausinella*, de *Salacia*, de *Protothaca* et de *Samarangia* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **10**(6): 611-614.

Lamy, É. and E. Fischer-Piette. 1939b. Notes sur diverses espèces Lamarckiennes de *Venus* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **11**(1): 140-141.

Lamy, É. and E. Fischer-Piette. 1939c. Notes sur les espèces Lamarckiennes de *Marcia* et d'*Hemitapes* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **11**(2): 258-262.

Lamy, É. and E. Fischer-Piette. 1939d. Notes sur les espèces Lamarckiennes de *Paratapes* et de *Tapes s. str.* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **11**(3): 314-317.

Lamy, É. and E. Fischer-Piette. 1939e. Notes sur les espèces Lamarckiennes de *Polititapes* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **11**(4): 405-408.

Lamy, É. and E. Fischer-Piette. 1939f. Notes sur les espèces Lamarckiennes d'*Amygdala* et de *Pullastra* (Moll. Lamellibr.). Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **11**(5): 461-466.

Laws, H.M. and H. Mincham. 1968; 1973. Bernard Charles Cotton (1905-1966). Obituary, bibliography and index of his new scientific names. Journal of the Malacological Society of Australia, **1**(11): 10-24; **2**(4): 387-388.

Leary, R.L. "1971" [1972]. Catalog of Paleozoic paleozoological type and figured specimens at the Illinois State Museum. Transactions of the Illinois State Academy of Science, **64**(3): 254-259.

Ledermann, H. 1967. Verzeichnis der im Naturhistorischen Museum Solothurn auf bewahrten paläontologischen Originalexemplare. Eclogae Geologicae Helvetiae, **60**(2): 707-713.

Leloup, E. 1950. L'Institut Royal des Sciences Naturelles de Belgique et ses collections conchyliologiques. Journal de Conchyliologie, **90**(1): 60-61.

Leney, F. 1902. A list of the "Type", figured, and described fossils in the Norwich Castle Museum. Geological Magazine, (4) **9**(4): 166-171; **9**(5): 220-231.

Leonard, A.B. 1957. Types of late Cenozoic gastropods in the Frank Collins Baker collection, Illinois State Geological Survey. Illinois State Geological Survey, Report of Investigations, **201**: 5-23, pls. 1-4.

Lepersonne, J. 1974. La collection paléontologique du Musée Royal de l'Afrique Centrale. Rapport Annuel pour l'Annee 1974 du Département de Géologie et de Minéralogie du Musée Royal de l'Afrique Centrale, pp. 97-102.

Leviton, A.E., R.H. Gibbs, Jr., E. Heal, and C.E. Dawson. 1985. Standards in herpetology and ichthyology: Part I. Standard symbolic codes for institutional resource collections in herpetology and ichthyology. Copeia, **1985**(3): 802-832 [Supplement 1, *ibid.*, **1988**(1): 280-282].

Lingwood, P.F. and N.F. McMillan. 1981. The conchologist John Samuel Gaskoin (1790-1858)–his life, work and collections. Archives of Natural History, **10**(2): 347-358.

Llabrador, F. 1959. Henri Gouin et les malacologistes de l'Afrique Mineure. Notice sur la collection Gouin. Journal de Conchyliologie, **99**(3): 115-128.

Locard, A. 1890. Les coquilles marines vivantes de la faune Française décrites par G. Michaud, études critiques d'après les types de ses collections. Contributions a la Faune Malacologique Française, **16**: 1-46.

Locard, A. 1895. Ipsa Draparnaudi conchylia. Étude sur la collection conchyliologique de Draparnaud au Musée Impérial et Royal d'Histoire Naturelle de Vienne. J.-B. Baillière et fils, Paris, 190 pp. [Reprinted, 1897, Annales de la Société d'Agriculture, Sciences et Industries de Lyon, **7**(4)].

Loch. I. [ms. 1]. C.E. Beddome–malacological bibliography and taxa. Australian Museum, Sydney, 3 pp.

Loch, I. [ms. 2]. T.A. Garrard–publications; new taxa. Australian Museum, Sydney, 5 pp.

Loch, I. [ms. 3]. A.F.B. Hull–malacological bibliography and described taxa. Australian Museum, Sydney, 8 pp.

Loch, I. [ms. 4]. R.M. Johnston–malacological bibliography and taxa. Australian Museum, Sydney, 6 pp.

Loch, I. [ms. 5]. Kenyon, Agnes F. (Mrs.). Publications; taxa. Australian Museum, Sydney, 3 pp.

Loch, I. [ms. 6]. H.L. Kesteven–malacological bibliography and taxa. Australian Museum, Sydney, 2 pp.

Loch, I. [ms. 7]. W.L. May–bibliography and taxa. Australian Museum, Sydney, 11 pp.

Loch, I. [ms. 8]. D.F. McMichael–bibliography and described taxa. Australian Museum, Sydney, 12 pp.

Loch, I. [ms. 9]. W.F. Petterd–malacological bibliography and taxa. Australian Museum, Sydney, 7 pp.

Loch, I. [ms. 10]. W.F. Ponder–malacological bibliography and described taxa. Australian Museum, Sydney, 16 pp.

Loch, I. [ms. 11]. W.B. Rudman–malacological bibliography and described taxa. Australian Museum, Sydney, 8 pp.

Loch, I. [ms. 12]. R. Tate–malacological bibliography and taxa. Australian Museum, Sydney, 34 pp.

Loch, I. [ms. 13]. J.E. Tenison-Woods–malacological bibliography and taxa. Australian Museum, Sydney, 23 pp.

Lu, C.C. 1983. The Recent Cephalopoda in the collection of the National Museum of Victoria. Memoirs of the National Museum of Victoria, 44: 65.

Lu, C.C. and J.U. Phillips. 1985. An annotated checklist of the Cephalopoda from Australian waters. Occasional Papers from the Museum of Victoria, **2**: 21-36.

Ludbrook, N.H. 1959. Revision of the Tate molluscan types. Scaphopoda. Transactions of the Royal Society of South Australia, **82**: 141-149, 2 pls.

Ludbrook, N.H. 1961. Revision of the Tate molluscan types: Pelecypoda–Nuculidae and Nuculanidae. Transactions of the Royal Society of South Australia, **85**: 55-65, pls. 1-3.

Ludbrook, N.H. 1965. Revision of the Tate molluscan types, Pt. 3, Limopsidae, Glycymeridae, Arcidae, Cucullaeidae. Transactions of the Royal Society of South Australia, **89**: 81-114, pls. 1-5.

Ludbrook, N.H. 1967. Tertiary molluscan types from Table Cape in the Tasmanian Museum, Hobart. Papers and Proceedings of the Royal Society of Tasmania, **101**: 65-69, pls. 1-4.

Macphail, M.K. and W. Zeidler. 1977. Type shells from the May collection in the South Australian Museum. Tasmanian Naturalist, Supplement to the Bulletin of Tasmanian Field Naturalists' Club, **50**: 1-8.

Macphail, M.K. and W. Zeidler. 1978. Additional type shells from Tasmania in the South Australian Museum. Tasmanian Naturalist, Supplement to the Bulletin of Tasmanian Field Naturalists' Club, **52**: 2-6.

Maeda, K., S. Ohta, A. Osato, Y. Shikano, and R. Ueshima. 1983. Catalogue of the Hirase shell collection deposited in the Yokosuka City Museum. Part 1. Terrestrial molluscs (1): Bradybaenidae (Pulmonata). Miscellaneous Reports of the Yokosuka City Museum, **8**: 1-60, pls. 1-24.

Maeda, K., S. Ohta, Y. Shikano, and R. Ueshima. 1987. Catalogue of the Hirase shell collection deposited in the Yokosuka City Museum. Part 2. Terrestrial molluscs (2): Prosobranchia & Pulmonata (other than Bradybaenidae). Miscellaneous Reports of the Yokosuka City Museum, **11**: 1-71, pls. 1-20.

Magne, A. 1950a. Les collections des mollusques fossiles tertiaires Aquitains de la Faculté des Sciences et du Muséum d'Histoire Naturelle de Bordeaux. Journal de Conchyliologie, **90**(2): 146-147.

Magne, A. 1950b. Les collections de mollusques actuels conservées au Muséum de Bordeaux. Journal de Conchyliologie, **90**(2): 147.

Magne, A. 1966-1967. Catalogue des types de la Conchologie Néogénique de l'Aquitaine de Cossmann et Peyrot appartenant au Département de Géologie de la Faculté des Sciences de Bordeaux. Bulletin de l'Insitut de Géologie du Bassin d'Aquitaine, **1**: 73-83; **3**: 43-75.

Makiyama, J. 1929. Notes on some Japanese shells described by A. Adams. The Venus, **1**(5): 164-170. [In Japanese].

Malchevskaya, T.M. 1985. Katalog, golotipov vidov fauny i flory Khranyashchiksya v TsNIGR Muzee, Vyp 2. [Catalogue of holotypes of fauna and flora species stored in CNIGR Museum. Issue 2. Part II–Meso-Cenozoic]. Ministry of Geology of the USSR, Leningrad, 254 pp. [In Russian; not seen].

Malchevskaya, T.M. and L.V. Romanovskaya. 1966. Katalog Monograficheskikh Paleontologicheskikh Kollektsii Khranyashchikhasaya v. TsNIGR Muzee. [Catalogue of monographic paleontological collections kept in CNIGR Museum]. Gosudar. Geol. Kom. SSSR, Nedra, Leningrad, 176 pp. [In Russian; not seen].

Manceñido, M.O. and S.E. Damborenea. 1978. Comments on some type and figured brachiopods and bivalves in the Yorkshire Museum. Newsletter of the Geological Curators Group, 2(3): 122-123.

Mangold, C. and N. Mongereau. 1966. Catalogue des "types" et "figurés" conservés à la Faculté des Sciences de Lyon. 4ème Liste: Lamellibranches. Documents des Laboratoires de Géologie de la Faculté des Sciences de Lyon, **17**: 1-263.

Marcou, J.B. 1885. A list of the Mesozoic and Cenozoic types in the collections of the U. S. National Museum. Proceedings of the United States National Museum, **8**: 290-344.

Marcou, J.B. 1886. Supplement to the list of Mesozoic and Cenozoic invertebrate types in the collections of the National Museum. Proceedings of the United States National Museum, **9**: 250-254.

Marple, M.F., W.P. Leutze, and T.J.M. Schopf. 1964. Second supplement to the catalogue of type fossils in the Orton Museum, the Ohio State University. Department of Geology, Ohio State University, Columbus (Ohio), ii + 27 pp.

Marshall, W.B. 1892. Gould's types of *Nassa* and *Columbella*. The Nautilus, **6**(4): 47-48.

Marston, J. 1968. Notes on New Zealand Paryphantidae in the Naturhistorisches Museum, Vienna. Poiriera, Conchology Section, Auckland Institute and Museum, 4(3): 36-38.

Matsukuma, A. and T. Okutani. 1986. Studies on the Kawamura collection (Mollusca) in the National Science Museum, Tokyo–II. Catalogue of type specimens, with description of *Pinna cellophana* n.sp. (Bivalvia). Venus, The Japanese Journal of Malacology, **45**(1): 1-10, pl. 1.

May, W.L. 1903. On Tenison-Woods types in the Tasmanian Museum, Hobart. Papers & Proceedings of the Royal Society of Tasmania, **1902**: 106-114, 13 figs.

McCoy, C.J., Jr. 1964. Type specimens of Recent Gastropoda in the University of Colorado Museum. University of Colorado Studies, Series in Biology, **12**: 1-7.

McHenry, A. and W.W. Watts. 1895. Guide to the collections of rocks and fossils belonging to the Geological Survey of Ireland, arranged in Room III.E of the Museum of Science and Art, Dublin. H.M.S.O, Dublin, 155 pp. [reprinted 1898].

McMichael, D.F. and G.P. Whitley. 1956. The published writings of Tom Iredale with an index of his new scientific names. The Australian Zoologist, **12**(3): 211-250 [see also Whitley, 1972].

McMichael, D.F. and G.P. Whitley. 1961. A bibliography of Charles Francis Laseron with an index to his new genera and species. Proceedings of the Royal Zoological Society of New South Wales, **1958-59**: 114-130.

McMillan, N.F. 1957. Types of *Cypraea lynx* var. *williamsi* Melvill. Journal of Conchology, 24(6): 212.

McMillan, N.F. 1980. William Swainson (1789-1855) and his shell collections. Journal of the Society for the Bibliography of Natural History, **9**(4): 427-434.

McMillan, N.F. 1985. Frederick Price Marrat, 'Conchologist etc.' with a list of his type and figured specimens in Merseyside County Museums and a bibliography of his publications. Merseyside County Museums Occasional Papers, **3**: ii + 1-33.

Meco, J. "1972-1973" [1975]. Los moluscos marinos de las Islas Canarias de la colección Webb y Berthelot del Museo Británico de Historia Natural. Revista el Museo Canario, **23/24**: 11-30.

Meecham, C. 1987a. The Melvill-Tomlin Collection, Parts 37, 38, and 39, Dreissenacea, Gaimardiacea and Arcticacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 22 pp.

Meecham, C. 1987b. The Melvill-Tomlin Collection, Part 41, Cardiacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 31 pp.

Meecham, C. 1989. The Melvill-Tomlin Collection, Part 49, Corbiculacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 48 pp.

Meiburg, P., K. Oekentorp, and P. Siegfried. 1969. Katalog der Typen und Belegstücke zur Paläozoologie im Geologisch-Paläontologischen Institut der Westfälischen Wilhelms-Universität Münster. I. Teil: Invertebrata. Münstersche Forschungen zur Geologie und Paläontologie, **11**: 1-260.

Melmore, S. 1945-1946. Catalogue of types and figured specimens in the Geological Department of the Yorkshire Museum. The North Western Naturalist, **20**(3-4): 207-221; **21**(1-2): 72-91; **21**(3-4): 234-245.

Mermod, G. 1947. Catalogue des types et des exemplaires de cônes, figurés ou décrits par Hwass, Bruguière, Lamarck, de Lessert, Kiener et Chenu, se trouvant au Musée de Genève. Revue Suisse de Zoologie, **54**(5): 155-217, figs. 1-4.

Mermod, G. 1950a. Les collections malacologiques du Musée d'Histoire Naturelle de Genève. Journal de Conchyliologie, **90**(1): 58-59.

Mermod, G. 1950b. Les types de la collection Lamarck au Muséum de Genève. Mollusques vivants, I. Revue Suisse de Zoologie, **57**(34): 687-756, figs. 1-50.

Mermod, G. 1951. Les types de la collection Lamarck au Muséum de Genève. Mollusques vivants, II. Revue Suisse de Zoologie, **58**(40): 693-753, figs. 1-43.

Mermod, G. 1952. Les types de la collection Lamarck au Muséum de Genève. Mollusques vivants, III. Revue Suisse de Zoologie, **59**(2): 23-97, figs. 1-59.

Mermod, G. 1953. Les types de la collection Lamarck au Muséum de Genève. Mollusques vivants, IV. Revue Suisse de Zoologie, **60**(2): 131-204, figs. 1-47.

Mermod, G. and E. Binder. 1963. Les types de la collection Lamarck au Muséum de Genève. Mollusques vivants, V. Revue Suisse de Zoologie, **70**(1): 127-172, figs. 1-34.

Merriam, J.C. 1895. A list of type specimens in the Geological Museum of the University of California, which have served as originals for figures and descriptions in the Paleontology of the State Geological Survey of California under J. D. Whitney. University of California, Deptartment of Geology, Berkeley, 3 pp. [Reprinted, 1896, California State Mining Bureau, Bulletin, **10**: 21-23].

Métivier, B. 1982. Cours historique du Laboratoire de Biologie des Invertébrés Marins et Malacologie et de ses collections. Xenophora, **12**: 16-18.

Michelson, E.H. 1953. Some remarks concerning the types of C. B. Adams' West Indian Planorbidae. Occasional Papers of the Museum of the Institute of Jamaica, **9**: 1-4, pls. 1-2.

Mienis, H.K. 1972. List of holotypes and paratypes of non-marine Mollusca from Africa (exclusive of North Africa) preserved in the collection of the Hebrew University of Jerusalem. Achatina, **3**: 53-54.

Mienis, H.K. 1973. Names of non-marine Mollusca from Africa (exclusive of North Africa) introduced by Giorgio S. Coen. Achatina, **4**: 87-88.

Mienis, H.K. 1974. Type specimens of molluscs in the collection of the Hebrew University of Jerusalem. 1. Types of taxa described by H. B. Preston. Argamon, **4**(2-4): 47-55.

Mienis, H.K. 1975a. Type specimens of Littorinidae in the Zoological Museum of the Hebrew University of Jerusalem. The Littorinid Tidings, **4**: 38-39.

Mienis, H.K. 1975b. Type specimens of Opisthobranchia (including Pyramidellidae) in the Zoological Museum of the Hebrew University of Jerusalem. 1. Type specimens of taxa described by Giorgio S. Coen. Opisthobranch Newsletter, 7(10): 49-50.

Mienis, H.K. 1976a. Type specimens of Mollusca in the collection of Hebrew University of Jerusalem. 2. Type specimens of Recent Marginellidae. Basteria, **40**(1): 7-9.

Mienis, H.K. 1976b. Types de quelques mollusques terrestres et fluviatiles de France dans la collection Coen de l'Hebrew University of Jerusalem. Elona, **3**: 40-41.

Mienis, H.K. 1976c. Publications on non-marine Mollusca from East Africa by G. Bacci with a list of new taxa. Achatina, **6**: 125-126.

Mienis, H.K. 1976d. Type specimens of Opisthobranchia (including Pyramidellidae) in the Zoological Museum of the Hebrew University of Jerusalem. 2. Type specimens of taxa described by J. C. Melvill and H. B. Preston. Opisthobranch Newsletter, **8**(3-4): 13-14.

Mienis, H.K. 1977. Type specimens of Mollusca in the collection of the Hebrew University of Jerusalem. 3. Type specimens of Recent Bulimulidae. Journal de Conchyliologie, **114**(1-2): 57-58.

Mienis, H.K. 1981. Preliminary list of taxa belong to the Cypraeidae, Ovulidae and Triviidae, represented by type material in the mollusc collection of the Hebrew University. Levantina, **33**: 409-412.

Mienis, H.K. 1984. Een kort historisch overzicht betreffende de Molluskenverzameling van de Hebreeuwse Universiteit in Jeruzalem. Correspondentieblad van de Nederlandse Malacologische Vereniging, **221**: 1608-1612.

Mienis, H.K. 1985. Enkele aanvullingen betreffende de aanwezigheid van typemateriaal in de Molluskenverzameling van de Hebreeuwse Universiteit in Jeruzalem. Correspondentieblad van de Nederlandse Malacologische Vereniging, **226**: 97-98.

Mihajlovic-Pavlovic, M. 1985. Katalog Zbirke Jurskih Amonita u Prirodnjackom Muzeju [Catalogue of the collection of Jurassic ammonites in the Natural History Museum]. Posebna Izdanja, Prirodnjacki Museja u Beogradu, **34**: 1-69, pls. 1-33. [In Serbian].

Milan, A., K. Sakac, and A. Zagar-Sakac. 1974. Katalog originala tipova vrsta pohranjenih u Geolosko-Paleontoloskom Muzeju u Zagrebu. [Katalog der im Geologisch-paläontologischen Museum in Zagreb aufbewahrten Originale von Artentypen]. Geolosko-Paleontoloskom Muzeju, Zagreb, 186 pp. [In Croatian; German summary].

Miller, A.K. 1936. Type invertebrate fossils of North America (Devonian). Division VII. Cephalopoda. B. Ammonidea. Wagner Free Institute of Science, Philadelphia, 50 pp.

Miller, R.F. 1988. Catalogue of type fossils in the New Brunswick Museum. New Brunswick Museum, Publications in Natural Science, 7: iv + 75 pp.

Milosevic, V. 1962. Sistematski Pregled Primeraka-Originala iz Paleontoloske Zbirke Prirodnjackog Muzeja u Beogradu [Liste systématique des exemplaires-orignaux de la collection paléontologique du Musée d'Histoire Naturelle à Beograd]. Glasnik Prirodnjackog Museja u Beogradu, Ser. A, Mineralogija, Geologija, Paleontologija, **16-17**: 3-44, pls. 1-22. [In Serbian; French summary].

Mol, J.-J. van. 1971. Uncritical list of type material of African non-marine Mollusca in U.S. Museums. I. The United States National Museum–Washington D.C. II. The Academy of Natural Sciences–Philadelphia (Part 1). Achatina, **2**: 29-33.

Mol, J.-J. van. 1972. Uncritical list of type material of African non-marine Mollusca in U.S. Museums. II. The Academy of Natural Sciences–Philadelphia (Part 2). Achatina, **3**: 46-49.

Monaghan, N.T. 1992. Geology in the National Museum of Ireland. Geological Curator, **5**(7): 275-282.

Mongereau, N. 1965. Catalogue des "types" et "figurés" conservés à la Faculté des Sciences de Lyon. 3ème liste. Echinodermes et Céphalopodes coléoïdes. Documents des Laboratoires de Géologie de la Faculté des Sciences de Lyon, **10**: 1-91.

Moolenbeek, R.G. 1991. De Molluskencollectie van het Natuurhistorisch Museum te Bordeaux. Correspondentieblad van de Nederlandse Malacologische Vereniging, **259**: 815-816.

Moolenbeek, R.G., H.J. Hoenselaar, and M. Oliverio. 1991. The rissoid species described by J.-J. Oberling. Bollettino Malacologico, **27**(5-9): 107-120.

Moore, D.T., J.C. Thackray, and D.L. Morgan. 1991. A short history of the Museum of the Geological Society of London, 1807-1911, with a catalogue of the British and Irish accessions, and notes on surviving collections. Bulletin of the British Museum (Natural History), Historical Series, **19**(1): 51-160.

Moore, E.J. 1962. Conrad's Cenozoic fossil marine mollusk type specimens at the Academy of Natural Sciences of Philadelphia. Proceedings of the Academy of Natural Sciences of Philadelphia, **114**(2): 23-120, pl. 1.

Mörch, O.A.L. 1870. Uebersicht der von Lorentz Spengler beschriebenen Conchylien. Malakozoologische Blätter, **17**: 99-124.

Morningstar, H. 1924. Catalogue of type fossils in the Geological Museum at the Ohio State University. The Ohio Journal of Science, **24**(1): 31-64.

Moulet, P. "1988" [1989]. Taxons dédiés à Espirit Requien ou décrits par lui. Bulletin de la Société d'étude des Sciences Naturelles de Vaucluse, Numéro Spécial, "Mélanges Requien," pp. 33-40.

Mount, J.D. 1973a. Type invertebrates from the Charles E. Weaver collection now at the University of California, Riverside. Journal of Paleontology, **47**(3): 592.

Mount, J.D. 1973b. Type specimens of Mollusca from the Charles R. Orcutt collection now at the University of California, Riverside. The Veliger, **16**(2): 200-202.

Munthe, J. 1980. Catalogue of fossil type and figured specimens in the Milwaukee Public Museum. Contributions in Biology and Geology, Milwaukee Public Museum, **39**: 1-27.

Murphy, M.A. and P.U. Rodda. 1977. The type specimens of *Ammonites hoffmanni* Gabb and *Melchiorites indigenes* Anderson (Cretaceous: Ammonoidea). The Veliger, **20**(2): 78-81, 78a, 2 pls.

Naggs, F. [in press]. A catalogue of types in the family Subulinidae (Pulmonata, Mollusca) held in the Natural History Museum, London. The Natural History Museum, London, v + 60 pp.

Nateewathana, A. 1990. Andaman Sea type-species [sic] deposited in the Reference Collection of PMBC and other collections, with notes on how to obtain material for taxonomic studies. Phuket Marine Biological Center Research Bulletin, 54: 65-74.

Natsukari, Y. and T. Okutani. 1975. Taxonomic and morphological studies on the loliginid squids. I. Identity of *Loligo chinensis* Gray, 1849, re-description of the type specimen and taxonomic review (Cephalopoda; Loliginidae). Venus, Japanese Journal of Malacology, 34(3-4): 85-91, figs. 1-4.

Nelson, C.M. and T. Pain. 1986. Linnaeus' *Neptunea* (Mollusca: Gastropoda). Zoological Journal of the Linnean Society, 88: 291-305.

Nevill, G. 1878. Hand list of Mollusca in the Indian Museum, Calcutta. Part 1. Gastropoda: Pulmonata and Prosobranchia-Neurobranchia. Indian Museum, Calcutta, xvi + 338 pp.

Nevill, G. 1885. Hand list of Mollusca in the Indian Museum, Calcutta. Part 2. Gastropoda: Prosobranchia-Neurobranchia (contd.). Indian Museum, Calcutta, x + 306 pp.

Newton, R.B. 1891. Systematic list of the Frederick E. Edwards collection of British Oligocene and Eocene Mollusca in the British Museum (Natural History), with references to the type-specimens from similar horizons contained in other collections belonging to the Geological Department of the Museum. British Museum (Natural History), London, xxviii + 365 pp.

Newton, R.B. 1902. List of Thomas Say's types of Maryland (U.S.) Tertiary Mollusca in the British Museum. Geological Magazine, (4) 9(6): 303-305.

Nieuwenhuis, J.G.B. 1990. De herkomst van onze tropische zee schelpen uit de Molukken. Straatgras, 2(4): 4-5.

Nitsch, E. 1990. Der Holotyp zu *Ammonites angulatoides* Quenstedt 1883 (Unterjura, Untersinemurium) und seine systematische Stellung. Jahreshefte der Gesellschaft für Naturkunde in Württemberg, 145:51-58.

North, F.J. 1928. Type and figured fossils in the National Museum of Wales. Geological Magazine, 65(5): 193-210. [Reprinted, National Museum of Wales, Cardiff, 20 pp].

Nudds, J.R. 1982. Catalogue of type, figured and referred fossils in the Geological Museum of Trinity College, Dublin: part 2 (Brachiopoda, Mollusca). Journal of Earth Sciences, Royal Dublin Society, 5(1): 61-89.

Nudds, J.R. 1988. Catalogue of type, figured, and referred fossils in the Geological Museum of Trinity College, Dublin: supplement (Animalia). Irish Journal of Earth Sciences, 9(2): 177-196.

Odhner, N.H. 1950. Collections malacologiques du Musée de l'État (Riksmuseum) à Stockholm. Journal de Conchyliologie, **90**(2): 136-138.

Odhner, N.H. 1953. Identifications of Linnean shells in Museum Ludovicae Ulricae. Zoologiska Museet, Uppsala, 27 pp. [Manuscript].

Okali, I. 1984. List of the type specimens in the collections of the Slovak National Museum–Institute of Natural History, Bratislava: Mollusca, Annelida, Crustacea. Zborník Slovenského Národného Múzea, Prírodné Vedy, Bratislava, **30**: 205-207.

Okutani, T. 1976. Notes and illustrations of four abyssal protobranchiate bivalves collected from the North Pacific by the H.M.S. *Challenger* in 1875. Venus, The Japanese Journal of Malacology, **35**(1): 24-26.

Okutani, T. 1983. World seashells of rarity and beauty. National Science Museum, Tokyo, iii + 12 pp., 48 pls.

Olazarri, J., A. Mones, and E. Duarte. 1972. Lista de los ejémplares-tipos depositados en el Museo Nacional de Historia Natural de Montevideo, Uruguay. II. Mollusca. Comunicaciones Zoologicas del Museo de Historia Natural de Montevideo, **10**(133): 1-7.

Oliveira, M.P. de and M.H.R. de Oliveira. 1984. Listagem de Tipos de Gastropoda Pulmonata brasileiros depositados em quatro Museus Europeus. Boletim do Instituto de Ciências Biológias e de Geociências, **38**: 1-46.

Oliveira, M.P. de, R.G. de J. Rezende, and G.A. de Castro. 1981. Catálogo dos moluscos da Universidade Federal de Juiz de Fora. Sinoníma de Família, Gênero e Espécie. Universidade Federal de Juiz de Fora, Minas Gerais, 520 pp.

Oliver, P.G. 1981a. The Melvill-Tomlin Collection, Part 1, Arcacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 36 pp.

Oliver, P.G. 1981b. The Melvill-Tomlin Collection, Parts 3, 4 and 5, Pholadomyacea, Pandoracea and Poromyacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 36 pp.

Oliver, P.G. 1982a. The Melvill-Tomlin Collection, Parts 8 and 9, Carditacea and Crassatellacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 46 pp.

Oliver, P.G. 1982b. The Melvill-Tomlin Collection, Part 11, Pectinacea (Pectinidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 42 pp.

Oliver, P.G. 1983. The Melvill-Tomlin Collection, Part 17, Achatinacea (Achatinidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 28 pp.

Oliver, P.G. 1984a. The Melvill-Tomlin Collection, Parts 22, 23, 24 and 25, Nuculacea, Nuculanacea, Solemyacea & Nucinellidae. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 34 pp.

Oliver, P.G. 1984b. The Melvill-Tomlin Collection, Part 26, Scaphopoda. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 24 pp.

Oliver, P.G. 1984c. The Melvill-Tomlin Collection, Part 27, Limopsacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 28 pp.

Oliver, P.G. 1984d. The Melvill-Tomlin Collection, Part 28, Mytilacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 46 pp.

Oliver, P.G. 1987a. The Melvill-Tomlin Collection, Part 40, Glossacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 8 pp.

Oliver, P.G. 1987b. The Melvill-Tomlin Collection, Parts 46 and 47, Anomiacea and Limacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 30 pp.

Olsson, A.A. and S.P. Dance. 1966. The Linnaean olives. Bulletins of American Paleontology, **50**(227): 215-223, pl. 19.

Owen, D. 1964. Care of type specimens. Museums Journal, **63**(4): 288-291.

Oyama, K. 1973. Revision of Matajiro Yokoyama's type Mollusca from the Tertiary and Quaternary of the Kanto Area. Palaeontological Society of Japan, Special Papers, **17**: 148 pp., 57 pls.

Pace, S. 1902. Contributions to the study of the Columbellidae. No. 1. Proceedings of the Malacological Society of London, 5(1,2): 36-154. [Note: this was the only part published].

Pain, T. 1949. On the types of three species of Pomacea described by G.B. Sowerby III. Proceedings of the Malacological Society of London, **28**(1): 39-40, pls. 1-2.

Pain, T. 1951. On the type of *Pila nyanzae* (Smith, 1892). Proceedings of the Malacological Society of London, **28**(6): 230-231, pl. 28.

Pallary, P. 1932. Inventaire de la collection malacologique de Savigny. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2), **4**(3): 313-321.

Palmer, K.V.W. 1945a. Molluscan types in the Carpenter collection in the Redpath Museum. The Nautilus, **58**(3): 97-102.

Palmer, K.V.W. 1945b. Marquis de Gregorio's Claiborne types. The Nautilus, **59**(1): 34-35.

Palmer, K.V.W. 1950. Notes and illustrations of type and comparative specimens of Recent Pacific pelecypods. Journal de Conchyliologie, **90**(3): 190-194, pl. 1.

Palmer, K.V.W. 1951. Catalog of the first duplicate series of the Reigen Collection of Mazatlan shells in the State Museum at Albany, New York. Bulletin of the New York State Museum, **342**: 1-79, pl. 1.

Palmer, K.V.W. 1958. Type specimens of marine Mollusca described by P. P. Carpenter from the west coast (San Diego to British Columbia). Memoir of the Geological Society of America, **76**: i-vii + 1-376, pls. 1-35.

Palmer, K.V.W. 1963. Type specimens of marine Mollusca described by P. P. Carpenter from the west coast of Mexico and Panama. Bulletins of American Paleontology, **46**(211): 289-408, pls. 58-70.

Palmer, K.V.W. and D.C. Brann. 1965. Catalogue of the Paleocene and Eocene Mollusca of the southern and eastern United States. Part I. Pelecypoda, Amphineura, Pteropoda, Scaphopoda, and Cephalopoda. Bulletins of American Paleontology, **48**(218): 1-466, pls. 1-3.

Palmer, K.V.W. and D.C. Brann. 1966. Catalogue of the Paleocene and Eocene Mollusca of the southern and eastern United States. Part II. Gastropoda. Bulletins of American Paleontology, **48**(218): 467-1057, pls. 4-5.

Panning, A. 1955-1958. Beiträge zur Geschichte des Zoologischen Staatsinstituts und Zoologischen Museums in Hamburg [1-4 Teile]. Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut, **53**: 1-23; **54**: 1-20; **55**: 1-23; **56**: 1-30, pls. 1-3.

Parodiz, J.J. 1967. Types of North American Unionidae in the collection of the Carnegie Museum. Sterkiana, **28**: 21-30.

Parodiz, J.J. and J.J. Tripp. 1988. Types of Mollusca in the collection of the Carnegie Museum of Natural History. Part I. Bivalvia and Gastropoda (Prosobranchia and Opistobranchia [sic]). Annals of Carnegie Museum, **57**(5): 111-154.

Pasternak, S.I. and V.T. Leutzkii. 1963. [Monographic collections of the palaeontological material in the Scientific Nature-Research Museum, Academy of Sciences, Ukrainian RSR]. Kiev, 36 pp. [In Russian].

Pattison, J. 1977. Catalogue of the type, figured and cited specimens in the King Collection of Permian fossils. Bulletin of the Geological Survey of Great Britain, **62**: 33-44.

Paulus, M., P. Mars, and R.-P. Charles. 1951. Les collections malacologiques du Muséum d'Histoire Naturelle de Marseille. Journal de Conchyliologie, **91**(2): 59-64.

Pavia, G. 1976. I tipi di alcuni Gasteropodi terziari di Stefano Borson. Bollettino della Società Paleontologica Italiana, **15**(2): 145-158, 2 pls., 2 text-figs.

Peck, J.H., Jr. 1957. Paris Basin Eocene type specimens at the University of California. Journal de Conchyliologie, **97**(2): 67-81.

Peck, J.H., Jr. and H.B. McFarland. 1954. Whitfield Collection types at the University of California. Journal of Paleontology, **28**(3): 297-309, pl. 29.

Peden, A.E. and G. Green. "1981" [1982]. Primary type specimens of animals and plants in the British Columbia Provincial Museum. Syesis, **14**: 155-162.

Peile, A.J. 1936. Some Tristram types. Journal of Conchology, **20**(8): 254.

Pérez d'A., E. and R. Reyes B. 1989. Catálogo analítico de los tipos de Trigoniae (Mollusca; Bivalvia) descritos por R.A. Philippi. Servicio Nacional de Geologia y Mineria, Chile, Boletin, **41**: 1-51, 5 pls.

Perez, J.A.A. and M. Haimovici. 1991. Cephalopod collection of "Museu de Zoologia da Universidade de Sao Paulo," Sao Paulo, Brazil. Papéis Avulsos de Zoologia, Museu de Zoologia da Universidade de Sao Paulo, **37**(16): 251-258.

Perrilliat, M. del C. 1981. Catalogo de ejemplares tipo de invertebrados fosiles en el Museo de Paleontologia del Instituto de Geologia, UNAM, Mexico. Paleontología Mexicana, **45**: 1-183.

Petit, R.E. and J. Le Renard. 1990. George Perry's fossil molluscan taxa, published in the "Arcana" (1810-1811). Mededelingen van de Werkgroep voor Tertiaire en Kwartaire Geologie, **27**(1): 27-35, pls. 1-3.

Pfeiffer, L. G. C. 1853. Catalogue of Phaneropneumona, or Terrestrial Operculated Mollusca, in the Collection of the British Museum. Woodfall and Kinder, London, [ii] + 324 pp.

Pfeiffer, L. 1855. Catalogue of Pulmonata or Air-Breathing Mollusca in the Collection of the British Museum. Part I. Taylor and Francis, London, [ii] + 192 pp, 5 text-figs.

Pfeiffer, L. 1857. Catalogue of Auriculidae, Proserpinidae, and Truncatellidae in the Collection of the British Museum. Taylor and Francis, London, [ii] + 150 pp.

Philip, G.M. 1971. Catalogue of type and figured specimens in the Palaeontological Collection of the Department of Geology, University of New England, Armidale, N.S.W. Bureau of Mineral Resources, Geology, and Geophysics, Report, **147**: 1-24.

Phillips, D. 1977. Catalogue of the type and figured specimens of Mesozoic Ammonoidea in the British Museum (Natural History). Publications, British Museum (Natural History), **790**: iv + 1-220.

Phillips, D. 1982. Catalogue of the type and figured specimens of fossil Cephalopoda (excluding Mesozoic Ammonoidea) in the British Museum (Natural History). Publications, British Museum (Natural History), **855**: 1-94.

Phillips, D. 1987. Additions to the catalogues of type and figured fossil Cephalopoda in the British Museum (Natural History). Publications, British Museum (Natural History), **1031**: ii + 1-155.

Phillips, P.W. 1976. Geological collections and collectors of note. 10. Merseyside County Museums. Newsletter of the Geological Curators Group, **1**(6): 253-289.

Piani, P. 1983. Della "Collezione Monterosato", di G.S. Coen e di altre cose ancora. Bollettino Malacologico, **19**(9-12): 273-278.

Pilsbry, H.A. 1946. The type specimens of C. B. Adams's Jamaican species of *Vitrinella*. Notulae Naturae of the Academy of Natural Sciences of Philadelphia, **162**: 1-5, figs. 1-6.

Pinna, G. 1971. I tipi delle specie di Gasteropodi terziari istituite da Giuseppe De Cristofori e Giorgio Jan nel 1832 conservati nelle collezioni del Museo Civico di Storia Naturale di Milano. Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano, **112**(4): 421-440, pls 76-77. [reprinted in: Lavori della Società Malacologica Italiana, **9**(8): 421-439, 2 pls.].

Pinna, G. and L. Spezia. 1975. Catalogo dei tipi del Museo Civico di Storia Naturale de Milano. II. I tipi dei Cefalopodi Ammonoidei. Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano, **116**(3-4): 183-198, pls. 11-15.

Pinna, G. and L. Spezia. 1978. Catalogo dei tipi del Museo Civico di Storia Naturale di Milano. V. I Tipi dei Gasteropodi fossili. Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano, **119**(2): 125-180, pls. 5-68.

Pintér, L. 1982. Die Typen in der Molluskensammlung des Ungarischen Naturwissenschaftlichen Museums zu Budapest. Miscellanea Zoologica Hungarica, **1**: 53-62.

Platnauer, H.M. 1891. List of figured specimens in York Museum. Annual Report of the Council of the Yorkshire Philosophical Society for MDCCCXC: 56-89.

Platnauer, H.M. 1894. Appendix to the list of figured specimens in the Museum of the Yorkshire Philosophical Society. Annual Report of the Council of the Yorkshire Philosophical Society for MDCCCXCIII: 46-56.

Ponder, W.F. 1978. The unfigured Mollusca of J. Thiele, 1930, published in *Die Fauna Südwest-Australiens*. Records of the Western Australian Museum, **6**(4): 423-441, 1 fig., pls. 1-2.

Ponder, W.F. and P.J. Stanbury. 1972. Type specimens in the Macleay Museum, University of Sydney. VI. Molluscs. Proceedings of the Linnean Society of New South Wales, **97**(1): 42-55.

Pons da Silva, M.C. and G.M. Davis. 1983. d'Orbigny's type specimens of *Paludestrina* (Gastropoda: Prosobranchia) from southern South America. Proceedings of the Academy of Natural Sciences of Philadelphia, **135**: 128-146.

Pouwer, R. 1991. Preliminary list of molluscan types in the collections of the Geological Survey of The Netherlands. Rijks Geologische Dienst Haarlem, Internal Report, **1577**: 1-4.

Powell, A.W.B. 1941. Biological primary types in the Auckland Museum. Records of the Auckland Institute and Museum, **2**(5): 239-259.

Powell, A.W.B. 1949. Biological primary types in the Auckland Museum. No. 3. Zoological (supplement). Records of the Auckland Institute and Museum, **3**(6): 403-409.

Powell, H.P. and J.M. Edmonds. 1976. List of type-fossils in the Philpot Collection, Oxford University Museum. Proceedings of the Dorset Natural History and Archaeological Society, **98**: 48-53.

Prescher, H. 1970. Wissenschaftliche Materialien im Staatlichen Museum für Mineralogie und Geologie zu Dresden. Geologie, Zeitschrift für das Gesamtgebiet der Geologischen Wissenschaften, **19**(6): 677-681.

Prieur, A. [ed.]. 1980. Catalogue des collections paléontologiques françaises. Office National de Gestion des collections paléontologiques françaises, Département des Sciences de la Terre, Université Claude-Bernard, Lyon, vi + 307 pp.

Pritchett, A.H. 1905. Fossil Cephalopoda, described by Hyatt and Cragin, in the Museum of the University of Texas. Biological Bulletin, **8**(6): 365-366.

Purnell, L.R. 1968. Catalog of the type specimens of invertebrate fossils. Part 1. Paleozoic Cephalopoda. Bulletin of the United States National Museum, **262**: 1-198.

Pyrah, B.J. 1977. Catalogue of type and figured fossils in the Yorkshire Museum: Part 2. Echinodermata, Bivalvia. Proceedings of the Yorkshire Geological Society, **41**(2): 241-260.

Pyrah, B.J. 1978. Catalogue of type and figured fossils in the Yorkshire Museum: Part 3. Gastropoda, Polyplacophora, Scaphopoda, Cephalopoda. Proceedings of the Yorkshire Geological Society, **41**(4): 437-460.

Rajagopal, A.S. and S.C. Mitra. 1978. A note on the status of the type specimens of *Conus pretiosus* and *Conus seychellensis* G. & H. Nevill (Gastropoda: Conidae). Malacological Review, **11**(1-2): 61-62.

Raymond, P.E. 1936. The invertebrate fossil collections. pp. 84-87, [*in*] T. Barbour (ed.), Notes concerning the history and contents of the Museum of Comparative Zoölogy. Harvard University, Cambridge, 89 pp.

Rees, W. 1954. The shell collection of E. R. Sykes. Journal of Conchology, **24**(1): 23-24.

Rehder, H.A. 1967. Valid zoological names of the Portland Catalogue. Proceedings of the United States National Museum, **121**(3579): 1-51.

Reyment, R.A. 1973. Notes on older collections in the museum. De Rebus in Palaeontologico Museo Upsaliensis Collectis / Illustrated Catalogue of the Type Collections of the Palaeontological Museum of the University of Uppsala, **1**: 2-8, 3 pls.

Reyment, R.A. 1974. Magnus von Bromell's collection (cont.). De Rebus in Palaeontologico Museo Upsaliensis Collectis / Illustrated Catalogue of the Type Collections of the Palaeontological Museum of the University of Uppsala, **2**: 1-10, figs. 1-16.

Reyment, R.A. 1976. Biographical note on Göran (Georg) Wahlenberg; Göran Wahlenberg's collection. De Rebus in Palaeontologico Museo Upsaliensis Collectis / Illustrated Catalogue of the Type Collections of the Palaeontological Museum of the University of Uppsala, **3**: 1-11, figs. 1-30.

Richard, G. 1980. *Conus* (*Leptoconus*) *lozeti* sp. nov. de l'Océan Indien et liste des types de Conidae conservés au Muséum national d'Histoire naturelle de Paris. Cahiers de l'Indo-Pacifique, **2**(1): 91-100. [Reprinted, 1981, Xenophora, **1**: 6-8].

Richards, H.G. 1968. Catalogue of invertebrate fossil types at the Academy of Natural Sciences of Philadelphia. Academy of Natural Sciences, Special Publication, **8**: 1-222.

Richards, M.C. and W.E. Old, Jr. 1969. A catalogue of molluscan type specimens in the Department of Living Invertebrates, the American Museum of Natural History, New York, New York, U.S.A.. The American Museum of Natural History, New York, 147 pp.

Richardson, J.E. 1971. Dr. James Charles Cox–Conchologist (1834-1912). Bibliography of natural history papers with an index to his scientific names. The Australian Zoologist, **16**(2): 71-83, pl. 8.

Richardson, L., R. Robertson, G.M. Davis, and E.E. Spamer. 1991. Catalog of the types of neontological Mollusca of the Academy of Natural Sciences of Philadelphia. Part 6: Gastropoda: Mesogastropoda: Viviparacea, Valvatacea, Littorinacea, Rissoacea (Pt. 1: Adeorbidae, Amnicolidae, Anabathridae, Assimineidae, Barleeidae, Bithyniidae, Caecidae, Cingulopsidae, Elachisinidae, Falsicingulidae). Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **23**: ii + 243 pp.

Riley, T.H. 1974. Type specimens in the palaeontological collections of the Sheffield City Museums, England. Newsletter of the Geological Curators Group, **1**(2): 36-37.

Rinetti Schiroli, L. 1984. Catalogo degli olotipi depositati pressor il Museo di Paleontologia, Dipartimento di Scienze della Terra, Università degli Studi di Milano. Rivista Italiana di Paleontologia e Stratigrafia, **90**(1): 109-127.

Rios, E.C. 1979. Exemplares–Tipo de moluscos depositados no Museu Oceanográfico de Rio Grande. pp. 113-117, [*in*] Anais do V Encontro de Malacologistas Brasileiros, Mossoró, RN, 14 a 17 de Julho de 1977. Fundaçao Zoobotânica do Rio Grande do Sul, Porto Alegre.

Robertson, R., L. Richardson, G.M. Davis, and A.E. Bogan. 1981. Catalog of the types of neontological Mollusca of the Academy of Natural Sciences of Philadelphia. Part 2. Gastropoda. Archaeogastropoda: Pleurotomariacea, Fissurellacea, Patellacea. Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **5**: 1-48.

Robertson, R., L. Richardson, G.M. Davis, and A.E. Bogan. 1983. Catalog of the types of neontological Mollusca of the Academy of Natural Sciences of Philadelphia. Part 3. Gastropoda. Archaeogastropoda: Trochacea: Trochidae, Stomatellidae. Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **7**: 1-90.

Robertson, R., L. Richardson, G.M. Davis, and A.E. Bogan. 1986. Catalog of the types of neontological Mollusca of the Academy of Natural Sciences of Philadelphia. Part 4. Gastropoda. Archaeogastropoda: Trochacea (concluded); Neritacea (*sensu lato*). Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **14**: ii, 1-153.

Robertson, R., L. Richardson, G.M. Davis, and A.E. Bogan. 1987. Catalog of the types of neontological Mollusca of the Academy of Natural Sciences of Philadelphia. Part 5. Gastropoda. Archaeogastropoda [sic]: Cyclophoracea. Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **15**: ii, 1-140.

Rodda, P.U. and M.A. Murphy. 1991. The Philadelphia syntypes of *Ammonites hoffmanni* Gabb (Cretaceous) (Mollusca: Ammonoidea). The Veliger, **34**(4): 360-365, 1 pl.

Rodeck, H.G. 1938. Type specimens of fossils in the University of Colorado Museum. Colorado University Studies, **25**(4): 281-304.

Roger, J. 1950. Collections malacologiques du Laboratoire de Paléontologie du Muséum. Journal de Conchyliologie, **90**(3): 226-229.

Rolfe, W.D.I., *et al.* 1981. Type specimens of fossils from the Hunterian Museum and Glasgow Art Gallery and Museum. Hunterian Museum, University of Glasgow, Glasgow, 8 pp., 5 microfiches.

Roman, F. 1935. Les collections de Géologie et de Paléontologie de la Faculté des Sciences de Lyon. Annales de la Société Linnéenne de Lyon, (n.s.) **78**: 197-264.

Roman, F. 1937. Liste des types et échantillons figurés conservés à la Faculté des Sciences de Lyon et dans les Musées d'Histoire Naturelle de Lyon et de Chambéry. (1re Liste). Travaux du Laboratoire de Géologie de la Faculté des Sciences de Lyon, **33**: 1-51.

Romanovskaya, L.V. and T.M. Malchevskaya. 1971. Katalog, golotipov vidov fauny i flory khranyashchiksya v TsNIGR Muzee, Vyp 2. [Catalogue of monographic paleontological collections kept in CNIGR Museum, Issue 2]. Ministry of Geology of the USSR, Leningrad, 47 pp. [In Russian; not seen].

Romanovskaya, L.V., T.M. Malchevskaya, and N.M. Kadlets. 1979. Katalog, golotipov vidov fauny i flory khranyashchiksya v TsNIGR Muzee, Vyp 1. [Catalogue of holotypes of fauna and flora species stored in CNIGR Museum, Issue 1]. Ministry of Geology of the USSR, Leningrad, 293 pp. [In Russian; not seen].

Roper, C.F.E. and M.J. Sweeney. 1978. A catalog of the type-specimens of Recent Cephalopoda in the National Museum of Natural History. Smithsonian Contributions to Zoology, **278**: 1-19.

Roscoe, E.J. 1963. Primary type specimens in the University of Utah molluscan collection. Sterkiana, **11**: 51-52.

Rosewater, J. 1959. Calvin Goodrich; a bibliography and catalogue of his species. Occasional Papers on Mollusks, **2**(24): 189-208, pls. 33-34.

Rosewater, J. 1984a. A bibliography and list of the taxa of Mollusca introduced by Joseph P. E. Morrison (December 7, 1906–December 2, 1983). The Nautilus, **98**(1): 1-9, 1 fig.

Rosewater, J. 1984b. Bermuda marine mollusk type specimens transferred to the Smithsonian. The Nautilus, **98**(4): 151-153.

Rossi-Ronchetti, C. 1952. I tipi della "Conchiologia fossile subapennina" di G. Brocchi. Parte I: Crostacei, Lamellibranchi. Rivista Italiana di Paleontologia e Stratigrafia, Memoire, **5**(1): 1-89 + ii pp. Also published in the Rivista Italiana di Paleontologia e Stratigrafia, 57(1, 2, 3, 4) [1951] and **58**(1, 2) [1952].

Rossi-Ronchetti, C. 1955. I tipi della "Conchiologia fossile subapennina" di G. Brocchi. Parte II: Gasteropodi, Scafopodi. Rivista Italiana di Paleontologia e Stratigrafia, Memoire, **5**(2): 91-343 + xii pp. Also published in the Rivista Italiana di Paleontologia e Stratigrafia, **58**(3, 4) [1952], **59**(1, 2, 3, 4) [1953], **60**(1, 2, 3, 4) [1954] **61**(1, 2, 3, 4) [1955] and **62**(1, 2) [1956].

Roth, B. 1970. Names proposed by Leo George Hertlein from 1925 to 1970. The Nautilus, **84**(2): 52-69.

Roth, B. "1981" [1982]. Type material of the land snail *Helminthoglypta exarata* (Pfeiffer, 1857). Bulletin of the Southern California Academy of Science, **80**(3): 126-130, fig. 1.

Roth, B. "1987" [1988]. Identities of two Californian land mollusks described by Wesley Newcomb. Malacological Review, **20**(1-2): 129-132.

Roth, B. and P.W. Clover. 1973. A review of the Marginellidae described by Bavay, 1903-1922. The Veliger, **16**(2): 207-215, figs. 1-8.

Rozefelds, A.C., E.D. McKenzie, and C. Mobbs. 1990. Type, figured and mentioned fossil invertebrates in the Queensland Museum. Memoirs of the Queensland Museum, **28**(2): 665-713.

Rudman, W.B. 1983. The cephalopod collection of the Australian Museum. Memoirs of the National Museum of Victoria, **44**: 67-70.

Ruhoff, F.A. 1973. Bibliography and zoological taxa of Paul Bartsch with a biographical sketch by Harald A. Rehder. Smithsonian Contributions to Zoology, **143**: 1-166.

Rutsch, R. 1937. Originalien der Basler Geologischen Sammlung zu Autoren des 16.-18. Jahrhunderts. Verhandlungen der Naturforschenden Gesellschaft in Basel, **48**: 15-46.

Ruzicka, B. and F. Prantl. 1960. Genotypy nekterych Barrandovych rodu staroprvohornich mlzu (Pelecypoda) [Types of some of Barrande's Pelecypods (Barrandian)]. Casopis Národního Musea, Praha, **129**(1): 48-55.

Rydzewski, W. 1979. A list of catalogues of type specimens in zoology and palaeontology. Natural History Museums' Newsletter, 2(4): 17-23.

Salisbury, A.E. and B.B. Woodward. 1926. Note on the misidentification by Hanley of Müllerian species of *Corbicula* with the *Cardium virgineum* of Linné. Proceedings of the Malacological Society of London, **17**(2/3): 102.

Salter, J.W. 1873. A catalogue of the collection of Cambrian and Silurian fossils contained in the Geological Museum of the University of Cambridge. University Press, Cambridge, xlviii + 204 pp.

Sandberg, L. and A. Warén. [in prep.] Molluscan names introduced by N.H. Odhner. [Manuscript].

Saul, L.R. 1991. Type and referred specimens of fossil Invertebrata in the Natural History Museum of Los Angeles County, Supplement 3: Mollusca formerly conserved at the University of California, Los Angeles. Natural History Museum of Los Angeles County, Technical Report, **6**: iv + 173 pp.

Schäfer, W. 1938. Die Typen der von Rüppell 1844 beschriebenen Cephalopoden. Senckenbergiana, **20**(1-2): 80-94, figs. 1-12.

Schenck, H.G. 1935. Neotypes of *Nucula nucleus* (Linné). Proceedings of the Malacological Society of London, **21**(4): 258-261, figs. 1-3.

Schilder, F.A. 1930. Remarks on type specimens of some Recent Cypraeidae. Proceedings of the Malacological Society of London, **19**(1): 49-58.

Schilder, F.A. 1958. Die Typen der von mir benannten Cypraeacea. Archiv für Molluskenkunde, **87**(4-6): 157-179.

Schilder, F.A. 1964. The cowries established by Coen in 1949 (Mollusca: Gastropoda). The Veliger, **7**(2): 103-107.

Schilder, F.A. 1966. Linnaeus' type specimens of cowries. The Veliger, **9**(2): 91-100.

Schilder, F.A. and M. Schilder. 1952. Ph. Dautzenberg's collection of Cypraeidae. Institut Royal des Sciences Naturelles de Belgique, Mémoires (Deuxième série) / Koninklijk Belgisch Instituut voor Natuurwetenschappen, Verhandelingen (Tweede reeks), **45**: 1-243, 4 pls.

Schilder, M. 1971. Die Typen der von F. A. Schilder nach 1958 benannten Cypraeacea. Archiv für Molluskenkunde, **101**(1-4): 19-20.

Schiøtte, T. and A. Warén. 1992. An annotated and illustrated list of the types of Mollusca described by H.P.C. Møller from Western Greenland. Meddelelser om Grønland, Bioscience, [in press].

Schöndorf, F. 1907. Verzeichnis der im Naturhistorischen Museum zu Wiesbaden aufbewahrten Originale. Abteilung für Geologie und Paläontologie. 1. Originale zu Frid. Sandberger, Die Konchylien des Mainzer Tertiärbeckens. Jahrbücher des Nassauischen Vereins für Naturkunde, **60**: 148-169.

Schöndorf, F. 1908. Verzeichnis der im Naturhistorischen Museum zu Wiesbaden befindlichen Originale. Abteilung für Geologie und Paläontologie. 2. Originale zu G. et F. Sandberger, Die Versteinerungen des rheinischen Schichtensystems in Nassau. Wiesbaden 1850-1856. Jahrbücher des Nassauischen Vereins für Naturkunde, **61**: 39-71.

Schouteden, H. 1936. Types et paratypes de Preston dans les collections malacologiques du Musée du Congo Belge. Revue de Zoologie et de Botanique Africaines, **28**(4): 497-503.

Schouteden, H. 1943. Types et paratypes de Preston dans les collections malacologiques du Musée du Congo Belge (Complément). Revue de Zoologie et de Botanique Africaines, **37**(3-4): 260.

Schuchert, C. [assisted by W.H. Dall, T.W. Stanton, and R.S. Bassler]. 1905. Catalogue of the type specimens of fossil invertebrates in the Department of Geology, United States National Museum. Bulletin of the United States National Museum, **53**(1): 1-704.

Scott, P.H., F.G. Hochberg, and B. Roth. 1990. Catalog of Recent and fossil molluscan types in the Santa Barbara Museum of Natural History. I. Caudofoveata, Polyplacophora, Bivalvia, Scaphopoda, and Cephalopoda. The Veliger, **33**(Supplement 1): 1-27, figs. 1-3.

Scott, P.H., F.G. Hochberg, and A. Moe. [in prep.] Catalog of Recent and fossil molluscan types in the Santa Barbara Museum of Natural History. II. Gastropoda. [for publication in The Veliger].

Serret, L. 1986a. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 16. La collection Brasil. Revue de Paléobiologie, **5**(1): 159-161.

Serret, L. 1986b. Les collections du Département de Géologie et de Paléontologie des Invertébrés du Muséum d'Histoire Naturelle de Genève. 17. La collection J. Guex (Cephalopoda). Revue de Paléobiologie, **5**(1): 163-168.

Seters, W.H. van. 1962. Pierre Lyonet 1706-1789. Sa vie, ses collections de coquillages et de tableaux, ses recherches entomologiques. Martinus Nijhoff, The Hague, xiv + 227 pp.

Shaak, C.D. 1980. Catalogue of type invertebrate fossils at the Florida Bureau of Geology. Florida Bureau of Geology, Special Publication, **24**: vi + 32 pp.

Sherborn, C.D. 1940. Where is the ------ [damned] collection? An account of the various natural history collections, which have come under the notice of the compiler, ... between 1880 and 1939. Cambridge University Press, Cambridge, 149 pp.

Shuto, T. 1970a. Taxonomical notes on the turrids of the Siboga-Collection originally described by M.M. Schepman, 1913 (Part I). Venus, The Japanese Journal of Malacology, **28**(4): 161-178, pls. 10-11.

Shuto, T. 1970b. Taxonomical notes on the turrids of the Siboga-Collection originally described by M.M. Schepman, 1913 (Part II). Venus, The Japanese Journal of Malacology, **29**(2): 37-54, pls. 3-4.

Shuto, T. 1971. Taxonomical notes on the turrids of the Siboga-Collection originally described by M.M. Schepman, 1913 (Part III). Venus, The Japanese Journal of Malacology, **30**(1): 5- 22, pls. 1-2.

Shuto, T. 1974. Contributions to the Geology and Palaeontology of Southeast Asia, CXLIV. Notes on Indonesian Tertiary and Quaternary gastropods mainly described by the late Professor K. Martin. I. Turritellidae and Mathildidae. Geology and Palaeontology of Southeast Asia, **14**: 135-160, pls. 20-21.

Shuto, T. 1975. Notes on type species of some turrid genera based on the type specimens in the British Museum (N.H.). Venus, The Japanese Journal of Malacology, **33**(4): 161-175, pls. 6-7.

Shuto, T. 1978. Contributions to the Geology and Palaeontology of Southeast Asia, CXCIX. Notes on Indonesian Tertiary and Quaternary gastropods mainly described by the late Professor K. Martin. II. Potamididae and Cerithiidae. Geology and Palaeontology of Southeast Asia, **19**: 113-160, pls. 15-18.

Sieber, R. 1961. Revision der Typensammlung der Geologischen Bundesanstalt in Wien. Verhandlungen der Geologischen Bundesanstalt, Wien, **1961**(1): 89-90.

Sieber, R. 1963. Zur Revision der Typensammlung der Geologischen Bundesanstalt in Wien. (2. Mitteilung). Verhandlungen der Geologischen Bundesanstalt, Wien, **1963**(1-2): 159-163.

Sieber, R. 1973. Über die Revision und den derzeitigen Stand der Typensammlung der Geologischen Bundesanstalt in Wien (3. Mitteilung). Verhandlungen der Geologischen Bundesanstalt, Wien, **1973**(1): 95-111.

Siddiqi, M.S.U. "1971" [1973]. National standardized zoological collection number. Records of the Zoological Survey of Pakistan, Karachi, **3**(1-2): 1-101.

Simpson, G.G. 1940. Types in modern taxonomy. American Journal of Science, **238**(6): 413-431. [an abridged version reprinted, 1980, Why and How: Some Problems and Methods in Historical Biology, pp. 159-164].

Singleton, F.A. 1945. A catalogue of type and figured specimens of fossils in the Melbourne University Geology Department. Proceedings of the Royal Society of Victoria, **56**(2): 229-284.

Sizer, C.A. 1962. A catalogue of the figured and cited specimens in the Department of Geology. Leicester Museums and Art Gallery, Leicester, 46 pp., 1 pl.

Slack-Smith, S.M. 1983. The cephalopod collection of the Western Australian Museum. Memoirs of the National Museum of Victoria, **44**: 71-75.

Sleeman, A.G. 1992. The palaeontological collections of the Geological Survey of Ireland. Geological Curator, **5**(7): 283-291.

Smaldon, G., D. Heppell, and K.R. Watt. 1976. Type specimens of invertebrates (excluding insects) held at the Royal Scottish Museum, Edinburgh. Royal Scottish Museum, Information Series, Natural History, 4: iv + 118.

Smith, A.G. 1974. Type and other cephalopods in the collection of the Department of Invertebrate Zoology, California Academy of Sciences. The Veliger, **16**(3): 319-333.

Smith, A.G. and W.K. Emerson. 1955. William James Raymond, 1865-1947. The Nautilus, **68**(3): 98-102.

Smith, B.J. 1968. A list of the types of the family Volutidae held by the National Museum of Victoria. The Veliger, **11**(1): 39-41.

Smith, B.J. and J.H. Black. 1969. Biographies, combined bibliography and new names list of John Henry Gatliff (1848-1935) and Charles John Gabriel (1879-1963). Journal of the Malacological Society of Australia, **1**(12): 32-47.

Smith, B.J. and R.C. Robertson. 1970. Catalogue of chiton (Amphineura, Mollusca) types in the National Museum of Victoria, Australia. Memoirs, National Museum of Victoria, **31**: 81-90.

Smith, E.A. 1897. Notes on some type-specimens in the British Museum. Proceedings of the Malacological Society of London, **2**(5): 229-232.

Smith, E.A. 1906. Mollusca. pp. 701-730, [*in*] E.R. Lankester (ed.) The history of the collections contained in the natural history departments of the British Museum. Volume II. Separate historical accounts of the several collections included in the Department of Zoology, British Museum, London. British Museum, London, 782 pp.

Smith, E.A. 1913. On the Pennant collection of British shells. Journal of Conchology, **14**(2): 38-41.

Smith, H.H. 1902. An annotated catalogue of shells of the genus *Partula* in the Hartman collection belonging to the Carnegie Museum. Annals of the Carnegie Museum, **1**(3): 422-485.

Smith, J.T. 1978. Primary types in the Stanford paleontological type collection. Bulletins of American Paleontology, **72**(300): 313-552.

Smith, M.F.I. 1981. Type specimens of molluscs in the National Museum of Natural Sciences, National Museums of Canada, Ottawa, Canada. National Museums of Canada, National Museum of Natural Sciences, Publications in Zoology, **15**: i-iv, 1-36.

Soika, A.G. 1950. Les principales collections malacologiques Italiennes. Journal de Conchyliologie, **90**(3): 225-226.

Solem, A. 1967. New molluscan taxa and scientific writings of Fritz Haas. Fieldiana, Zoology, **53**(2): 71-144.

Somadikarta, S., S. Kadarsan, and M. Djajasasmita. 1964. Primary type specimens of the Museum Zoologicum Bogoriense (I). Treubia, **26**(3): 179-205.

Sowerby, G.B. 1909. Notes on certain types of *Ampullaria* in the Paris and Geneva Museums. Proceedings of the Malacological Society of London, **8**(6): 363-364.

Spaink, G. 1959. Vorläufige Namenliste der Miozäne Mollusken aus den Niederlanden. Haarlem, Rijks Geologische Dienst, 21 pp.

Spamer, E.E. and A.E. Bogan. 1992. Catalog of the types of neontological Mollusca of the Academy of Natural Sciences of Philadelphia. Part 7: Cephalopoda and Scaphopoda. Tryonia, Miscellaneous Publications of the Department of Malacology of the Academy of Natural Sciences of Philadelphia, **24**: vi + 24 pp.

Spamer, E.E. and C.A. Forster. 1988. A catalogue of type fossils in the Wagner Free Institute of Science Philadelphia, Pennsylvania. Publications of the Wagner Free Institute of Science, **5**: iv + 115 pp., 8 pls.

Spamer, E.E., A.E. Bogan, and H.S. Torrens. 1989. Recovery of the Etheldred Benett collection of fossils mostly from Jurassic-Cretaceous Strata of Wiltshire, England, analysis of the taxonomic nomenclature of Benett (1831), and notes and figures of type specimens contained in the collection. Proceedings of the Academy of Natural Sciences of Philadelphia, **141**: 115-180, pls. 1-13.

Spärck, R. 1951. L'histoire des collections malacologiques du Musée Zoologique de Copenhague. Journal de Conchyliologie, **90**(4): 292-295.

Speight, R. 1913. List of Tertiary Mollusca in the Canterbury Museum. Records of the Canterbury Museum, **2**(1): 27-55.

Sphon, G.G. 1962. Destroyed type material. The Veliger, **5**(1): 57.

Sphon, G.G. 1966. Material contained in the molluscan type collection of the Santa Barbara Museum of Natural History. The Veliger, **9**(2): 244-246.

Sphon, G.G. 1971. Type specimens of Recent mollusks in the Los Angeles County Museum of Natural History. Los Angeles County Museum, Contributions in Science, **213**: 1-37, 21 figs.

Sphon, G.G. 1973. Additional type specimens of fossil Invertebrata in the collections of the Natural History Museum of Los Angeles County. Los Angeles County Museum, Contributions in Science, **250**: 1-75.

Stasek, C.R. 1966a. Type specimens in the California Academy of Sciences, Department of Invertebrate Zoology. Occasional Papers of the California Academy of Sciences, **51**: 1-38.

Stasek, C.R. 1966b. Harold Heath's type solenogasters (Mollusca, Amphineura, Aplacophora) in the California Academy of Sciences, Department of Invertebrate Zoology. Occasional Papers of the California Academy of Sciences, **52**: 1-7.

Stefanini, G., G.G. Bassoli, and E. Montanaro. 1930. Catalogo dei tipi paleontologici figurati che si conservano nel Museo Geologico della R. Università di Modena. Atti della Società dei Naturalisti e Matematici di Modena, **61**: 87-122.

Stelfox, A.W. 1922. Report on the Gassies collection of *Pisidia* in the Musée d'Histoire Naturelle de Bordeaux. Proceedings of the Malacological Society of London, **15**(1): 54-56; **15**(2/3): 57. [Note: page 57 was also printed on the inside back cover of **15**(1)].

Stenzel, H.B. 1942. Type Invertebrate Fossils of North America [Catalog of North American early Tertiary fossils of the Gulf and Atlantic coastal plain]. Cephalopoda. University of Texas, Bureau of Economic Geology, Austin, cards 1-28.

Stenzel, H.B. and F.E. Turner. 1942. Type Invertebrate Fossils of North America [Catalog of North American early Tertiary fossils of the Gulf and Atlantic coastal plain]. Gastropoda. University of Texas, Bureau of Economic Geology, Austin, cards 29-121 [1-93].

Stephenson, S.E. 1972. Arcacea (Mollusca: Bivalvia) types in the British Museum (Natural History). Bulletin of the British Museum (Natural History), Zoology, **24**(3): 195-204.

Stewart, G.A. 1930. Supplement to catalogue of type fossils in the Geological Museum at the Ohio State University. The Ohio Journal of Science, **30**(4): 273-284.

Stewart, R.B. "1926" [1927]. Gabb's California fossil type gastropods. Proceedings of the Academy of Natural Sciences of Philadelphia, **78**: 287-447, pls. 20-32.

Stewart, R.B. 1930. Gabb's California Cretaceous and Tertiary type lamellibranchs. Academy of Natural Sciences of Philadelphia, Special Publication, **3**: 1-314, pls. 1-17.

Stojaspal, F. 1975. Katalog der Typen und Abbildungsoriginale der Geologischen Bundesanstalt. 1. Teil: Wirbellose des Kaenozoikums (exclusive Mikrofossilien). Verhandlungen der Geologischen Bundesanstalt, Wien, **1975**(1): 159-193.

Stojaspal, F. 1976. Katalog der Typen und Abbildungsoriginale der Geologischen Bundesanstalt. 2. Teil: Wirbellose der Kreide (exclusive Mikrofossilien). Verhandlungen der Geologischen Bundesanstalt, Wien, **1976**(1): 202-222.

Strack, H.L. 1986. Notes on New Caledonian chitons. I. The species described by St.-M. Souverbie. Basteria, **50**(4-6): 193-198, 5 figs.

Stubblefield, C.J. 1936. Notes on the types and figured specimens acquired from the late S.S. Buckman by the Geological Survey of Great Britain. Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for the year 1934 (part 2): 52-59.

Stubblefield, C.J. 1938. The types and figured specimens in Phillips and Salter's Palaeontological Appendix to John Phillips' Memoir on "The Malvern Hills compared with the Palaeozoic districts of Abberley, etc." (Mem. Geol. Surv. Volume II, Part 1, June 1848). Summary of Progress of the Geological Survey of Great Britain and the Museum of Practical Geology for the year 1936 (part 2): 27-51.

Sumpter, P.M., P.H. Sheehan, and R. Watkins. 1990. Cambrian and Devonian invertebrate collections at the Milwaukee Public Museum. Journal of Paleontology, **64**(3): 486.

Sweeney, M.J. and C.F.E. Roper. 1984. The zoological taxa and bibliography of S. Stillman Berry. American Malacological Bulletin, **3**(1): 63-82.

Sweeney, M.J. and C.F.E. Roper. [in prep.] Classification, type localities, and type depositories of Recent Cephalopoda. Smithsonian Contributions to Zoology.

Sweeney, M.J., C.F.E. Roper, and F.G. Hochberg. 1988. A catalog of the type specimens of Recent Cephalopoda described by S. Stillman Berry. Malacologia, **29**(1): 7-19.

Swinton, W.E. 1955. Type specimens in botany and zoology. Recommendations for their conservation in natural history and general museums. International Council of Museums, Paris, ii + 11 pp.

Talmadge, R.R. 1977. Notes on portions of the Linnaean collection. Of Sea and Shore, **8**(3): 149-150.

Tatzreiter, E. 1982. Katalog der Typen und Abbildungsoriginale der Geologischen Bundesanstalt. 3. Teil: Typen, Abbildungsoriginale und Belegstücke zu Mojsisovics, E.v. (1893): Die Cephalopoden der Hallstätter Kalke. Verhandlungen der Geologischen Bundesanstalt, Wien, **1982**(2): 123-147.

Tatzreiter, E. 1986. Katalog der Typen und Abbildungsoriginale der Geologischen Bundesanstalt. 4. Teil: Typen, Abbildungsoriginale und Belegstücke zu Mojsisovics, E.v. (1882): Die Cephalopoden der mediterranen Triasprovinz. Jahrbuch der Geologischen Bundesanstalt, Wien, **129**(1): 129-140.

Taylor, D.W. 1975. Index and bibliography of Late Cenozoic freshwater Mollusca of Western North America. Claude W. Hibbard Memorial Volume 1. Papers on Paleontology, **10**: 1-384.

Taylor, D.W. and A.G. Smith. 1971. Harold Hannibal (1889-1965) with a review of his molluscan research. The Veliger, **13**(4): 303-315, pls. 1-5.

Teller, E.E. 1911. A synopsis of the type specimens of fossils from the Palaeozoic formations of Wisconsin. Bulletin of the Wisconsin Natural History Society, **9**(4): 170-271.

Thevenin, A. 1906-1923. Types du Prodrome de Paléontologie Stratigraphique Universelle d'Alcide d'Orbigny. Tome I. Silurien–Bathonien. Masson et Cie, Paris, 204 pp., 34 pls. [Originally published in Annales de Paléontologie, volumes 1-12; for Tome II-III, see Cottreau (1925-1932, 1934-1937)].

Thielens, A. 1874. Voyage en Italie Mai-Juin 1874. Description de la Collection de la Marquise Paulucci, a Novoli près Florence. P.-J. Stevens, Tirlemont, 80 pp.

Thomas, S.M. and P.G. Oliver. 1982. The Melvill-Tomlin Collection, Part 14, Volutacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 24 pp.

Thomé, J.W. 1969a. Redescriçao dos tipos de Veronicellidae (Mollusca, Gastropoda) neotropicais: I. Espécies depositadas no "Zoologisches Museum" de Kiel, Alemanha. Iheringia, Série Zoologia, **37**: 101-111, 21 figs.

Thomé, J.W. 1969b. Erneute Beschreibung neotropischer Veronicellidae-Typen (Mollusca, Gastropoda). II. Arten aus der Sammlung des Senckenberg-Museums in Frankfurt a. M. Archiv für Molluskenkunde, **99**(5-6): 331-363, pls. 6-13.

Thomé, J.W. 1970a. Redescriçao dos tipos de Veronicellidae (Mollusca, Gastropoda) neotropicais: III. Espécies depositadas no "II. Zoologisches Institut und Museum der Universität" de Göttingen, Alemanha. Iheringia, Série Zoologia, **38**: 73-88, 28 figs.

Thomé, J.W. 1970b. Redescriçao dos tipos de Veronicellidae (Mollusca, Gastropoda) neotropicais: V. Espécies depositadas no "Museo ed Istituto di Zoologia Sistematica della Università", de Turim, Itália. Iheringia, Série Zoologia, **39**: 19-31, 17 figs.

Thomé, J.W. 1971. Redescriçao dos tipos de Veronicellidae (Mollusca, Gastropoda) neotropicais: VII. Espécies depositadas no "Muséum National d'Histoire Naturelle", Paris, França. Iheringia, Série Zoologia, **40**: 27-52, 22 figs., pls. 1-3.

Thomé, J.W. 1972. Redescriçao dos tipos de Veronicellidae (Gastropoda) neotropicais. VIII. Espécies depositadas no "Institut für Spezielle Zoologie und Zoologisches Museum" de Berlim, Alemanha Oriental. Arquivos de Zoologia, Sao Paulo, **21**(5): 235-281, 135 figs.

Thomé, J.W. 1973. Erneute Beschreibung neotropischer Veronicellidae-Typen (Mollusca, Gastropoda). VI. Arten aus der Sammlung des Universitetets Zoologiske Museum in Kopenhagen, Dänemark. Steenstrupia, **3**(4): 31-50, 30 figs., pls. 1-5. [Note: part VI was published after parts VII and VIII].

Thomé, J.W. 1979. A redescription of types of six species of neotropical Veronicellidae (Mollusca; Gastropoda) in the British Museum (Natural History). Bulletin of the British Museum (Natural History), Zoology, **35**(2): 135-146, 18 figs., pls. 1-3. [This represents part IV of the foregoing series].

Thomé, J.W. 1984. Veronicellidae (Mollusca; Gastropoda), pantropicais. III. Redescriçao de 5 espécies, com base no exame dos tipos depositados no "Naturhistoriska Riksmuseet", de Estocolmo, Suécia. Iheringia, Série Zoologia, **64**: 29-46, 37 figs.

Thomé, J.W. 1985. Redescriçao dos tipos de Veronicellidae (Mollusca, Gastropoda) neotropicais. X. Os tipos de *Diplosolenodes occidentalis* (Guilding, 1825) no British Museum (Natural History), Londres. Revista Brasileira de Zoologia, **2**(6): 411-417.

Thomé, J.W. 1988a. Recaracterizaçao de *Veronicella sloanei* (Cuvier, 1817) (Mollusca, Gastropoda, Veronicellidae). Iheringia, Série Zoologia, **67**: 13-35, 29 figs.

Thomé, J.W. 1988b. Veronicellidae (Mollusca, Gastropoda) pantropicais. IV. Resdescriçao dos tipos de *Vaginula andreana*, *Vaginula reinhardti* e *Vaginula trilineata*, no "Zoologisk Museum" de Copenhague, Dinamarca. Revista Brasileira de Zoologia, **5**(1): 61-74.

Thomé, J.W. 1988c. Redescriçao dos tipos de Veronicellidae (Mollusca; Gastropoda) netropicais [sic]: XI. Espécies na "Academy of Natural Sciences", Philadelphia. Iheringia, Série Zoologia, **68**: 25-40.

Thomé, J.W. 1990. Recaracterizaçao de *Leidyula kraussi* (Férussac, 1823) (Mollusca; Gastropoda; Veronicellidae). Revista Brasileira de Biologia, **50**(2): 513-518.

Thomé, J.W. and V.L. Pitoni. 1976. Redescriçao dos tipos de Veronicellidae (Mollusca, Gastropoda). Espécies no "National Museum of Natural History, Smithsonian Institution", Washington, E.U.A.. Revista Brasileira de Biologia, **36**(3): 709-714, 10 figs. [This represents part IX of the foregoing series].

Thomson, A. [in prep.] Catalogue of type specimens of Mollusca described from the cruises of R.I.M.S.S. '*Investigator*' in the northern Indian Ocean (1881-1897). [Manuscript].

Tichy, G. 1970. Typen-Katalog. Verzeichnis der in der Geologisch-Paläontologischen Abteilung des Naturhistorischen Museums in Wien aufbewahrten Typen sowie der Abbildungs-originale. Annalen des Naturhistorisches Museum Wien, **74**: 607-655.

Tillier, A. 1979. Types de Terebridae décrits par Deshayes. Muséum National d'Histoire Naturelle, Paris, 5 pp. [Manuscript].

Tillier, S. 1984. Le probleme des types de mollusques dans les collections publiques françaises. Annales du Museum du Havre, **31**: 73-79.

Tillier, S. and P. Mordan. 1983. The conchological collections of Bruguière and Olivier from the Ottoman Empire (1792-1798). Journal of Conchology, **31**(3): 153-160, pls. 5-7.

Tomlin, J.R. le B. 1913. Notes on some types of *Marginella* in the Marrat collection. Journal of Conchology, **14**(2): 44-45.

Tomlin, J.R. le B. 1917. A systematic list of the [Recent] Marginellidae. Proceedings of the Malacological Society of London, **12**(5): 242-266; **12**(6): 267-306.

Tomlin, J.R. le B. 1918-1919. A systematic list of the fossil Marginellidae. Proceedings of the Malacological Society of London, **13**(1/2): 41-56; **13**(3/4): 57-65.

Tomlin, J.R. le B. 1932a. Notes from the British Museum. II. Arthur Adams' types of *Nassa*. Proceedings of the Malacological Society of London, **20**(1): 41-44.

Tomlin, J.R. le B. 1932b. Notes from the British Museum. III. --Reeve's "Monograph of the Genus *Nassa*." Proceedings of the Malacological Society of London, **20**(2): 95-98.

Tomlin, J.R. le B. 1934. Notes from the British Museum. V. Reeve's "Monograph of *Pleurotoma*". VI. Reeve's "Monograph of *Mangelia*". Proceedings of the Malacological Society **21**(1): 37-41.

Tomlin, J.R. le B. 1935. Catalogue of Recent *Latiaxis*. Journal of Conchology, **20**(6): 180-183.

Tomlin, J.R. le B. 1940. Marrat's species of *Nassa*. Proceedings of the Malacological Society of London, **24**(1): 34-40.

Tomlin, J.R. le B. 1944-1948. Catalogues and collections [in four parts]. Proceedings of the Malacological Society of London, **26**(2-3): 70-73; **26**(6): 174-179; **27**(3): 119-120; **27**(5): 197-198.

Torrens, H.S. 1974. Palaeontological type specimens. Newsletter of the Geological Curators Group, **1**(2): 32-35.

Tozen, E.T. 1990. Discovery of an ammonoid specimen described by Robert Hooke. Notes and Records of the Royal Society of London, **44**(1): 3-12, 2 figs.

Trew, A. 1982. The Melvill-Tomlin Collection, Part 10, Conacea (Conidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 44 pp.

Trew, A. 1983a. The Melvill-Tomlin Collection, Part 15, Helicacea (Helicidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 198 pp.

Trew, A. 1983b. The Melvill-Tomlin Collection, Part 16, Siphonariacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 26 pp.

Trew, A. 1983c. The Melvill-Tomlin Collection, Part 18, Placophora [Polyplacophora]. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 52 pp.

Trew, A. 1983d. The Melvill-Tomlin Collection, Parts 19, 20 and 21, Pleurotomariacea, Fissurellacea and Patellacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 94 pp.

Trew, A. 1984. The Melvill-Tomlin Collection, Part 30, Trochacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 174 pp. [Note: part 29 was published after part 30].

Trew, A. 1985a. The Melvill-Tomlin Collection, Part 29, Hipponiacea / Calyptracea [sic]. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 48 pp.

Trew, A. 1985b. The Melvill-Tomlin Collection, Part 31, Mitracea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 80 pp.

Trew, A. 1985c. The Melvill-Tomlin Collection, Part 32, Helicacea (Helminthoglyptidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 28 pp.

Trew, A. 1986a. The Melvill-Tomlin Collection, Part 33, Helicacea (Bradybaenidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 75 pp.

Trew, A. 1986b. The Melvill-Tomlin Collection, Part 34, Architectonicacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 16 pp.

Trew, A. 1986c. The Melvill-Tomlin Collection, Parts 35 and 36, Helicacea (Oreohelicidae) and Helicacea (Camaenidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 127 pp.

Trew, A. 1987a. The Melvill-Tomlin Collection, Parts 42 and 43, Lamellariacea and Cypraeacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 74 pp.

Trew, A. 1987b. James Cosmo Melvill's New Molluscan Names. National Museum of Wales, Cardiff, 84 pp., 4 pls.

Trew, A. 1987c. The Melvill-Tomlin Collection, Part 44, Unionacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 130 pp.

Trew, A. 1989. The Melvill-Tomlin Collection, Part 48, Conacea (Terebridae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 32 pp.

Trew, A. 1990a. The Melvill-Tomlin Collection, Parts 50, 51, 52, 53, and 54, Buccinacea (Pyrenidae, Buccinidae, Galeodidae, Nassariidae and Fasciolariidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 212 pp.

Trew, A. 1990b. John R. Le B. Tomlin's new molluscan names. National Museum of Wales, Cardiff, 101 pp., 13 pls.

Trew, A. 1990c. The Melvill-Tomlin Collection, Parts 55 and 56, Volutacea (Vasidae and Olividae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 48 pp.

Trew, A. 1990d. The Melvill-Tomlin Collection, Parts 57 and 58, Volutacea (Cancellariidae and Marginellidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 69 pp.

Trew, A. 1991. The Melvill-Tomlin Collection, Part 59, Conacea (Turridae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, vi + 131 pp.

Trew, A. 1992. Henry and Arthur Adam's new molluscan names. National Museum of Wales, Cardiff.

Trew, A. and [P.] G. Oliver. 1980. The Melvill-Tomlin Collection. Biology Curators Group Newsletter, 2(8): 354-361.

Trew, A. and P.G. Oliver. 1981a. The Melvill-Tomlin Collection, Part 2, Tonnacea including Colubrariinae. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 42 pp.

Trew, A. and P.G. Oliver. 1981b. The Melvill-Tomlin Collection, Part 6, Muricacea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 80 pp.

Trumbull, E.J. 1958. Shumard's type specimens of Tertiary mollusks from Oregon and other types formerly at Washington University, St. Louis. Journal of Paleontology, 32(5): 893-906, pls. 115-117.

Tunnicliff, S.P. 1976. [Note regarding Geological Survey of Ireland type specimens]. Newsletter of the Geological Curator's Group, 1(6): 310-311.

Tunnicliff, S.P. 1980. A catalogue of the Lower Paleozoic fossils in the collection of Major-General J.E. Portlock, R.E., LL.D., F.R.S., F.G.S. etc. The Ulster Museum, Belfast, Publication, 238: 1-111.

Turner, E. and A.J. Dartnall. 1971. Types of Mollusca in the Tasmanian Museum. Tasmanian Museum, Hobart, 96 pp.

Turner, R.D. 1946. John Gould Anthony with a bibliography and catalogue of his species. Occasional Papers on Mollusks, **1**(8): 81-108, pl. 15. [Supplement, 1954, *ibid.*, **1**(18): 442].

Turner, R.D. 1955. Scaphopods of the *Atlantis* dredgings in the Western Atlantic with a catalogue of the scaphopod types in the Museum of Comparative Zoology. pp. 309-320, [*in*] M. Sears (ed.), Papers in Marine Biology and Oceanography, dedicated to Henry Bryant Bigelow. Deep-Sea Research, Supplement to volume 3. Pergamon Press, London, xx + 498 pp.

Turner, R.D. 1956a. The eastern Pacific marine mollusks described by C. B. Adams. Occasional Papers on Mollusks, **2**(20): 21-133, pls. 1-20.

Turner, R.D. 1956b. Additions to the western Atlantic marine mollusks described by C. B. Adams. Occasional Papers on Mollusks, **2**(20): 134-136, pl. 21.

Turner, R.D. 1957. Charles Johnson Maynard and his work in malacology. Occasional Papers on Mollusks, **2**(21): 137-152.

Turner, R.D. 1962. James H. Orton. His contributions to the field of fossil and Recent mollusks. Revista del Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Ciencias Zoológicas, **8**(7): 89-99.

Vanatta, E.G. 1915. Rafinesque's types of *Unio*. Proceedings of the Academy of Natural Sciences of Philadelphia, **67**: 549-559.

Van Winkle, K.E.H. 1921. Illustrations and descriptions of fossil Mollusca contained in the paleontological collections at Cornell University. Bulletins of American Paleontology, **8**(36): 349-352 [3-6], pl. 1.

Varga, A. 1983. A Mátra Múzeum (Gyöngyös) Mollusca gyüjteménye. [The mollusc collection of the Mátra Museum (Gyöngyös)]. Malakológiai Tájékoztató, **3**: 19-30.

Varga, A. "1988" [1989]. Gebhardt Antal Recens malakológiai anyagának revíziója. [Revision of A. Gebhardt's Recent malacological collection]. A Janus Pannonius Múzeum Évkönyve, Pécs, **33**:53-66.

Verdcourt, B. 1970. A reassessment of species described from East Africa by W. Blume. Journal of Conchology, **27**(2): 121-125, figs. 1-11.

Verdcourt, B. 1979a. Collectors in East Africa–1. A. E. Craven (1849/50-1937). Part I. The Conchologists' Newsletter, **69**: 147, 149-153.

Verdcourt, B. 1979b. Collectors in East Africa–1. A. E. Craven (1849/50-1937). Part II. The Conchologists' Newsletter, **70**: 165-167.

Verdcourt, B. 1981. Collectors in East Africa–5. J. S. Gibbons. The Conchologists' Newsletter, **79**: 344-348.

Verdcourt, B. 1982. List of types of tropical African species described by H. B. Preston preserved in the Merseyside County Museum, Liverpool. Achatina, **10**: 196-198.

Verdcourt, B. 1983a. Collectors in East Africa–6. J. Thomson. The Conchologists' Newsletter, **84**: 67-70.

Verdcourt, B. 1983b. Collectors in East Africa–7. S. W. Baker. The Conchologists' Newsletter, **86**: 111-112.

Verdcourt, B. 1983c. Collectors in East Africa–8. J. W. Gregory. The Conchologists' Newsletter, **86**: 112-114.

Verdcourt, B. 1983d. Collectors in East Africa–9. J. H. Speke. The Conchologists' Newsletter, **87**: 138-139.

Verdcourt, B. 1984a. Collectors in East Africa–10. J. M. Hildebrandt. The Conchologists' Newsletter, **88**: 141-145.

Verdcourt, B. 1984b. Collectors in East Africa–11. J. Kirk. Sir John Kirk (1832-1922). The Conchologists' Newsletter, **91**: 215-218.

Verdcourt, B. 1985. Some African Streptaxidae in the Naturhistorisches Museum, Wien. Achatina, **13**: 267-269.

Verdcourt, B. 1986. Collectors in East Africa–12. A. Le Roy. Mgr. Alexandre Le Roy (1854-1938). The Conchologists' Newsletter, **98**: 369-377

Verdcourt, B. 1988. Collectors in East Africa–13. F. Stuhlmann (part 1). The Conchologists' Newsletter, **106**: 113-117.

Verdcourt, B. 1989a. Collectors in East Africa–13. F. Stuhlmann (part 2). List of molluscs described from material collected by Dr. F. L. Stuhlmann in Tanzania, Uganda and Zaire. The Conchologists' Newsletter, **109**: 181-187.

Verdcourt, B. 1989b. Collectors in East Africa–13. F. Stuhlmann (part 3). Itinerary. The Conchologists' Newsletter, **110**: 211-219.

Verdcourt, B. 1990a. Collectors in East Africa–14. F. Fülleborn. The Conchologists' Newsletter, **113**: 275-276.

Verdcourt, B. 1990b. Streptaxids in the National Museum of Wales. The Conchologists' Newsletter, **113**: 287-291.

Villiers, A. 1956. Types déposés au Muséum National d'Histoire Naturelle par l'Institut Français d'Afrique Noire. Bulletin du Muséum National d'Histoire Naturelle, (sér. 2) **28**(4): 369-373.

Voss, G.L. 1962. List of the types and species of cephalopods in the collections of the Academy of Natural Sciences of Philadelphia. Notulae Naturae of the Academy of Natural Sciences of Philadelphia, **356**: 1-7.

Waddington, J., P.H. von Bitter, and D. Collins. 1978. Catalogue of type invertebrate, plant, and trace fossils in the Royal Ontario Museum. Royal Ontario Museum (Life Sciences Miscellaneous Publications), Toronto, 151 pp.

Wagner, H.P. 1982. Notes on type material of the family Pectinidae (Mollusca: Bivalvia) 1. *Pecten limatula* Reeve, 1853, a new synonym of *Chlamys irregularis* (Sowerby, 1842). Basteria, **46**(5-6): 86.

Wagner, H.P. 1983. Notes on type material of the family Pectinidae (Mollusca: Bivalvia) 2. Notes on *Chlamys humilis* Sowerby, 1904, and *Chlamys natalensis* Sowerby, 1906. Basteria, **47**(5-6): 145-148, figs. 1-11.

Wagner, H.P. 1985. Notes on type material of the family Pectinidae (Mollusca: Bivalvia) 3. On the identity of *Pecten solidulus* Reeve, 1853, and *Pecten commutatus* Monterosato, 1875. Basteria, **49**(1-3): 81-84, figs. 1-2.

Wallin, L. 1991a. Catalogue of type specimens. 2. General zoology. [Revised edition]. Uppsala University Zoological Museum, Uppsala, 80 pp.

Wallin, L. 1991b. Catalogue of type specimens. 4. Linnaean specimens. Uppsala University Zoological Museum, Uppsala, 233 pp.

Wannier, M. and R. Panchaud. 1977. Catalogue des fossiles originaux conservés dans les collections de l'Ecole cantonale de Porrentruy et du Progymnase de Delémont. Eclogae Geologicae Helvetiae, **70**(3): 919-932.

Ward, L.W. and R.N. Germon. 1988. Historical, paleontological and geological significance of the John Finch collection from Virginia, 1824. Program and Abstracts, 54th Annual Meeting, American Malacological Union, Charleston, S.C., 19-24 June, 1988, p. 16.

Warén, A. 1980. Marine Mollusca described by John Gwyn Jeffreys, with the location of the type material. Conchological Society of Great Britain and Ireland, Special Publication, **1**: 1-60, pl. 1-8.

Warén, A. 1983. Marine Mollusca described by W. Turton and W. Clark. Journal of Conchology, **31**(3): 161-171, pls. 8-11.

Warén, A. 1989. Designation of neotypes of "*Melanella alba* (da Costa, 1778)" and "*Eulima glabra* (da Costa, 1778)" (Prosobranchia). Journal of Conchology, **33**(4): 219-224, 1 pl.

Watson, R.B. 1876. Notes on Lowe's MS. list of Webb's type shells from the Canaries (1829) and on the annotations thereon of d'Orbigny (1839) and Lowe (1860). Journal of the Linnean Society of London, Zoology, **12**(64): 516-524.

Webby, B.D. [compiler]. 1989. Fossil collections of the world: an international guide. International Palaeontological Association, Washington, D.C., vi + 216 pp.

Webby, B.D. 1992. Fossil collections of the world: supplement to an international guide. Lethaia, **25**(1): 119-122.

Weller, J.M. 1929. On some of Gurley's unfigured species of Carboniferous *Bellerophon*. Transactions of the Illinois State Academy of Science, **21**: 313-325, pl. 1.

Wells, F.E. 1977. Type specimens in the Department of Molluscs, Western Australian Museum. Records of the Western Australian Museum, **6**(1): 33-61.

Weyer, D. "1982" [1984]. Paläontologische Originale im Kulturhistorischen Museum Magdeburg. Abhandlungen und Berichte für Naturkunde und Vorgeschichte, **12**(5): 53-58.

Wheeler, M.J. 1963. Type of *Unio luteolus* Lamarck, 1819. The Nautilus, 77(2): 58-61, pl. 1.

Whitfield, R.P. 1899. List of fossils, types and figured specimens, used in the palaeontological work of R.P. Whitfield, showing where they are probably to be found at the present time. Annals of the New York Academy of Sciences, **12**(8): 139-186.

Whitfield, R.P. and E.O. Hovey. 1898. Catalogue of the types and figured specimens in the palaeontological collection of the Geological Department, American Museum of Natural History [Part I]. Bulletin of the American Museum of Natural History, **11**(1): vii + 1-73.

Whitfield, R.P. and E.O. Hovey. 1899. Catalogue of the types and figured specimens in the palaeontological collection of the Geological Department, American Museum of Natural History. Part II, beginning with the Medina Sandstone. Bulletin of the American Museum of Natural History, **11**(2): 74-188.

Whitfield, R.P. and E.O. Hovey. 1900. Catalogue of the types and figured specimens in the palaeontological collection of the Geological Department, American Museum of Natural History. Part III, beginning with the Oriskane Sandstone. Bulletin of the American Museum of Natural History, **11**(3): 189-356.

Whitfield, R.P. and E.O. Hovey. 1901. Catalogue of the types and figured specimens in the palaeontological collection of the Geological Department, American Museum of Natural History. Part IV, Lower Carboniferous to Pleistocene, inclusive. Bulletin of the American Museum of Natural History, **11**(4): 357-500 + xv.

Whitley, G.P. 1968. Joyce Allan (1896-1966). Obituary, bibliography and index of her new scientific names. Journal of the Malacological Society of Australia, **1**(11): 50-58.

Whitley, G.P. 1972. The life and work of Tom Iredale (1880-1972). The Australian Zoologist, **17**(2): 65-125, pl. 5.

Wiktor, J. and W. Rydzewksi. 1991. Bibliography of catalogues of type specimens in [the] world's zoological and palaeozoological collections. Serie Uniwersytetu Wroclawskiego, Wydzial Nauk Przyrodniczych, Prace Zoologiczne 22. Wroclaw University Press, Wroclaw, 308 pp.

Wilkins, G.L. 1951. *Strombus thersites* Swainson: designation of lectotype. Proceedings of the Malacological Society of London, **28**(6): 238-239, pl. 29.

Wilkins, G.L. 1952. The shell collections of Sir Hans Sloane, Bart. (1660-1753). With digressions upon the books and people connected with them. Journal of Conchology, **23**(8): 247-259, pls. 5-6.

Wilkins, G.L. 1953a. Notes on some recently recognized types in the British Museum (Natural History). Designation of two lectotypes. Journal of Conchology, **23**(9): 290-294.

Wilkins, G.L. 1953b. A catalogue and historical account of the Sloane shell collection. Bulletin of the British Museum (Natural History), Historical Series, **1**(1): 1-48, pls. 1-12.

Wilkins, G.L. 1953c. Notes from the British Museum, I. *Pinna*. Appendix: -- List of type specimens of *Pinna* in the collection of the British Museum. Proceedings of the Malacological Society of London, **30**(1/2): 23-29, pl. 6.

Wilkins, G.L. 1955. A catalogue and historical account of the Banks shell collection. Bulletin of the British Museum (Natural History), Historical Series, **1**(3): 69-119, pls. 14-19.

Wilkins, G.L. 1957. The Cracherode shell collection. Bulletin of the British Museum (Natural History), Historical Series, **1**(4): 121-184, pls. 20-25.

Willett, H. 1871. Catalogue of the Cretaceous fossils in the Brighton Museum. William J. Smith, Brighton, 66 pp.

Wilson, E. 1890. Fossil types in the Bristol Museum. Geological Magazine, (dec. 3), 7(8): 363-372; 7(9): 411-416.

Wilson, E.C. 1966. Type specimens of fossil invertebrates in the San Diego Natural History Museum. Transactions of the San Diego Society of Natural History, **14**(9): 97-132.

Wilson, E.C. 1967. Primary type material of the Early Permian Archaeogastropod *Omphalotrochus whitneyi* (Meek, 1864). Journal of Paleontology, **41**(5): 1113-1115, pl. 142.

Wilson, E.C. 1986. Type specimens of fossil Invertebrata in the Natural History Museum of Los Angeles County: Supplement Two. Natural History Museum of Los Angeles County, Technical Report, **1**: ii + 1-150.

Wilson, E.C. and D.E. Bing. 1970. Type specimens of fossil Invertebrata in the Los Angeles County Museum of Natural History, exclusive of paleoentomology. Los Angeles County Museum, Contributions to Science, **181**: 1-20.

Wilson, E.C. and G.L. Kennedy. 1967. Type specimens of Recent invertebrates (except Arachnida and Insecta) in the San Diego Natural History Museum. Transactions of the San Diego Society of Natural History, **14**(19): 237-280.

Wilson, E.C. and L.R. Saul. 1986. [Announcement]. Collection transfer. Journal of Paleontology, **60**(6): 1281.

Winwood, H.H. and E. Wilson. 1892. Charles Moore, F.G.S., and his work; with a list of the fossil types and described specimens in the Bath Museum. Proceedings of the Bath Natural History and Antiquarian Field Club, 7(3): 232-292, 1 pl.

Wolberg, D.L. 1990a. Notice of transfer of specimens figured by Rousseau H. Flower. Journal of Paleontology, **64**(3): 487.

Wolberg, D.L. 1990b. Second notice of transfer of specimens figured by Rousseau H. Flower. Journal of Paleontology, **64**(5): 853-855.

Wolberg, D.L. 1990c. Third notice of transfer of cephalopods described and figured by Rousseau H. Flower. Journal of Paleontology, **64**(6): 1042-1043.

Wolberg, D.L. 1991a. Fourth notice of transfer of specimens figured by Rousseau H. Flower. Journal of Paleontology, **65**(2): 337.

Wolberg, D.L. 1991b. Fifth notice of transfer of specimens figured by Rousseau H. Flower. Journal of Paleontology, **65**(2): 338-339.

Wolberg, D.L. 1991c. Sixth notice of transfer of specimens figured by Rousseau H. Flower. Journal of Paleontology, **65**(2): 339-340.

Wolberg, D.L. 1991d. Notice of transfer of fossils from the New Mexico Bureau of Mines. Journal of Paleontology, **65**(4): 698.

Woods, H. 1891. Catalogue of the type fossils in the Woodwardian Museum, Cambridge. University Press, Cambridge, xvi + 180 pp.

Woods, H. 1893. Additions to the type fossils in the Woodwardian Museum. Geological Magazine, (dec. 3), **10**(3): 111-118.

Woodward, A.S. 1908. Illustrations of type specimens of Inferior Oolite Ammonites in the Sowerby Collection. The Palaeontographical Society, Monograph, **62**: iii + 7 pls.

Woodward, F. 1979. The F. R. Woodward collection of freshwater bivalves (Mollusca; Lamellibranchia: Unionacea). Biology Curators Group Newsletter, 2(5): 225-226.

Wu, S.-K. and N.E. Brandauer. 1982. Type specimens of Recent Mollusca in the University of Colorado Museum. Natural History Inventory of Colorado, 7: 1-47.

Yamaguchi, T., T. Habe, and T. Kikuchi. 1987. Studies on Von Siebold's collections of mollusks still preserved in the Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands. Von Siebold and Natural History of Japan, **1**: 43-78, pls C1-C28, D1.

Yaron, I., T. Schiøtte, and G. Wium-Andersen. 1986. A review of molluscan taxa described by P. Forsskål and C. Niebuhr with citation of original descriptions, discussion of type-material available and selection of some lectotypes. Steenstrupia, **12**(10): 157-203, figs. 1-50.

Yen, T.-C. 1939. Die chinesischen Land- und Süßwasser-Gastropoden des Natur-Museums Senckenberg. Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft, **444**: 1-234, pls. 1-16. [see also Zilch, 1942].

Yen, T.-C. 1942. A review of Chinese gastropods in the British Museum. Proceedings of the Malacological Society of London, **24**(5-6): 170-289, pls. 11-28.

Yen, T.-C. 1944. Notes on some unfigured type-specimens of Chinese mollusks from the North Pacific Expedition. Proceedings of the California Academy of Sciences (ser. 4) **23**(38): 561-586, pls. 50-51.

Zagar-Sakac, A. 1981. Über die Neogenen Unionazeen-Arten S. Brusina's [O Neogenskim Vrstama Unionaceja S. Brusine]. Palaeontologia Jugoslavica, **27**: 1-26, pls. 1-3.

Zdun, V.I. 1969. Kollektsiya Baikal'skikh Molliuskov B. Dybovskogo v Zoologicheskom Muzee L'vovskogo Universiteta. [The collection of Baikal mollusks of B. Dybowski in the Zoological Museum of the University of Lvov]. pp. 68-70, *in* (B.G. Ioganzen, ed.), Voprosy Malakologii Sibiri. [Malacological Problems in Siberia]. Materialy Mezhvuzovskoy Nauchno-Metodicheskoy Konferentsii po Izucheniyu Presnovodnikh Molliuskov Sibiri, 26-28 Iyonya 1969. Tomsk, Izdatel'stvo Tomskogo Universiteta, 202 pp. [In Russian].

Zeidler, W. 1983. The cephalopod collection in the South Australian Museum. Memoirs of the National Museum of Victoria, **44**: 77-79.

Zeidler, W. 1985. Mollusc type-specimens in the South Australian Museum. 2. Gastropoda: Conidae. Records of the South Australian Museum, **19**(5): 69-75, figs. 1-3.

Zeidler, W. and K. L. Gowlett. 1986. Mollusc type-specimens in the South Australian Museum. 3. Polyplacophora. Records of the South Australian Museum, **19**(8): 97-115, fig. 1.

Zeidler, W. and M.K. Macphail. 1978. Mollusc type-specimens in the South Australian Museum. 1. Cephalopoda and Scaphopoda. Records of the South Australian Museum, **17**(26): 381-385.

Zilch, A. 1934. Zur Fauna des Mittel-Miocäns von Kostej (Banat). Typus-Bestimmung und Tafeln zu O. Boettger's Bearbeitungen. Senckenbergiana, **16**(4-6): 193-302, pls. 1- 22.

Zilch, A. 1935. Nachtrag zur Typus-Bestimmung der Fauna des Mittel Miocäns von Kostej (Banat). Senckenbergiana, **17**(5-6): 226-228, figs. 1-7.

Zilch, A. 1942. Nachtrag zu "Die Chinesischen Land- und Süsswasser-Gastropoden des Natur-Museums Senckenberg". Archiv für Molluskenkunde, **74**(1): 28-36. [see Yen, 1939].

Zilch, A. 1951. Die Typen und Typoide des Natur-Museums Senckenberg, 4: Mollusca, Achatinidae. Senckenbergiana, **32**(1-4): 39-47.

Zilch, A. 1952a. Die Typen und Typoide des Natur-Museums Senckenberg, 6: Mollusca, Helicinae (1). Archiv für Molluskenkunde, **81**(1-3): 63-83.

Zilch, A. 1952b. Die Typen und Typoide des Natur-Museums Senckenberg, 8: Mollusca, Helicinae (2). Archiv für Molluskenkunde, **81**(4-6): 135-173, pls. 5-6.

Zilch, A. 1953a. Die Typen und Typoide des Natur-Museums Senckenberg, 9: Mollusca, Cyclophoridae, Diplommatininae. Archiv für Molluskenkunde, **82**(1-3): 1-47, pls. 1-13.

Zilch, A. 1953b. Die Typen und Typoide des Natur-Museums Senckenberg, 10: Mollusca, Pleurodontidae (1). Archiv für Molluskenkunde, **82**(4-6): 131-140, pls. 22-25.

Zilch, A. 1954a. Die Typen und Typoide des Natur-Museums Senckenberg, 12: Mollusca, Clausiliidae (1): Phaedusinae, Neniinae. Archiv für Molluskenkunde, **83**(1-3): 1-63, pls. 1-4.

Zilch, A. 1954b. Die Typen und Typoide des Natur-Museums Senckenberg, 13: Mollusca, Cyclophoridae, Cyclophorinae-Cyclophoreae (1). Archiv für Molluskenkunde, **83**(4-6): 141-157, pls. 13-16.

Zilch, A. 1955a. Die Typen und Typoide des Natur-Museums Senckenberg, 14: Mollusca, Viviparidae. Archiv für Molluskenkunde, **84**(1-3): 45-85, pls. 3-7.

Zilch, A. 1955b. Die Typen und Typoide des Natur-Museums Senckenberg, 15: Mollusca, Cyclophoridae, Cyclophorinae-Cyclophoreae (2). Archiv für Molluskenkunde, **84**(4-6): 183-209, pls. 13-15.

Zilch, A. 1956a. Die Typen und Typoide des Natur-Museums Senckenberg, 17: Mollusca, Cyclophoridae, Cyclophorinae-Cyclophoreae (3). Archiv für Molluskenkunde, **85**(1-3): 33-53, pls. 2-3.

Zilch, A. 1956b. Die Typen und Typoide des Natur-Museums Senckenberg, 18: Mollusca, Cyclophoridae, Cyclophorinae (4). Archiv für Molluskenkunde, **85**(4-6): 171-195, pls. 12-15.

Zilch, A. 1957a. Die Typen und Typoide des Natur-Museums Senckenberg, 19: Mollusca, Cyclophoridae, Pupininae. Archiv für Molluskenkunde, **86**(1-3): 41-56, pls. 2-4.

Zilch, A. 1957b. Die Typen und Typoide des Natur-Museums Senckenberg, 20: Mollusca, Cyclophoridae, Alycaeinae. Archiv für Molluskenkunde, **86**(4-6): 141-150, pls. 5-6.

Zilch, A. 1958-1959. Die Typen und Typoide des Natur-Museums Senckenberg, 21: Mollusca, Cyclophoridae, Craspedopominae-Cochlostominae. Archiv für Molluskenkunde, **87**(1-3): 53-76, pls. 4-5; **88**(1-3): 76 [errata].

Zilch, A. 1960. Die Typen und Typoide des Natur-Museums Senckenberg, 22: Mollusca, Camaenidae (2). Archiv für Molluskenkunde, **89**(4-6): 193-202, pls. 16-17.

Zilch, A. 1961. Die Typen und Typoide des Natur-Museums Senckenberg, 24: Mollusca, Streptaxidae. Archiv für Molluskenkunde, **90**(1-3): 79-120, pls. 5-9.

Zilch, A. 1962a. Die Typen und Typoide des Natur-Museums Senckenberg, 26: Mollusca, Achatinellacea. Archiv für Molluskenkunde, **91**(1-3): 77-94, pls. 2-3.

Zilch, A. 1962b. Die Typen und Typoide des Natur-Museums Senckenberg, 27: Mollusca, Pupillacea 1 (Amastridae, Cochlicopidae, Pyramidulidae). Archiv für Molluskenkunde, **91**(4-6): 219-236, pl. 7.

Zilch, A. 1964a. Die Typen und Typoide des Natur-Museums Senckenberg, 29: Mollusca, Camaenidae (3). Archiv für Molluskenkunde, **93**(5-6): 243-262, pl. 6.

Zilch, A. 1964b. Gottfried Nägele (1841-1914). Archiv für Molluskenkunde, **93**(5-6): 263-266, 1 fig.

Zilch, A. 1965a. Die Typen und Typoide des Natur-Museums Senckenberg, 30: Mollusca, Zonitidae, Zonitinae (1). Archiv für Molluskenkunde, **94**(1-2): 75-97, pls. 1-5.

Zilch, A. 1965b. Die Typen und Typoide des Natur-Museums Senckenberg, 32: Mollusca, Helicinae (3). Archiv für Molluskenkunde, **94**(3-4): 169-181, pls. 8-10.

Zilch, A. 1965c. Werner Blume (1887-1965). Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **1**(7): 107-108.

Zilch, A. 1966a. Die Typen und Typoide des Natur-Museums Senckenberg, 33: Mollusca, Sphincterochilidae. Archiv für Molluskenkunde, **95**(1-2): 89-105, pls. 1-2.

Zilch, A. 1966b. Die Typen und Typoide des Natur-Museums Senckenberg, 34: Mollusca, Camaenidae (4). Archiv für Molluskenkunde, **95**(3-4): 197-223, pls. 3-6.

Zilch, A. 1966c. Die Typen und Typoide des Natur-Museums Senckenberg, 35: Mollusca, Camaenidae (5). Archiv für Molluskenkunde, **95**(5-6): 293-319, pls. 7-11.

Zilch, A. 1967a. Die Typen und Typoide des Natur-Museums Senckenberg, 36: Mollusca, Assimineidae. Archiv für Molluskenkunde, **96**(1-2): 67-100, pls. 1-6.

Zilch, A. 1967b. Aus der Geschichte des Senckenberg-Museums, Nr. 13. Geschichte der malakologischen Sektion. Archiv für Molluskenkunde, **97**(1-6): 7-43, figs. 1-23.

Zilch, A. 1967c. Die Typen und Typoide des Natur-Museums Senckenberg, 39: Mollusca, Unionacea. Archiv für Molluskenkunde, **97**(1-6): 45-154.

Zilch, A. 1968. Die Typen und Typoide des Natur-Museums Senckenberg, 41: Mollusca, Bradybaenidae, Bradybaeninae. Archiv für Molluskenkunde, **98**(3-4): 155-212, pls. 6-7.

Zilch, A. 1969a. Die Typen und Typoide des Natur-Museums Senckenberg, 42: Mollusca, Buccinacea 1. Archiv für Molluskenkunde, **99**(3-4): 213-220, pls. 1, 1a.

Zilch, A. 1969b. Die Typen und Typoide des Natur-Museums Senckenberg, 43: Mollusca, Pupillacea 2 (Valloniidae, Pleurodiscidae). Archiv für Molluskenkunde, **99**(3-4): 221-245, pls. 2-5.

Zilch, A. 1970. Die Typen und Typoide des Natur-Museums Senckenberg, 45: Mollusca, Hydrobiidae (1): *Bythiospeum* Bourguignat. Archiv für Molluskenkunde, **100**(5-6): 319-346, pls. 16-19.

Zilch, A. 1971a. Die Typen und Typoide des Natur-Museums Senckenberg, 47: Mollusca-Euthyneura von A. Döring aus Argentinien. Archiv für Molluskenkunde, **101**(1-4): 195-213, pls. 11-13.

Zilch, A. 1971b. Nachträge zu den malakologischen Veröffentlichungen von W. Blume; Verzeichnis der von Blume neu beschriebenen taxa. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **2**(20): 293-294.

Zilch, A. 1971c. Zur Geschichte der deutschen Malakozoologie, VIII. Die Conchylien-Sammlung von Siegfried H. Jaeckel. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **2**(21): 308-312.

Zilch, A. 1972a. Zur Geschichte der deutschen Malakozoologie, IX. Zur Konchylien-Sammlung von K. L. Pfeiffer. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **2**(22): 325-326.

Zilch, A. 1972b. Zur Geschichte der deutschen Malakozoologie, X. Zur Konchylien-Sammlung von P. Ehrmann. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **2**(22): 327-329.

Zilch, A. 1972c. Zur Geschichte der deutschen Malakozoologie, XI. Zur Konchylien-Sammlung von H. Kaltenbach. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **2**(22): 330-331.

Zilch, A. 1972d. Die Typen und Typoide des Natur-Museums Senckenberg, 48: Mollusca: Bulimulidae (1). Archiv für Molluskenkunde, **102**(1-3): 133-145.

Zilch, A. 1972e. Die Typen und Typoide des Natur-Museums Senckenberg, 50: Mollusca: Clausiliidae (2): Alopiinae: Delimini (1). Archiv für Molluskenkunde, **102**(4-6): 247-259, pl. 11.

Zilch, A. 1973a. Die Typen und Typoide des Natur-Museums Senckenberg, 51: Mollusca: Achatinacea (2): Ferrussaciidae, Subulinidae. Archiv für Molluskenkunde, **103**(1-3): 99-148, pls. 4-5.

Zilch, A. 1973b. Die Typen und Typoide des Natur-Museums Senckenberg, 52: Mollusca: Hydrocenidae. Archiv für Molluskenkunde, **103**(4-6): 263-272, pls. 12-13.

Zilch, A. 1973c. Die Typen und Typoide des Natur-Museums Senckenberg, 53: Mollusca: Truncatellidae. Archiv für Molluskenkunde, **103**(4-6): 273-282, pls. 14-15.

Zilch, A. 1974. Zur Geschichte der deutschen Malakozoologie, XIV. Vinzenz Gredler und die Erforschung der Weichtiere Chinas durch Franziskaner aus Tirol. Archiv für Molluskenkunde, **104**(4-6): 171-228, pls. 7-9, 9a.

Zilch, A. 1976a. Die Typen und Typoide des Natur-Museums Senckenberg, 55: Mollusca: Clausiliidae (3): Mentissoideinae. Archiv für Molluskenkunde, **106**(4-6): 203-242, pls. 14-20.

Zilch, A. 1976b. Die Typen und Typoide des Natur-Museums Senckenberg, 56: Mollusca: Aciculidae. Archiv für Molluskenkunde, **107**(1-3): 123-136, pls. 11-12, 12a.

Zilch, A. "1976" [1977a]. Die Typen und Typoide des Natur-Museums Senckenberg, 57: Mollusca: Clausiliidae (4): Alopiinae (2): Alopiini (1). Archiv für Molluskenkunde, **107**(4-6): 309-363, pls. 25-28.

Zilch, A. 1977b. Caesar Rudolf Boettger (1888-1976). Archiv für Molluskenkunde, **108**(1-3): 1-16.

Zilch, A. 1977c. Die Typen und Typoide des Natur-Museums Senckenberg, 58: Mollusca: Clausiliidae (5): Alopiinae (3): Alopiini (2). Archiv für Molluskenkunde, **108**(1-3): 109-161, pls. 6-10.

Zilch, A. "1977" [1978a]. Die Typen und Typoide des Natur-Museums Senckenberg, 59: Mollusca: Triptychiidae und Clausiliidae (Nachträge zu Teil 12). Archiv für Molluskenkunde, **108**(4-6): 267-298.

Zilch, A. 1978b. Die Typen und Typoide des Natur-Museums Senckenberg, 60: Mollusca: Succinacea. Archiv für Molluskenkunde, **109**(1-3): 109-136, pls. 7-8.

Zilch, A. "1978" [1979a]. Die Typen und Typoide des Natur-Museums Senckenberg, 61: Mollusca: Neritacea: Helicinidae. Archiv für Molluskenkunde, **109**(4-6): 377-406, pls. 19-22.

Zilch, A. 1979b. Die Typen und Typoide des Natur-Museums Senckenberg, 62: Mollusca: Zonitacea: Vitrinidae. Archiv für Molluskenkunde, **110**(1-3): 81-101, pls. 6-8.

Zilch, A. "1979" [1980a]. Die Typen und Typoide des Natur-Museums Senckenberg, 63: Mollusca: Zonitacea: Zonitidae: Vitreinae. Archiv für Molluskenkunde, **110**(4-6): 261-279, pls. 17-19.

Zilch, A. "1979" [1980b]. Die Typen und Typoide des Natur-Museums Senckenberg, 64: Mollusca: Oleacinacea. Archiv für Molluskenkunde, **110**(4-6): 281-300, pls. 20-21.

Zilch, A. "1980" [1981a]. Richard Schlickum (1906-1979). Archiv für Molluskenkunde, **111**(1-3): 1-14.

Zilch, A. "1980" [1981b]. Die Typen und Typoide des Natur-Museums Senckenberg, 65: Mollusca: Clausiliidae (6): Alopiinae (4): Montenegrinini. Archiv für Molluskenkunde, **111**(1-3): 123-145, pls. 11-15.

Zilch, A. "1980" [1981c]. Die Typen und Typoide des Natur-Museums Senckenberg, 66: Mollusca: Stenothyridae. Archiv für Molluskenkunde, **111**(1-3): 147-163, pls. 16-17.

Zilch, A. "1980" [1981d]. Die Typen und Typoide des Natur-Museums Senckenberg, 67: Mollusca: Viviparidae (Nachträge zu Teil 24). Archiv für Molluskenkunde, **111**(4-6): 257-273, pl. 24.

Zilch, A. "1981" [1982]. Die Typen und Typoide des Natur-Museums Senckenberg, 68: Mollusca: Helicacea: Bradybaenidae (2): Helicostylinae. Archiv für Molluskenkunde, **112**(1-6): 49-156, pls. 1-4.

Zilch, A. "1982" [1983a]. Die Typen und Typoide des Natur-Museums Senckenberg, 69: Mollusca: Muricidae: Rapaninae: *Stenomphalus*. Archiv für Molluskenkunde, **113**(1-6): 93-101, pl. 10.

Zilch, A. "1982" [1983b]. Die Typen und Typoide des Natur-Museums Senckenberg, 70: Mollusca: Pupillacea (3): Vertiginidae: Nesopupinae. Archiv für Molluskenkunde, **113**(1-6): 103-116, 229-230.

Zilch, A. "1982" [1983c]. Die Typen und Typoide des Natur-Museums Senckenberg, 71: Mollusca: Streptaxacea (2): Haplotrematidae, Systrophidae, Rhytididae, Streptaxidae (Nachträge zu Teil 24). Archiv für Molluskenkunde, **113**(1- 6): 117-149, 231-233, pls. 11-13.

Zilch, A. 1983d. Die Typen und Typoide des Natur-Museums Senckenberg, 72: Mollusca: Unionacea (Nachträge zu Teil 39). Archiv für Molluskenkunde, **114**(1-3): 77-92.

Zilch, A. 1983e. Die Typen und Typoide des Natur-Museums Senckenberg, 73: Mollusca: Micromelaniidae: Emmericiinae. Archiv für Molluskenkunde, **114**(1-3): 93-107, pl. 4.

Zilch, A. 1984. Die Typen und Typoide des Natur-Museums Senckenberg, 74: Mollusca: Pupillacea (4): Chondrinidae: Gastrocoptinae, Hypselostomatinae, Aulacospirinae. Archiv für Molluskenkunde, **115**(1-3): 151-177, pls. 1-2.

Zilch, A. 1985. Die Typen und Typoide des Natur-Museums Senckenberg, 75: Mollusca: Pupillacea (5): Pupillidae: Lauriinae, Argninae. Archiv für Molluskenkunde, **116**(1-3): 119-136, pls. 1-2.

Zilch, A. "1985" [1986]. Die Typen und Typoide des Natur-Museums Senckenberg, 76: Mollusca: Pupillacea (6): Enidae: Spelaeoconchinae, Cerastuinae, Draparnaudiinae. Archiv für Molluskenkunde, **116**(4-6): 233-250, pls. 1-2.

Zilch, A. "1986" [1987a]. Die Typen und Typoide des Natur-Museums Senckenberg, 77: Mollusca: Helicinae (4): *Cepaea*. Archiv für Molluskenkunde, **117**(4-6): 223-239, pl. 1.

Zilch, A. "1986" [1987b]. Die Typen und Typoide des Natur-Museums Senckenberg, 78: Mollusca: Helicinae (Nachträge zu Teil 6 und 8). Archiv für Molluskenkunde, **117**(4-6): 241-255.

Zilch, A. 1987c. Zur Geschichte der deutschen Malakozoologie, XVI. Wilhelm Wenz, seine Veröffentlichungen und neuen Molluske-Taxa. Mitteilungen der Deutschen Malakozoologischen Gesellschaft, **41**: 1-30.

Zullo, V.A. and L.G. Hertlein. 1970. Catalog of specimens in the type collection of the Department of Geology, California Academy of Sciences. Cephalopoda. Occasional Papers of the California Academy of Sciences, **82**: 1-130.

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ADDENDUM TO "AN INDEXED CATALOGUE OF PUBLICATIONS ON MOLLUSCAN TYPE SPECIMENS" (1992)

Alan R. Kabat[1]
and
Kenneth J. Boss[2]

ABSTRACT. Our 1992 paper on malacological type publications (Occasional Papers on Mollusks, 5(69): 157-336) catalogued over 1,150 papers on this subject. Inevitably, several overlooked publications have come to light, along with numerous subsequently published papers of relevance. This Addendum catalogues almost 125 publications. The format of our 1992 publication is followed. A supplement at the end contains various emendations to that work, primarily for certain museum addresses.

[1] Division of Mollusks NHB-118, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560 U.S.A.

[2] Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts 02138 U.S.A.

ELECTRONIC TYPE CATALOGUES

Commencing in 1993, several natural history museums have placed catalogues of their type specimens online as an electronic computer database accessible through "GOPHER" or the World Wide Web ("WWW") on the Internet. Such catalogues can be searched by taxonomic group, author, locality, geological age or formation (for fossils) and various other categories. They have the advantage (over printed versions) of being cheaper to issue, and can be readily updated. However, they are only available to researchers with electronic access, and should be supplemented by an archival printed copy at the host institution.

Online catalogues containing molluscan types, with their WWW and GOPHER addresses, are listed below. Please note that these addresses are subject to change.

ANSP. Invertebrate Paleontology and Malacology Departments, Academy of Natural Sciences of Philadelphia.
gopher: erato.acnatsci.org
http://www.acnatsci.org/

CAS. Department of Invertebrate Zoology and Geology, California Academy of Sciences, San Francisco.
gopher: cas.calacademy.org
http://www.calacademy.org/

FMNH. Department of Zoology, Field Museum of Natural History, Chicago.
gopher: fmppr.fmnh.org
http://www.bvis.uic.edu:80/museum/

FM. Florida Museum of Natural History, University of Florida, Gainesville.
http://www.flmnh.ufl.edu/

UCMP. Invertebrate Paleontology, Museum of Paleontology, University of California, Berkeley.
gopher: ucmp1.berkeley.edu
http://ucmp1.berkeley.edu/

USNM. Division of Mollusks, National Museum of Natural History, Smithsonian Institution, Washington D.C.
gopher: nmnhgoph.si.edu
http://www.nmnh.si.edu/gopher-menus/TypeCatalogueofRecentMollusks.html

YPM. Invertebrate Zoology and Invertebrate Paleontology, Peabody Museum, Yale University, New Haven, Connecticut.
gopher: peabody.yale.edu
http://www.peabody.yale.edu/

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The following colleagues kindly informed us of various overlooked publications: George L. Kennedy, Hermann L. Strack, Anders Warén and the late Walter E. Sage. Dai Herbert, Paula Mikkelsen and M.G. Harasewych informed us of their forthcoming publications. Horst Ewert (Botschaft der Bundesrepublik Deutschland, Washington D.C.) supplied us with the new five-digit postal codes for the German museums.

AUTHORS INDEX

Dall, W.H. --Geiger, 1994; Kabat, 1996.
Darragh, T.A. --McNamara, *et al.*, 1991.
d'Orbigny, A. --Aguirre, 1993-1994; Lu, *et al.*, 1995.
Dunker, W. --Janssen, 1993; Kilias, 1995b.
Férussac, A.É.J.P.J.F.d'A. --Lu, *et al.*, 1995.
Fischer, P. --Herbert, 1997
Fischer von Waldheim, G. --Ivanov, *et al.*, 1993.
Forcart, L. --Wüthrich, *et al.*, 1993.
Forsskål, P. --Schiøtte, 1992.
Gaimard, P. --Lu, *et al.*, 1995.
Gould, A.A. --Johnson, 1996.
Gregorio, A. de --Arnone and Orlando, 1991-1993; Mellini, 1986.
Gulick, J.T. --Johnson, 1996.
Habe, T. --Hasegawa and Saito, 1995.
Hartman, W.D. --Johnson, 1996.
Hertlein, L.G. --Boyko and Sage, 1996.
Hoeven, J. van der. --Bijl and Voskuil, 1993.
Hornung, A. --Buzzurro and Greppi, 1995.
Houbrick, R.S. --Harasewych and Kabat, 1995.
Hyatt, A. --Johnson, 1996.
Hylton Scott, M.I. --Cazzaniga, 1992.
Iredale, T. --Gowlett-Holmes and Zeidler, 1993.
Jay, J.C. --Boyko and Sage, 1996; Johnson, 1996.
Jaeckel, S. --Kilias, 1995b.
Jickeli, C.F. --Turner, 1993.
Kaas, P. --Strack, 1996
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Kobelt, W. --Kilias, 1992.
Kondo, Y. --Cowie, 1993; Johnson, 1996.
Kosuge, S. --Kosuge, 1992.
Krauss, F. --Bruggen, 1992.
Kuroda, T. --Kikuchi, 1996, 1997.

Lamarck, J.B.P. --Aguirre, 1993-1994; Decrouez, 1993; Dijkstra, 1994.
Lasswitz, R. --Klinger, 1994.
Lea, I. --Boyko and Sage, 1996; Johnson, 1996.
Lee, G.W. --Berset and Decrouez, 1992.
Lesueur, C.A. --Lu, *et al.*, 1995.
Linnaeus, C. --Wallin, 1992.
Loriol, P. de --Benier, 1993a.
Lowe, R.T. --Mienis, 1993a.
Ludbrook, N.H. --McNamara, *et al.*, 1991.
Mandahl-Barth, G. --Brown, 1995.
Mantell, G. --Cleevely and Chapman, 1992.
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Neal, M.C. --Johnson, 1996.
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Niebuhr, C. --Schiφtte, 1992.
Nierstrasz, H.F. --Kilias, 1995a; Strack, 1987.
Nordsieck, F. --Van Aartsen and Menkhorst, 1996.
Odhner, N.H. --Sandberg and Warén, 1993.
Paladilhe, A. --Mienis, 1993b.
Pallary, P. --Trew and Seddon, 1996.
Pearce, J.C. --Donovan and Crane, 1992.
Pease, W.H. --Johnson, 1994-1996.
Peile, A.J. --Mienis, 1993b.
Peyrot, A. --Marcomini, 1994.

Pfeffer, G. --Kilias, 1995a.
Pfeiffer, K.L. --Verdcourt, 1995b.
Pfeiffer, L. --Johnson, 1996; Moolenbeek and Bijl, 1992; Verdcourt, 1995a.
Pictet, F.-J. --Benier, 1993b.
Pilsbry, H.A. --Aguirre, 1993; Boyko and Sage, 1996; Johnson, 1996.
Plate, L. --Kilias, 1995a-1995b.
Preston, H.B. --Kilias, 1992.
Prime, T. --Boyko and Sage, 1996.
Quoy, J.R.C. --Lu, *et al.*, 1995
Récluz, C.A. --Kabat *et al.*, 1997
Reeve, L.A. --Johnson, 1996.
Rochebrune, A.T. de -- Lu, *et al.*, 1995.
Sakurai, K. --Hasegawa and Saito, 1995.
Salvini-Plawen, L. von --Boyko and Sage, 1996.
Say, T. --Aguirre, 1993-1994.
Schlesch, H. --Mienis, 1993b.
Seguenza, G. --Geronimo, 1991; Micali and Villari, 1991.
Simroth, H. --Verdcourt, 1992c.
Smith, E.A. --Johnson, 1996; Trew, 1993a; Verdcourt, 1992a-b, 1993a-b.
Souleyet, L.F.A. --Lu, *et al.*, 1995.
Souverbie, St.-M. --Herbert, 1997
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Sowerby, J. --Cleevely and Chapman, 1992.
Spengler, L. --Kaas and Knudsen, 1992.
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Steadman, W.R. --Gowlett-Holmes and Zeidler, 1993.
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Thiele, J. --Kilias, 1992, 1995a.
Tiba, R. --Kosuge, 1993.
Trenberth, W.N. --Gowlett-Holmes and Zeidler, 1993.

Usticke, G.W.N. --Boyko and Sage, 1996.
Verco, J.C. --Loch, 1992.
Viader, R. --Loch, 1996.
Voss, G.L. --Sweeney and Roper, 1991.
Watson, R.B. --Aguirre, 1993.
Welch, D.A. --Johnson, 1996.
Wiktor, A. --Wiktor, 1992.

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The sequence and format follows that of Kabat and Boss (1992: 188-232); the full address is given only for those museums *not* previously listed. When there is more than one museum listed per country, they are arranged alphabetically by city. See also the supplement at the end of this paper for emendations to addresses of several museums.

1. Europe and Near East.

AUSTRIA

Geologisches Bundesanstalt, Wien
Stojaspal, 1994.

BELGIUM

Institut Royal des Sciences Naturelles de Belgique, Bruxelles [IRSNB]
Strack, 1987.

DENMARK

Danish Bilharziasis Laboratory [DBL]
Jaegersborg Alle 1d
DK-2920 Charlottenlund, Denmark

Brown, 1995.

Zoologisk Museum, Kϕbenhavn [ZMUC]
Kaas and Knudsen, 1992; Schiϕtte, 1992.

FRANCE

Muséum d'Histoire Naturelle, Bordeaux
Herbert, 1996.

Institut de Géologie, Lyon
Prieur, *et al.*, 1983.

Université de Montpellier II
Place Eugène-Bastaillon
F-34095 Montpellier, France
Marandat, 1994

Muséum National d'Histoire Naturelle, Paris [MNHN]
Aguirre, 1993-1994; Lu, *et al.*, 1995; Marcomini, 1994.

Université Pierre et Marie Curie,
Collection de Paléontologie,
Tour 24 - 3^{e} Étage,
4 Place Jussieu,
F-75230 Paris France
Kennedy, 1993.

GERMANY

Zoologisches Museum Berlin [ZMB]
Kabat and Boss, 1996; Kilias, 1992-1995b; Verdcourt, 1992a, 1992c.

Staatlichen Museums für Tierkunde Dresden [MTK]
Augustusstraße 2
D-01067 Dresden Germany
Schniebs, 1995-1996.

Natur-Museum Senckenberg, Frankfurt [SMF]
Janssen, 1993; Kabat and Boss, 1996; Schütt and Zilch, 1993; Turner, 1993; Van Aartsen and Menkhorst, 1996; Verdcourt, 1995b.

GREAT BRITAIN

City of Bristol Museum and Art Gallery
Donovan and Crane, 1992.

University Museum of Zoology, Cambridge [UMZC]
Turner, 1993.

National Museum of Wales (Cardiff)
Department of Zoology [NMWZ]: Trew, 1993b-1994b.
Department of Geology: Owens and Bassett, 1995.

The Natural History Museum, London [BMNH]
Aguirre, 1993-1994; Chatfield, 1994; Cleevely and Chapman, 1992; Cram, 1989; Griffiths, 1962; Johnson, 1994-1996; Kabat *et al.*, 1997; Mienis, 1994a; Sasaki and Okutani, 1994; Trew, 1993a; Verdcourt, 1992a-b, 1993a-1995a; Wheeler, 1995.

Maidstone Museum and Art Gallery
St. Faith's Street
Maidstone, Kent, ME14 1LH United Kingdom
Chatfield, 1994.

ISRAEL

Museum, Hebrew University of Jerusalem [HUJ]
Mienis, 1993a-b; 1994b-1994c.

ITALY

Museo di Zoologia [MZB]
via S. Giacomo No. 9
I-40126 Bologna Italy
Bonfitto, *et al.*, 1994.

Museo Civico di Storia Naturale, Genova [MSNG]
Buzzurro and Greppi, 1995.

Museo Civico di Storia Naturale, Milano [MSNM]
Garassino, 1994, 1995.

Museo di Zoologia della Università di Palermo
Via Archirafi 18
I-90123 Palermo Italy
Orlando *et al.*, 1994

Museo Regionale di Storia Naturale
Via Cala Rossa, 4
I-90049 Terrasini Italy
Arnone and Orlando, 1991-1993; Orlando, 1995.

Museo Civico di Storia Naturale
Lungadige Porta Vittoria, 9
I-37129 Verona Italy
Mellini, 1986.

THE NETHERLANDS

Zoölogisch Museum, Amsterdam [ZMA]
Bijl and Moolenbeek, 1995; Moolenbeek and Bijl, 1992, 1994; Saito, 1994; Strack, 1987.

Nationaal Natuurhistorisch Museum, Leiden [RMNH]
Bijl and Moolenbeek, 1994; Bijl and Voskuil, 1993; Bruggen, 1992; Strack, 1987; Winkler Prins, 1996.

Natuurmuseum Rotterdam
Slieker, 1995.

POLAND

Muzeum Przyrodniczm im. Wladyslawa Rydzewskiego,
Uniwersytetu Wroclawiu,
Sienkiewicza 21,
50-335 Wroclaw Poland
Wiktor, 1992.

Henryk Teisseyre Geological Museum
Institute of Geological Sciences
Uniwersytetu Wroclawiu,
ul. Cybulskiego
50-205 Wroclaw Poland
Klinger, 1994.

RUSSIA

Zoological Museum, Moscow State University [ZMMU or ZMUM]
Ivanov, *et al.*, 1993.

Central Siberian Geological Museum, Novosibirsk
Nalniaeva and Besprozvannykh, 1990.

Zoological Insitute, St. Petersburg [ZIN]
Sysoev and Kantor, 1992.

SPAIN

Museo de Geológíco del Seminario de Barcelona,
Diputació 231,
E-08007 Barcelona Spain
Calzada and Urquiola, 1992.

Museo Nacional de Ciencias Naturales
José Gutiérrez Abascal, 2
E-28006 Madrid Spain
Templado, *et al.*, 1993.

SWEDEN

Naturhistoriska Riksmuseet, Stockholm [SMNH]
Sandberg and Warén, 1993

Zoologiska Museet, Uppsala Universitet [ZMUU]
Wallin, 1992.

SWITZERLAND

Naturhistorisches Museum, Basel [NMB]
Gatto, 1993; Wüthrich, *et al.*, 1993.

Muséum d'Histoire Naturelle, Genève [MHNG]
Benier, 1993a, 1993b; Berset and Decrouez, 1992;

Cailliez, 1996; Decrouez, 1993; Dijkstra, 1994; Kabat, *et al.*, 1997.

2. Africa.

SOUTH AFRICA

South African Museum, Cape Town [SAFM]
Sysoev, 1996.

3. Asia and Oceania.

AUSTRALIA

South Australian Museum, Adelaide [SAM]
Gowlett-Holmes and Zeidler, 1993; Loch, 1992.

Museum of Victoria, Melbourne [MV]
Loch, 1992.

Western Australian Museum, Perth [WAM]
McNamara, *et al.*, 1991.

Australian Museum, Sydney [AMS]
Jones, 1992; Loch, 1992, 1996.

JAPAN

General:
Hatai and Nisiyama, 1952; Hayami, 1975; Masuda and Noda, 1976.

National Science Museum, Tokyo [NSMT]
Hasegawa and Saito, 1995; Kubodera and Tsuchiya, 1993; Saito, 1994.

4. North America.

CANADA

Geological Survey, Ottawa [GSC]
Bolton, 1992.

British Columbia Provincial Museum, Victoria [BCPM]
Green and Peden, 1992.

MEXICO

Museo de Paleontologia, Universidade Nacional Autónoma de Mexico [UNAM]
Perrilliat, 1992.

UNITED STATES

American Museum of Natural History, New York [AMNH]
Boyko and Sage, 1996.

Museum of Comparative Zoology, Cambridge [MCZ]
Aguirre, 1993; Johnson, 1994-1996; Kabat, 1996.

Chicago Academy of Sciences [CA]
Vokes, 1994.

Bernice Pauahi Bishop Museum, Honolulu [BPBM]
Cowie, 1993; Johnson, 1994.

Paleontological Research Institution, Ithaca [PRI]
Johnson, 1996.

Natural History Museum of Los Angeles County [LACM]
Saul, 1993.

Milwaukee Public Museum [MPM]
Sumpter and Meyer, 1991.

Academy of Natural Sciences of Philadelphia [ANSP]
Aguirre, 1993-1994; Harasewych, 1997; Hertz, 1994; Johnson, 1994; Vokes, 1994.

San Diego Natural History Museum [SDSNH]
Hertz, 1994.

California Academy of Sciences, San Francisco [CAS]
Hertz, 1994; Kabat, 1996.

Santa Barbara Museum of Natural History [SBMNH]
Kabat, 1996.

National Museum of Natural History, Washington D.C. [USNM]
Aguirre, 1994; Geiger, 1994; Habe, 1992; Harasewych, 1996; Harasewych and Kabat, 1995; Hertz, 1994; Johnson, 1994; Kabat, 1996.

Delaware Museum of Natural History, Wilmington [DMNH]
Harasewych, 1997; Mikkelsen and Bradford, 1997.

5. South America.

CHILE

Museo de Zoologiá, Concepción
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Partulidae: Cowie, 1993.
Planorbidae: Brown, 1995.
Pupillidae: Mienis, 1993b.
Pyramidellidae: Buzzurro and Greppi, 1995; Van Aartsen and Nordsieck, 1996.
Ranellidae: Mienis, 1994c.
Triviidae: Gowlett-Holmes and Zeidler, 1993.
Trochidae: Herbert, 1997; Schniebs, 1996.
Turbinellidae: Schniebs, 1995.
Turbinidae: Herbert, 1997; Schniebs, 1996.
Turridae: Gatto, 1993; Sysoev, 1996.
Vasidae: see under Turbinellidae.

5. POLYPLACOPHORA.
Boyko and Sage, 1996; Kaas and Knudsen, 1992; Kilias, 1995a; Mikkelsen and Bradford, 1997; Strack, 1987, 1996.

6. SCAPHOPODA.
Boyko and Sage, 1996; Kilias, 1995b; Mikkelsen and Bradford, 1997.

BIBLIOGRAPHY

Aguirre, M.L. 1993. Type specimens of Quaternary marine gastropods from Argentina. Ameghiniana, Revista de la Asociacion

Paleontologica Argentina, **30**(1): 23-38.

Aguirre, M.L. 1994. Type specimens of Quaternary marine bivalves from Argentina. Ameghiniana, Revista de la Asociacion Paleontologica Argentina, **31**(4): 347-374.

Arnone, M. and V.E. Orlando. 1991. I tipi delle raccolte del Museo Regionale di Terrasini. III Contributo: Mollusca (Gastropoda, Archaeogastropoda). Naturalista Siciliana, (ser. 4) **15**(3-4): 195-198.

Arnone, M. and V.E. Orlando. 1992. I tipi delle raccolte del Museo Regionale di Terrasini. IV Contributo: Mollusca Gastropoda: Mesogastropoda. Naturalista Siciliana, (ser. 4) **16**(3-4): 145-154.

Arnone, M. and V.E. Orlando. 1993. I tipi delle raccolte del Museo Regionale di Terrasini. V Contributo: Mollusca (Gastropoda: Neotaenioglossa, Ptenoglossa, Neogastropoda, Sacoglossa, Stylommatophora). Naturalista Siciliana, (ser. 4) **17**(3-4): 255-263.

Benier, C. 1993a. Les collections du Département de géologie et de paléontologie des invertébrés du Muséum d'Histoire naturelle de Genève. 49. La collection Arzier de P. de Loriol. Revue de Paléobiologie, **12**(2): 513-516.

Benier, C. 1993b. Les collections du Département de géologie et de paléontologie des invertébrés du Muséum d'Histoire naturelle de Genève. 50. La collection Arzier de F.J. Pictet. Revue de Paléobiologie, **12**(2): 517-518.

Berset, S. and D. Decrouez. 1992. Les collections du Département de géologie et de paléontologie des invertébrés du Muséum d'Histoire naturelle de Genève. 44. Les collections Ronchadzé et Lee. Revue de Paléobiologie, **11**(1): 307-312.

Bijl, A.N. van der and R.G. Moolenbeek. 1994. Notes on the holotype of *Helix herklotsi* von Martens, 1860, in the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands. The Chiribotan, Newsletter of the Malacological Society of Japan, **25**(1): 13-17.

Bijl, A.N. van der and R.G. Moolenbeek. 1995. Discovering the

holotype of *Panopea japonica* (A. Adams, 1850) (Bivalvia: Hiatellidae). (Notes on the history of the Malacological Collection of the Zoölogisch Museum Amsterdam, No. 8). The Chiribotan, Newsletter of the Malacological Society of Japan, **25**(3): 67-69.

Bijl, A.N. van der and R.P.A. Voskuil. 1993. Notes on the history of the malacological collection of the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands, 1. The rediscovery of type-material of *Bulla albocincta* Van der Hoeven, 1839 (Mollusca: Gastropoda: Opisthobranchia: Hydatinidae). Basteria, **57**(4-6): 111-114.

Bolton, T.E. 1992. Catalogue of type invertebrate fossils of the Geological Survey of Canada, volume 8. Ottawa, Geological Survey of Canada.

Bonfitto, A., B. Sabelli, S. Tommasini and D. Herbert. 1994. Marine molluscan taxa from Mozambique described by G.G. Bianconi and preserved in the Zoological Museum of the University of Bologna. Annals of the Natal Museum, **35**: 133-138.

Boyko, C.B. and W.E. Sage. 1996. Catalog of Recent type specimens in the Department of Invertebrates, American Museum of Natural History. II. Mollusca Part 1 (Classes Aplacophora, Polyplacophora, Gastropoda [Subclass Opisthobranchia], Bivalvia, and Scaphopoda). American Museum Novitates, **3170**: 1-50.

Brown, D.S. 1995. Georg Mandahl-Barth (1910-1994): His life, publications, and described taxa. Journal of Conchology, **35**(4): 303-312.

Bruggen, A.C. van. 1992. Ferdinand Krauss and the Leiden Museum, with notes on his South African mollusc types. Pages 77-96, [*in*] E. Gittenberger and J. Goud (eds.), Proceedings of the Ninth International Malacological Congress Edinburgh, 31 August - 6 September 1986. Leiden, UNITAS Malacologica and Nationaal Natuurhistorisch Museum, 414 pages.

Buzzurro, G. and E. Greppi. 1995. Note sul materiale tipico di origine Lessepsiana della collezione Hornung & Mermod. Notiziario C.I.S.Ma., Bollettino del Centro Italiano di Studi Malacologici, **17**:

5-16.

Cailliez, J.C. 1996. Notice sur les collections malacologiques du Muséum d'Histoire Naturelle de Genève. Muséum d'Histoire Naturelle, Genève, 50 pages.

Calzada, S. and M.M. Urquiola. 1992. Catálogo de los holotipos conservados en el Museo Geológico del Seminario de Barcelona. Trabajos del Museo Geológico del Seminario, Barcelona, **223**: 127 pages + errata.

Cazzaniga, N.J. 1992. Dr. María Isabel Hylton Scott (1889-1990). A brief biography and bibliography. Walkerana, **6**(16): 295-313.

Cekalovic, T., J.N. Artigas and L. Biro. 1993. Catalogo de los tipos depositados en las colecciones del Departamento de Zoologia de la Universidad de Concepción (MZUC) Parte V: Junio 1981 - Diciembre 1992. Boletin de la Sociedad de Biologia de Concepción, **64**: 47-84.

Chatfield, J.E. 1994. Shell collections in the Maidstone Museum: 1. The collection of Julius Brenchley. Journal of Conchology, **35**(2): 91-101.

Cleevely, R.J. and S.D. Chapman. 1992. The accumulation and disposal of Gideon Mantell's fossil collections and their role in the history of British palaeontology. Archives of Natural History, **19**(3): 307-364.

Cowie, R.H. 1993. Yoshio Kondo: bibliography and list of taxa. Bishop Museum Occasional Papers, **32**: 1-10.

Cram, D. 1989. The *Notocypraea* types of C.E. Beddome. Victorian Branch Bulletin [Malacological Society of Australia], **143**: 4-5 [Reprinted (1992), Australian Shell News, **78**: 4-5].

Decrouez, D. 1993. Les collections du Département de géologie et de paléontologie des invertébrés du Muséum d'Histoire naturelle de Genève. 47. La collection Lamarck. Revue de Paléobiologie, **12**(1): 311-323.

Dijkstra, H.H. 1994. Type specimens of Recent species of Pectinidae described by Lamarck (1819), preserved in the Muséum d'Histoire Naturelle of Geneva and the Muséum National d'Histoire Naturelle of Paris. Revue Suisse de Zoologie, **101**(2): 465-532, 30 plates.

Donovan, D.T. and M.D. Crane. 1992. The type material of the Jurassic cephalopod *Belemnotheutis*. Palaeontology, **35**(2): 273-296, 5 plates.

Garassino, A. 1994 ["1992"]. Catalogo dei tipi del Museo Civico di Storia Naturale di Milano XI. I molluschi fossili del Calcare di Esino della Collezione Stoppani. Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano, **133**(18): 245-260.

Garassino, A. 1995 ["1993"]. Catalogo dei tipi del Museo Civico di Storia Naturale di Milano XII. I lamellibranchi della Collezione Brocchi. Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano, **134**: 233-264.

Gatto, R. 1993. Rediscovered types of Turridae (Gastropoda) in the Mayer-Eymar collection of the Naturhistorisches Museum Basel. Revue de Paléobiologie, **11**(2): 483-489.

Geiger, D. 1994. Broken type specimen of *H. pourtalesi*. Abalone News, **6**(2): 22.

Geronimo, I. di. 1991 ["1989"]. Mollusca: specie nuove plio-quaternaire di G. Seguenza (1858-1881). Atti della Accademia Peloritana dei Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali, **67**, Supplemento, **1**: 137-254 [types lost in 1908 earthquake in Messina].

Gowlett-Holmes, K.L. and W. Zeidler. 1993. Mollusc type specimens in the South Australian Museum. 5. Gastropoda: Cypraeoidea. Records of the South Australian Museum, **26**(2): 87-103.

Green, G.D. and A.E. Peden. 1992. Type specimens of animals and plants in the Royal British Columbia Museum. Victoria, Royal British Columbia Museum Technical Manual, 25 pages [supplement to Peden and Green, 1982].

Griffiths, R.J. 1962. The types of *C. albata* and *C. subcarnea* Beddome. The Cowry, **1**(4): 60-61, plate 7, figures J-M.

Habe, T. 1992. Illustrations of the Philippine marine gastropods described by Paul Bartsch in 1918. Venus, The Japanese Journal of Malacology, **50**(4): 296-302.

Harasewych, M.G. 1997 The life and malacological contributions of R. Tucker Abbott (1919-1995). The Nautilus, **110** [in press].

Harasewych, M.G. and A.R. Kabat. 1995. Richard S. Houbrick (1937-1993): biographical sketch and malacological contributions. The Nautilus, **108**(3): 61-66.

Hasegawa, K. and H. Saito. 1995. Illustrations and annotated checklist of the molluscan type specimens contained in the Sakurai Collection in the National Science Museum, Tokyo. Tokyo, National Science Museum, 56 pages.

Hatai, K. and S. Nisiyama. 1952. Check list of Japanese Tertiary marine Mollusca. The Science Reports of the Tôhoku University, Sendai (series 2, Geology), Special Volume, **3**: 1-464 [see also Masuda and Noda, 1976].

Hayami, I. 1975. A systematic survey of the Mesozoic Bivalvia from Japan. The University Museum, The University of Tokyo, Bulletin, **10**: iv + 249 pages, 10 plates [Appendix, pages 177-188, "Registered specimens preserved in the University Museum, University of Tokyo"]. [A companion volume to Hayami and Kase (1977), cited in our first catalogue.]

Herbert, D.G. 1997 ["1996"] A critical review of the trochoidean types in the Muséum d'Histoire Naturelle, Bordeaux (Mollusca: Gastropoda). Bulletin du Muséum National d'Histoire Naturelle, Section A, Zoologie (4^{e} série), **18**(3-4): 409-445.

Hertz, C.M. 1994. Dr. Fred Baker, San Diego conchologist: a most remarkable man. The Festivus, **26**(1): 3-14.

Ivanov, D.L., Yu.I. Kantor, A.V. Sysoev, and R.V. Egorov. 1993. Type

specimens of molluscs described by G. Fischer von Waldheim in 1807. Apex, **8**(3): 71-94, plates 1-9.

Janssen, R. 1993. Die Typen und Typoide des Natur-Museums Senckenberg, 81. Die Typen der von Dunker 1860/1861 beschriebenen japanischen Meeresmollusken. Archiv für Molluskenkunde, **122**: 403-435.

Johnson, R.I. 1994. Types of shelled Indo-Pacific mollusks described by William Harper Pease (1824-71). Bulletin of the Museum of Comparative Zoology, **154**(1): 1-61.

Johnson, R.I. 1996. Types of land and freshwater mollusks from the Hawaiian Islands in the Museum of Comparative Zoology. Bulletin of the Museum of Comparative Zoology, **155**(4): 159-214.

Jones, R. 1992. The type and figured collection (excluding plant fossils) in the Palaeontology Section of the Australian Museum, with special reference to vertebrates. The Beagle, Records of the Northern Territory Museum of Arts and Sciences, **9**(1): 249-254.

Kaas, P. and J. Knudsen. 1992. Lorentz Spengler's descriptions of chitons (Mollusca: Polyplacophora). Zoologische Mededelingen, **66**(3): 49-90.

Kabat, A.R. 1996. Molluscan types of the *Albatross* expeditions to the Eastern Pacific described by W.H. Dall (1908). Bulletin of the Museum of Comparative Zoology, **155**(1): 1-30.

Kabat, A.R. and K.J. Boss. 1997 Karl Eduard von Martens (1831-1904): His Life and Works. Department of Mollusks, Museum of Comparative Zoology, Cambridge MA. vii + 417 pp.

Kabat, A.R., Y. Finet and K. Way. 1997. Catalogue of the Naticidae (Mollusca: Gastropoda) described by C.A. Récluz, including the location of type specimens. Apex, **12**(1): 15-26.

Kennedy, W.J. 1993. A note on the lectotype of *Ammonites beaudanti* Brongniart, 1822 (Cretaceous, Albian). Cretaceous Research, **14**(2): 235-238.

Kikuchi, N. 1996. Catalogue of the shellfish type specimens described by the late Dr. Tokubei Kuroda in the possession of Nishinomiya City. Nishinomiya City [and the Kikushi Institute of Malacology]. 152 pp., 44 pls.

Kilias, R. 1992. Die Typen und Typoide der Mollusken-Sammlung des Zoologischen Museums in Berlin (11). II. Euthyneura, Stylommatophora, Sigmurethra: Achatinoidea 2, Achatinidae. Mitteilungen aus dem Zoologischen Museum in Berlin, **68**(1): 167-180.

Kilias, R. 1995a. Polyplacophora-Typen und -Typoide (Mollusca) im Zoologischen Museum in Berlin. Mitteilungen aus dem Zoologischen Museum in Berlin, **71**(1): 155-170.

Kilias, R. 1995b. Scaphopoda-Typen und -Typoide (Mollusca) im Zoologischen Museum in Berlin. Mitteilungen aus dem Zoologischen Museum in Berlin, **71**(1): 171-177.

Klinger, H.C. 1994. Cretaceous ammonite collection from Texas: R. Lasswitz, Die Kreide-Ammoniten von Texas. Journal of Paleontology, **68**(6): 1409.

Kosuge, S. 1992. Transfer of the holotypes (No. 1). Bulletin of the Institute of Malacology Tokyo, **2**(10): 158, 171.

Kosuge, S. 1993. The memories of the late Mr. Ranja Tiba (28 April 1909 - 28 May 1993). Occasional Publication of the Institute of Malacology of Tokyo, North Pacific Shells, **19**: 1-28, 5 plates [type repository not specified].

Kubodera, T. and K. Tsuchiya. 1993. Catalogue of specimens of the Class Cephalopoda (Phylum Mollusca) in The National Science Museum, Tokyo. Tokyo, National Science Museum [unpaginated].

Loch, I. 1992. J. C. Verco - Malacological bibliography and taxa. Australian Museum, Sydney (manuscript), 9 pages.

Loch, I. 1996. Notice: R. Viader collection. Molluscan Research, **17**: 110.

Lu, C.C., R. Boucher-Rodoni and A. Tillier. 1995. Catalogue of types of Recent Cephalopoda in the Muséum national d'Histoire naturelle (France). Bulletin du Muséum National d'Histoire Naturelle, Section A, Zoologie (4^{e} série), **17**(3-4): 307-343.

Marandat, B. 1994. Premier catalogue des specimens-types paléontologiques deposes dans les collections de l'Université de Montpellier II (Sciences et Techniques du Languedoc). Paleovertebrata (Mémoire extraordinaire), 113 pages.

Marcomini, J.-L. 1994. La collection Léon Silvestre de Sacy (1867-1928). Cossmanniana, Bulletin du Groupe d'Étude et de Recherche Macrofaune Cénozoïque, **3**(1): 13-29.

Masuda, K. and H. Noda. 1976. Check list and bibliography of the Tertiary and Quaternary Mollusca of Japan, 1950-1974. Sendai, Saito Ho-on Kai, 494 pages.

McNamara, K.J., J.A. Long and K. Brimmell. 1991. Catalogue of type fossils in the Western Australian Museum. Records of the Western Australian Museum, Supplement, **39**: 106 pages.

Mellini, A. 1986 ["1985"]. Revisione di alcuni tipi di molluschi fossili eocenici di A. De Gregorio. Bollettino del Museo Civico di Storia Naturale di Verona, **12**: 381-403.

Micali, P. and A. Villari. 1991 ["1989"]. Le specie malacologiche di Salice (Messina) istituite da Giuseppe Seguenza. Atti della Accademia Peloritana dei Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali, **67**, Supplemento, **1**: 345-363 [types not extant (see also paper by Geronimo herein)].

Mienis, H.K. 1993a. Type specimens of Mollusca in the collection of the Hebrew University of Jersualem, 4. The genus *Theba* Risso, 1826 (Helicidae). Levantina, **76**: 13-14.

Mienis, H.K. 1993b. Type specimens of Mollusca in the collection of the Hebrew University of Jersualem, 5. The genus *Pupoides* Pfeiffer, 1854 (Pupillidae). Levantina, **76**: 23-25.

Mienis, H.K. 1994a. Revd H.E.J. Biggs (1895-1973): an update of his malacological publications, with a list of the taxa introduced by him in the Mollusca. The Conchologists' Newsletter, **128**: 293-295.

Mienis, H.K. 1994b. A note on the type material of *Chronos fultoni* Coen, 1922, from Papua New Guinea (Pulmonata: Endodontidae Charopinae). Basteria, **58**(5-6): 194.

Mienis, H.K. 1994c. Type specimens of Mollusca in the collection of the Hebrew University of Jerusalem, 6. The genus *Ranella* Lamarck, 1816 (Ranellidae). Levantina, **81**: 5-7.

Mikkelsen, P.M. and A. Bradford. 1997. Annotated catalog of type specimens in the malacological collection of the Delaware Museum of Natural History. Part II. Additions and corrections to Part I (Prosobranchia, Allogastropoda, and Opisthobranchia), plus Bivalvia, Scaphopoda and Polyplacophora. Nemouria, Occasional Papers of the Delaware Museum of Natural History [in press].

Moolenbeek, R.G. and A.N. van der Bijl. 1992. The type specimen of *Helix conospira* Pfeiffer, 1851 (Notes on the history of the Malacological Collection [of] the Zoölogisch Museum Amsterdam, No. 1). The Chiribotan, Newsletter of the Malacological Society of Japan, **23**(1): 4-6.

Moolenbeek, R.G. and A.N. van der Bijl. 1994. De malacologen bij Natura Artis Magistra en het Zoölogisch Museum Amsterdam 1838-1964. Pages 29-40, [*in*] M. Coomans-Eustatia, R. Moolenbeek, W. Los and P. Prins (eds.), De Horen en Zijn Echo. Verzameling essays opgedragen aan Dr Henny E. Coomans ter gelegenheid van zijn afscheid van de Universiteit van Amsterdam op 9 September 1994. Stichting Libri Antilliani [and] Zoölogisch Museum Amsterdam, 280 pages.

Nalniaeva, T.I. and N.I. Besprozvannykh. 1990. Katalog originalov, khranyashchikhsya v paleontologicheskom otdele tsentrl'nogo sibirskogo geologicheskogo muzeya pri institute geologii i geofiziki. Molliuski {Nautilina, Belemnoidea, Gastropoda}. [Catalogue of originals, held in the paleontological department of the Central Siberian Geological Museum at the Institute of Geology and

Geophysics. Mollusks {Nautilina, Belemnoidea, Gastropoda}]. Akademiya Nauk SSSR. Sibirskoe Otdelenie Institut Geologii i Geofiziki [Academy of Sciences of the USSR. Siberian Department. Institute of Geology and Geophysics], Novosibirsk, 106 pages [with Latin name indices].

Orlando, V.E. 1995. Designazione di lectotypi della collezioni del Museo Regionale di Terrasini (Palermo), Mollusca. Naturalista Siciliano, (ser. 4) **19**(1-2): 85-87.

Orlando, V.E., S. Palazzi and M. Sara. 1994 I Tipi de Molluschi del Museo dell'Instituto di Zoologia dell'Università di Palermo. Naturalista Siciliano (ser. 4), **18**(3-4): 231-238.

Owens, R.M. and M.G. Bassett. 1995. Catalogue of the type, figured, and cited fossils in the National Museum of Wales. Supplement 1971-1994. National Museum of Wales Geological Series, **12**: 1-250.

Perrilliat, M. del C. 1992. Catálogo de ejemplares tipo de invertebrados fósiles en la colección paleontológica del Instituto de Geología, UNAM, México, de los años 1977 a 1988. Paleontología Mexicana, **58**: 1-55.

Prieur, A., N. Coudert, M. le Hegarat and M. Sirven. 1983. Catalogue des types et figurés conservés à l'Université C. Bernard - Lyon I - 6ème liste: Ammonites. Lyon, Département des Sciences de la Terre, Université Claude-Bernard, 1,050 pages.

Saito, H. 1994. Correction of registered number and transfer of depository of type materials of *Chlamys (Hinnites) boninensis* Dijkstra & Matsukuma, 1993. Venus, The Japanese Journal of Malacology, **53**(3): 240.

Sandberg, L. and A. Warén. 1993. Molluscan taxa introduced by Nils Hjalmar Odhner. Malakologische Abhandlungen, **16**(15): 117-134.

Sasaki, T. and T. Okutani. 1994. Type specimens of four lottiid limpets described by J. Christiaens (1980) from Hong Kong. Venus, The Japanese Journal of Malacology, **53**(2): 129-132.

Saul, L.R. 1993. Type and referred specimens of fossil Invertebrata in the Natural History Museum of Los Angeles County, Supplement 4: specimens formerly conserved at the University of California, Los Angeles. Natural History Museum of Los Angeles County, Technical Report, **8**: iv + 72 pages.

Schiøtte, T. 1992. Forsskål and Niebuhr: their expeditions and collections. Pages 353-356, [*in*] E. Gittenberger and J. Goud (eds.), Proceedings of the Ninth International Malacological Congress Edinburgh, 31 August - 6 September 1986. Leiden, UNITAS Malacologica and Nationaal Natuurhistorisch Museum, 414 pages.

Schniebs, K. 1995. Die Typen und Typoide der Molluskensammlung des Staatlichen Museums für Tierkunde Dresden (I). Die Typen der von Anton (1838) beschriebenen rezenten Mollusken: 1. Neritidae, Littorinidae, Naticidae, Vasidae. Malakologisches Abhandlungen, **17**(12): 167-171.

Schniebs, K. 1996. Die Typen und Typoide der Molluskensammlung des Staatlichen Museums für Tierkunde Dresden (I). Die Typen der von Anton (1838) beschriebenen rezenten Mollusken: 2. Trochidae, Turbinidae, Stomatellidae. Malakologisches Abhandlungen, **18**(7): 69-74.

Schütt, H. and A. Zilch. 1993 ["1990"]. Rolf Brandt (1917-1989). Archiv für Molluskenkunde, **121**(1-6): 15-29.

Slieker, F.J.A. 1995. Catalogue of molluscan type specimens in the Natuurmuseum Rotterdam (Mollusca: Gastropoda, Bivalvia). Deinsea, Jaarbericht van het Natuurmuseum Rotterdam, **2**: 33-40.

Stojaspal, F. 1994. Typen und Abbildungsoriginale von Makrofossilien aus Ungarn in den Sammlungen der Geologischen Bundesanstalt in Wien. Pages 519-520, [*in*] H. Lobitzer, G. Császár and A. Daurer (eds.), Juliläumsschrift 20 Jahre Geologische Zusammenarbeit Österreich - Ungarn, Teil 2. Wien, Geologische Bundesanstalt, 520 pages.

Strack, H.L. 1987. Nierstrasz als malacoloog. Correspondentieblad van de Nederlandse Malacologische Vereniging, **238**: 316-323.

Strack, H.L. 1996. In memoriam Pieter Kaas (1915-1996). Basteria, **60**: 161-169.

Sumpter, P.M. and J.J. Meyer. 1991. Catalog of fossil type and figured specimens in the Milwaukee Public Museum. Milwaukee Public Museum Contributions in Biology and Geology, **82**: 1-46.

Sweeney, M.J. and C.F.E. Roper. 1991. Gilbert L. Voss: a commemoration, bibliography and described taxa. Bulletin of Marine Science, **49**(1-2): 5-19.

Sysoev, A.V. 1996. Taxonomic notes on South African deep-sea conoidean gastropods (Gastropoda: Conoidea) described by K.H. Barnard, 1963. The Nautilus, **110**(1): 22-29.

Sysoev, A.V. and Yu.I. Kantor. 1992. Names of Mollusca introduced by Ya. I. Starobogatov in 1957-1992. Dedicated to [his] 60th anniversary [birthday]. Ruthenica, Russian Malacological Journal, **2**(2): 119-159.

Templado, J., L. Baratech, M. Calvo, M. Villena and T. Aparicio. 1993. Los "Ejemplares Tipo" de las colecciones malacologicas del Museo Nacional de Ciencias Naturales. Madrid, Museo Nacional de Ciencias Naturales, Monografias, 328 pages.

Trew, A. 1993a. Edgar Albert Smith's new molluscan names. Cardiff, National Museum of Wales, 86 pages.

Trew, A. [1993b] (undated). The Melvill-Tomlin Collection, Part 60: Epitonioidea (Janthinidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, v + 4 pages.

Trew, A. [1993c] (undated). The Melvill-Tomlin Collection, Part 61: Eulimoidea. Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, 28 pages.

Trew, A. [1994a] (undated). The Melvill-Tomlin Collection, Part 62: Cerithioidea (non marine) (Thiaridae, Melanopsidae and

Pleuroceridae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, vi + 96 pages.

Trew, A. [1994b] (undated). The Melvill-Tomlin Collection, Part 63: Cerithioidea (marine) (Planaxidae, Modulidae, Cerithiidae, Dialidae, Litiopidae, Campanilidae, Diastomatidae, Potamididae, Fossaridae, Syrnolopsidae, Turritellidae, Siliquaridae, Vermetidae). Handlists of the Molluscan Collections in the Department of Zoology, National Museum of Wales. Cardiff, v + 83 pages [note: the Syrnolopsidae are actually non-marine].

Trew, A. and M. Seddon. 1996. Paul Pallary's (1891-1939) new molluscan names. Cardiff, National Museum of Wales [in press].

Turner, H. 1993. Mitriform gastropods: confused and neglected taxa from the Red Sea. Revision of five taxa of Costellariidae introduced by Jickeli and Cooke. La Conchiglia, **25**(268): 10-15.

Van Aartsen, J.J. and H.P.M.G. Menkhorst. 1996. Nordsieck's Pyramidellidae (Gastropoda Prosobranchia): A revision of his types. Part 1: The genera *Chrysallida*, *Ondina* (s.n. *Evalea*) and *Menestho*. Basteria, **60**: 45-56.

Verdcourt, B. 1992a. Collectors in East Africa - 15: Emin Pasha. The Conchologists' Newsletter, **120**: 439-448.

Verdcourt, B. 1992b. Collectors in East Africa. No. 16: W. Doherty (1857-1901). The Conchologists' Newsletter, **122**: 60-65.

Verdcourt, B. 1992c. Collectors in East Africa. No. 17: G.A. Fischer (1848-1886). The Conchologists' Newsletter, **123**: 93-97.

Verdcourt, B. 1993a. Collectors in East Africa. No. 18: E.C. Hoare (1848-1912). The Conchologists' Newsletter, **124**: 126-137.

Verdcourt, B. 1993b. Collectors in East Africa. No. 19: Supplement to Parts 2, 3 and 4. The Conchologists' Newsletter, **126**: 217-223.

Verdcourt, B. 1994a. Collectors in East Africa. No. 20: J.E.S. Moore

(1870-1947). The Conchologists' Newsletter, **129**: 327-332.

Verdcourt, B. 1994b. Collectors in East Africa. No. 21: C.R.S. Pitman (1890-1975). The Conchologists' Newsletter, **131**: 417-424.

Verdcourt, B. 1995a. Collectors in East Africa. No. 22: J. Petherick (1813-1882). The Conchologists' Newsletter, **131**: 453-458.

Verdcourt, B. 1995b. Collectors in East Africa. No. 23: K.L. Pfeiffer (1874-1952). The Conchologists' Newsletter, **133**: 490-494.

Vokes, E.H. 1994. The muricid types of Frank Collins Baker. The Nautilus, **107**(4): 118-123.

Wallin, L. 1992. Linnaean specimens in the Zoological Museum of Uppsala University. Archives of Natural History, **19**(2): 219-230.

Wheeler, A. 1995. Zoological collections in the British Museum: the Linnean Society's Museum. Archives of Natural History, **22**(2): 235-254.

Wiktor, J. 1992. Type specimens of invertebrates (excluding insects) in the Wladyslaw Rydzewski Museum of Natural History Wroclaw University. Acta Universitatis Wratislaviensis, 1124, Prace Zoologiczne, **23**: 137-155.

Winkler Prins, C.F. 1996. In memoriam Dr. C. Beets (1916-1995). Basteria, **59**(4-6): 141-148.

Wüthrich, M., A. Zilch and H. Turner. 1993 ["1990"]. Lothar Forcart (1902-1990). Archiv für Molluskenkunde, **121**(1-6): 1-13.

Supplement to 1992 paper.

Three papers which were "in press" at the time of our 1992 catalogue were subsequently published. We list here further bibliographical data; please make the following emendations to the bibliography of Kabat and Boss (1992):

Kabat and Finet (1992) -- pagination: 223-253.
Kohn (1992) -- actual title: "A chronological taxonomy of *Conus*, 1758-1840" -- pagination: x + 315 pages, 26 plates.
Schiøtte and Warén (1992) -- add: **35**: 1-34.

Several museums have had changes in addresses or institutional names which are listed below. In particular, new five-digit postal codes are now in effect for the museums in Germany.

Zoologisches Museum, Berlin: D-10115 Berlin.
Paläontologisches Museum und Institut, Bonn: D-53111 Bonn.
Übersee Museum, Bremen: D-28195 Bremen.
Naturwissenschaftliches Museum, Coburg: D-96450 Coburg
Staatliches Museum, Dresden: D-01067 Dresden.
Löbbecke Museum + Aquazoo, Düsseldorf: Löbbecke Museum + Aquazoo, Scheidt-Keim-Stiftung, Kaiserwerther Straße 380, D-40200 Düsseldorf.
Natur-Museum Senckenberg, Frankfurt: D-60325 Frankfurt.
Bergakademie Freiberg: D-09599 Freiburg.
Museum der Natur, Gotha: D-99867 Gotha.
Zoologisches Museum, Göttingen: D-37073 Göttingen.
Zoologisches Museum, Hamburg: D-20146 Hamburg.
Zoologisches Museum der Universität, Kiel: D-24105 Kiel.
Kulturhistorisches Museum, Magdeburg: D-39104 Magdeburg.
Bayerische Staatssammlung, München: D-80333 München.
Zoologische Staatssammlung, München: D-81247 München.
Geologisch-Paläontologisch Institut, Münster: D-48149 Münster.
Naturkundemuseum Reutlingen: D-72764 Reutlingen.

Staatliches Museum für Naturkunde, Stuttgart:
D-70191 Stuttgart.
Institut und Museum für Geologie und Paläontologie, Tübingen: D-72076 Tübingen.
Naturhistorischen Museum, Wiesbaden:
D-65185 Wiesbaden.

The Zoölogisch Museum Amsterdam has a revised mailing address:
P.O. Box 94766, NL 1090 GT Amsterdam, The Netherlands.

The Muséum d'Histoire Naturelle, Genève (Switzerland) has a new postal address: P.O. Box 6434.

The National Museum of New Zealand is now known as the "Museum of New Zealand" [= "Te Papa Tongarewa"] but the museum acronym (NMNZ) and the address remain unchanged.

Canada: the Geological Survey acronym should be GSC.

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COMMENTS ON "THE FINAL REPORT" OF A MASSIVE SEARCH FOR *LASMIGONA DECORATA* (LEA, 1852) AND *ALASMIDONTA ROBUSTA* CLARKE, 1981 (BIVALVIA: UNIONIDAE) FROM THE CAROLINAS

Richard I. Johnson[1]

ABSTRACT. An extensive search of the Cooper-Santee and Pee Dee River Systems by Keferl and Shelley (1988) in a quest for the nominal species *Lasmigona decorata* (Lea, 1852) and *Alasmidonta robusta* Clarke, 1981 resulted in finding a few specimens that were identified as the former and none identified as the latter. I suggest that both these nominal species may be large examples of well known species. A number of unionid species previously unrecorded from the Pee Dee River System are listed.

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In 1986 the North Carolina State Museum of Natural Science was contracted by the Office of Endangered Species, U.S. Fish and Wildlife Service to make a status survey of *Alasmidonta robusta* Clarke, 1981 and *Lasmigona decorata* (Lea, 1852), which Clarke (1985: 57) had removed from the Johnson (1970: 343) synonymy of *Lasmigona subvirdis* (Conrad, 1835). An astonishing number of localities were sampled during the survey by Keferl and Shelley (1988), 452 on 237 different rivers, streams, and impoundments in the Catawaba River drainage of the Cooper-Santee River System and the Lynches and Pee Dee River drainages of the Pee Dee River System. Their efforts at five localities in the headwater streams of the two river systems resulted in the discovery of a few specimens identified by them as *L. decorata*; no examples of *A. robusta* were collected.

Isaac Lea (1792-1886) described more than a score of nominal unionid species from the headwater streams of the Catawba River in Mecklenburg County, part of the Cooper-Santee River System, and from the upper part of the Pee Dee River System in Union County; both counties being in North Carolina. Many of these nomina are now recognized as synonyms of species of *Elliptio* or *Uniomerus*. It would appear that the streams in this area once abounded with unionids. Specimens of some described taxa such as *Anodonta doliaris* Lea, 1863 (Johnson, 1970, pl. 14, fig. 3) and *Unio charlottensis* Lea, 1863 (Johnson, 1970, pl. 12, fig. 9) attained large size as, it appears, did *Alasmidonta robusta* Clarke, 1985 (p. 81, fig. 27. a-c).

Keferl and Shelley (1988: 21) noted that in the nineteenth century many of these headwater streams were dammed to produce mill ponds (Bissels Pond, Elias Pond, Flanigans Pond, and Pfeiffers Pond may be examples) since "many remnants of small dams and walls made of native rock were discovered." The exact location of all of these ponds, some

which are type localities, has not been determined. Johnson (1970: 345) assumed that the existence of ponds produced an environment favorable to growth which led to both *Unio decoratus* and *charlotensis* being placed in the synonymy of *L. subviridis* (Conrad, 1835). Clarke (1985: 57) stated that, "except for its much larger size and increased shell thickness, the shells of *L. decorata* do not differ significantly from those of *L. subviridis*."

Most of the nominal species described by Lea from the Abbeville District, South Carolina appeared to Johnson (1970) to belong to the Savannah River System. Clarke (1985: 60) correctly noted that the district was bordered on the east by the Saluda River and that since no *Lasmigona* have been positively reported from the Savannah River System there is no reason to think that *L. decorata* ever extended beyond the Cooper-Santee River System. Clarke concluded that *L. decorata* was probably restricted to the upper tributaries of the Catawba and Pee Dee drainages in the vicinity of Mecklenberg and Union Counties, North Carolina. Since then, however, Athearn (1992: 91) has reported the finding of *Lasmigona decorata* [not seen] from the Oconee River (a tributary of the Savannah River) about 0.4 mi. NW of Wallace Dam Site, Putnam County, Georgia.

Specimens identified by Keferl and Shelley (1988: 24) as *L. decorata* were collected living at two sites in Waxahaw Creek of the Catawba River drainage and at three sites in Goose Creek and Lynches River of the Pee Dee River System. Three of the specimens from Waxahaw Creek measured from 100 to 118 mm in length and even smaller ones from Goose Creek and Lynches River are larger from those of *L. subviridis* found in more northern river systems. However, if there is sufficient genetic differences to distinguish that *L. subviridis* and *decorata* are distinct species it will be done by electrophoresis and not on the basis of shell

characteristics.

Clarke (1981: 81-84) based his description of *Alasmidonta robusta* on five examples from Long Creek [near Charlotte], Mecklenburg County, North Carolina collected by Charles M. Wheatley (1822-1882) who wrote "new" in the largest specimen. Four of these are in the Academy of Natural Sciences of Philadelphia and one is now in the Museum of Comparative Zoology.

Clarke, after a considerable discussion of the differences between *robusta* and *Alasmidonta varicosa* (Lamarck, 1819) conceded that it was a problem to decide if *robusta* was distinct from the latter. The largest specimen, mentioned above, measuring 65.65 mm in length, was selected as holotype ANSP 126755 and illustrated by line drawings. Since the reproduction of the photograph of the holotype, showing its tooth structure and another of a paratype in Keferl and Shelley (1988: figs. 19 and 17) are not especially clear, the holotype and two of the paratypes are here illustrated (Plate 20). Johnson (1970) illustrated the holotypes of the other nominal species discussed above, *Unio decoratus*, *U. charlottensis*, and *Anodonta doliaris*, and it is suggested that they are, as well as *A. robusta*, ecophenotpic variants of other species.

Since it is not known if the "Final Report"(Keferl and Shelley, 1988) is actually considered a publication, it should in any case, be pointed out that while their incredibly extensive collecting did not add any additional species to the 21 recorded from the Cooper-Santee River System by Johnson (1970: 274 [given as 20, *Pleurobema masoni* (Conrad, 1834) was inadvertently left off the chart]). Their collecting in the Pee Dee River System, of species previously unrecorded from it, listed below, indicates that this system contains about the same number of species as the Cooper-Santee River System to the south and the Cape Fear River

System to the north.

Elliptio sp. (A lanceolate species)
Elliptio folliiculata (Lea, 1838)
Elliptio spp.
Alasmidonta varicosa (Lamarck, 1819)
Lasmigona decorata (Lea, 1852)[1]
Strophitus undulatus (Say, 1817)
Toxolasma pullus (Conrad, 1834)[2]
Villosa constricta (Conrad, 1838)
Villosa sp.
Ligumia nasuta (Say, 1817)[3]
Lampsilis radiata conspicua (Lea, 1872)[4]

ACKNOWLEDGMENTS

The author is grateful to Mr. Richard G. Biggins of the U.S. Fish and Wildlife Service, Asheville, North Carolina f or a copy of "The Final Report" by Keferl and Shelley (1988) and to Dr. Kenneth J. Boss and Mr. Daniel L. Graf for reading the manuscript.

REFERENCES CITED

Athearn, H.D. 1992. New records for some species of Alasmidontini. Malacology Data Net **3**(1-4): 90-91 (April).

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[1] *Lasmigona subviridis* (Conrad, 1835) *teste* (Johnson, 1970: 344).

[2] *Carunculina pulla* (Johnson, 1970: 370).

[3] A species of the Northern Atlantic Slope. The single record from the Southern Atlantic slope from the James River given by Johnson (1970: 382) was based on Conrad (1836: 38, pl. 18, fig.1).

[4] *Lampsilis radiata radiata* (Gmelin, 1791) *teste* Johnson, 1970: 390).

Clarke, A.H. 1981. The Tribe Alasmidontini (Unionidae: Anodontinae), Part I: *Pegias*, *Alasmidonta*, and *Arcidens*. Smithsonian Contributions to Zoology **326**: i-iv + 101 pp., 32 figs., 24 tables.

Clarke, A.H. 1985. The Tribe Alasmidontini (Uniondae: Anodontinae), Part II: *Lasmigona* and *Simpsonaias*. Smithsonian Contributions to Zoology **399**: i-iii + 75 pp., 22 figs., 14 tables.

Conrad, T.A. 1836-40. Monography of the family Uniondae, or naiades of Lamarck, (freshwater bivalve shells) of North America. Philadelphia, Pennsylvania. i-iv + 118 pp. [pp. 13-16 never printed], pls. 1-65.

Johnson, R.I. 1970. The systematics and zoogeography of the Unionidae (Mollusca: Bivalvia) of the Southern Atlantic Slope Region. Bulletin of the Museum of Comparative Zoology, Harvard University **140**: 263-449, plates 1-22.

Keferel, E.P. and R.M. Shelley 1988. The final report on a status survey of the Carolina Heelslpitter, *Lasmigona decorata* and the Carolina Elktoe, *Lasmigona robusta*. Prepared for U.S. Department of the Interior Fish and Wildlife Service and North Carolina State Museum of Natural Science. pp. 47, figs. 1-19 July. Appendix A. Localities examined in the Saluda, Catawba and Pee Dee River Systems in north Carolina and South Carolina [not seen]. Xeroxed report available from U.S. Fish and Wildlife Service, Ashville Field Office, Ashville, North Carolina, 28801.

Plate 20

Alasmidonta robusta Clarke, 1981

Fig. 1. Long Creek [of the Catawba River] Mecklenberg County, North Carolina. Holotype Academy of Natural Sciences of Philadelphia 126755. Length 66 mm, height 33 mm, width 43 mm (slightly reduced).

Fig. 2. *Ibid.* Paratype Academy of Natural Sciences of Philadelphia 126575. Length 57 mm, height 31mm, width 25 mm, (slightly reduced).

Fig. 3. *Ibid.* Paratype Museum of Comparative Zoology 294959. Length 51 mm, width 22 mm, height 31 mm (natural size).

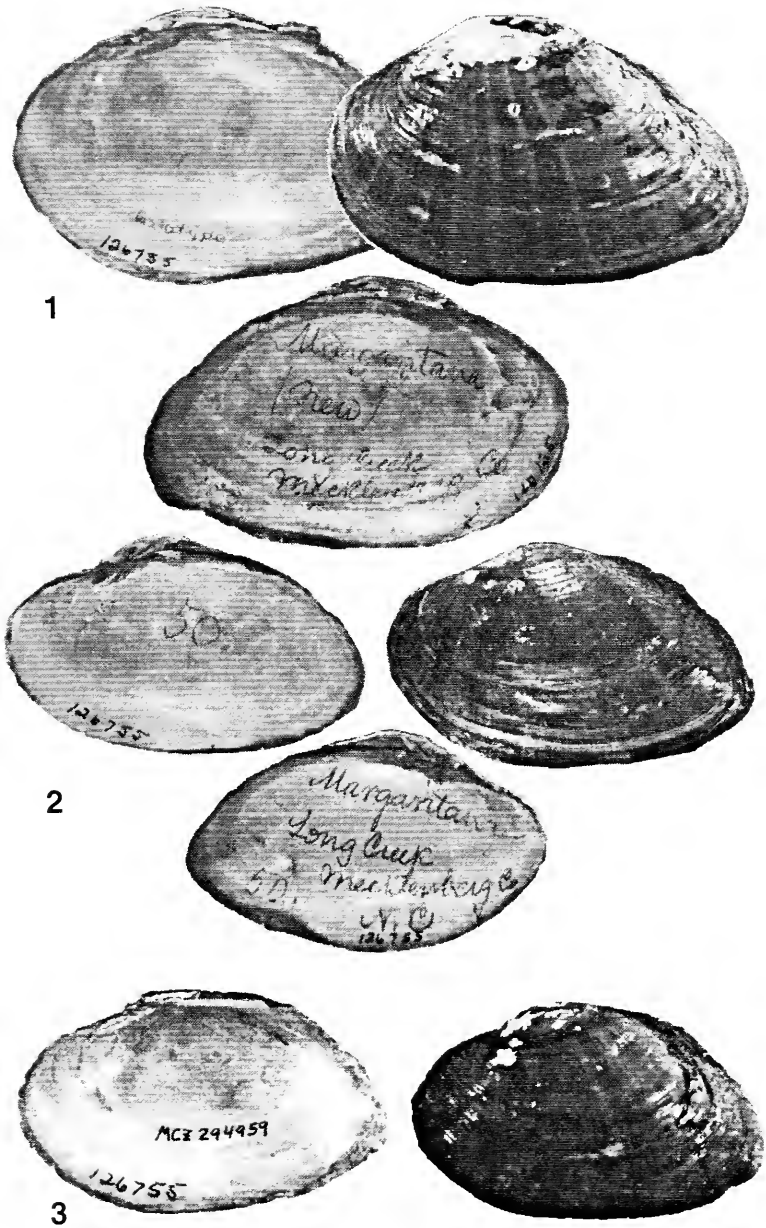
126755
1
Margaritana
(New)
126755
2
Margaritana
Long Creek
126755
MCZ 294959
126755
3

Plate 20

AN OVERLOOKED NORTHERN EUROPEAN MARINE GASTROPOD, *OMALAXIS SARSI* BUSH 1897. Dr. Alan R. Kabat kindly pointed out that I (1989) had overlooked the following taxon, which was introduced in a footnote; a syntype, of which, was located in the National Museum of Natural History, Washington, D.C. by Dr. Anders Warén. While he has not published on it [personal communication], Ponder (1990: 532) regarded it as a probable species of *Orbitestella*.

sarsi Bush, [*Omalaxis*]

1897, Trans. Conn. Acad. Arts and Sciences **10**: 128 [footnote]. Based on Sars. 1878, p. 214, pl. 22, fig. 20, a-c (Lofoten [Islands, Norway]), non *Omalaxis supranitidus* (Wood). Location of figured type unknown. Syntype United States National Museum [now National Museum of Natural History] 181789, under Wood's name in the J.G. Jeffreys collection from G.O. Sars. An additional lot USNM 181720 was not located; probable syntype Zoological Museum, University of Oslo (uncataloged), *teste* Warén (personal communication).

REFERENCES CITED

Bush, K.J. 1897. Revision of the marine gastropods referred to *Cyclostrema, Adeorbis, Vitrinella*, and related genera; with descriptions of some new genera and species belonging to the Atlantic fauna of America. Transactions of the Connecticut Academy of Arts and Sciences **10**: 97-144, pls. 22, 23 (June and July).

Johnson, R.I. 1989. Molluscan taxa of Addision Emery Verrill and Katherine Jeannette Bush, including those introduced by Sanderson Smith and Alphus Hyatt Verrill. Occasional Papers on Mollusks **5**(67): 1-143, pls. 1-19 (August).

Ponder, W.F. 1990. The anatomy and relationships of the Orbitestellidae (Gastropoda: Heterobranchia). Journal of Molluscan Studies **56**(4): 515-532.

Sars, G.O. 1878. Mollusca regionis Arcticae Norvegiae. Christiania. 466 pp., pls. 1-18, folding map.

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CORRECT FAMILY NAMES FOR THE FRESHWATER "MUTELOID" BIVALVES (UNIONOIDA: ETHERIOIDEA)

Alan R. Kabat[1]

ABSTRACT. This paper discusses the family level nomenclature of the tropical freshwater unionoidan bivalves usually referred to as the "Muteloidea" (or Mutelacea). There are numerous errors and discrepancies in the literature concerning the attribution of the relevant family names, which has led to taxonomic instability. It is here shown that **Etherioidea** Deshayes 1830 is the correct superfamily name for this group; the constituent families include **Etheriidae** Deshayes 1830, **Iridinidae** Swainson 1840 (+ "Mutelidae"), and **Mycetopodidae** Gray 1840 (the last as a subfamily in some classifications). Taxonomic stability will be maximized by usage of the correct names for these bivalves.

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INTRODUCTION

The freshwater bivalves of the Order Unionoida are usually classified in two superfamilies (*e.g.*, Boss, 1982: 1123-1127). The Unionoidea [= Unionacea], with over 1,000 Recent species, is best known for its glochidium larva, which has two valves during the dispersal and attachment stage. The Unionoidea includes several Recent families; most authors have recognized the Unionidae, Margaritiferiidae and Hyriidae.

The other superfamily, usually called the "Muteloidea" [or Mutelacea], is significantly less speciose (with about 125 tropical species) and is the subject of this paper. These bivalves have a lasidium (or haustorium) larva which is not truly bivalved, in contrast to the glochidium larva of the Unionoidea (Parodiz and Bonetto, 1963; Heard and Vail, 1976).

This smaller superfamily of the Unionoidea has had a significant variety of family-level names applied to its constituent taxa. A careful survey of the relevant literature has shown that no one author has made the correct determinations of the family names or the author-date thereof. The purpose of this paper is to delineate all relevant family names applied to "muteloid" bivalves and to determine their correct attributions.

Indeed, almost every author who has provided a classification for this group has used a different combination of names, authors, and dates. Taxonomic stability, including the ease of information retrieval, is significantly hampered by the inconsistent usage of these names in the literature. The correct usage, as here determined, will actually maximize taxonomic stability by providing a single, common reference frame.

Before reviewing the names and classifications which

have been applied to "muteloid" bivalves, several fundamental principles (here paraphrased) of the International Code of Zoological Nomenclature [ICZN, 1985] should be taken into consideration.

1. A family name established at any one rank is simultaneously established with the same author and date at all other family level ranks [Article 36(a)].

   In other words, if Swainson in 1840 had established the "Iridininae," then the "Iridinidae" (if used), also dates to Swainson 1840.

2. A family name, when described, must end in a latinized suffix (*e.g.* -idae, -inae), and not merely the plural noun or adjective referring to a genus [Article 11(f)(i)(2)]. However, a family group name published prior to 1900, but not fully latinized, can be made available with the original author-date, if it was latinized by a subsequent author, and if this was "generally accepted" by other authors [Article 11(f)(iii)].

These considerations are of direct relevance to the problem of the "muteloid" bivalves.

The first author to discuss the family-level classification of "muteloid" bivalves was Deshayes in 1830 (also in 1831). Deshayes, in his tabular charts showing the higher classification of bivalves, explicitly referred to various taxa now placed in the "Muteloidea". However, Deshayes did **not** have formally latinized generic or family level names. Deshayes used two family names for this group: **Ethéries** [for "*Ethérie*", *i.e. Etheria* Lamarck 1807] and **Mullerie** [for "*Mullerie*", *i.e. Mulleria* Férussac 1824]. Both generic and family names were given in the "vernacular" by Deshayes. According to ICZN Article 11(f), these two names could be accepted as validly described in Deshayes (1830) **if** they were subsequently latinized and **if** this has been accepted by other authors (the latter potentially a subjective criterion).

Swainson (May 1840), in his "quinarian" classification of

mollusks, appears to have been the first subsequent author to have formally latinized one of Deshayes' names: on pages 257 and 390, Swainson used **Etheridae**, which has a latinized suffix. This was further emended to **Etheriadae** by Gray (Nov. 1840: 141) and is now spelled as **Etheriidae**. This family name has received frequent usage in the malacological and faunistic literature, although few authors have correctly dated it to "Deshayes 1830".

Deshayes' other family name, "**Mullerie**," has been largely ignored by subsequent authors. As far as I can determine, the first source to use the form "**Mulleriidae**" was Starobogatov (1970: 73, 74). Herrmannsen (1846: 24; 1847: 61) had used "**Mülleriae**" which is not a plural but should be regarded as a family name since he stated it to be "secunda familia Monomyariourum primi ordinis" [note the erroneously added umlaut in the name]. The Mulleriidae has been used (in this century) only by Russian authors (see also Nevesskaya, *et al.*, 1971a: 13, 1971b: 149; Scarlato & Starobogatov, 1979: 20; 1985 translation: 19; Starobogatov, 1992: 20), thus the Mulleriidae has not been as widely accepted by other authors.

In any case, most non-Russian authors have classified *Etheria* and *Mulleria* in the same family, **Etheriidae**. Hence the Mulleriidae and Etheriidae are synonyms, and it is here concluded that taxonomic stability will be maximized by the usage of **Etheriidae** Deshayes 1830 for these and related genera.

There are two other groups of "muteloids" traditionally classified in the African Mutelidae and the neotropical Mycetopodidae. A careful consideration of the nomenclature of these two groups shows discrepancies and errors in the usage of the family level names for these two groups.

Most authors have used "Mutelidae" for *Mutela*, *Iridina*, *Aspatharia* and certain other African genera. This family

level name has usually been dated to "Gray 1847" (*i.e.*, as "**Muteladae**", on page 197). However, Swainson in 1840 had already established the **Iridininae** as a subfamily of the Unionidae (pages 286, 380). This was subsequently elevated to a full family, **Iridinidae**, by Gray (1840: 142, 155). As subsequent authors have invariably classified *Iridina* and *Mutela* in the same family, then this means that the **Iridinidae** Swainson 1840 has seven years' priority over the Mutelidae Gray 1847.

The remaining neotropical group, comprising *Andontites*, *Mycetopoda*, and other genera (see Vaught, 1989: 124) has traditionally been classified in the Mycetopodidae, which dates from Gray 1840 (pages 142, 155). Heard and Vail (1976), based upon anatomical research on *Etheria*, concluded that in fact *Etheria* was confamilial with the Mycetopodidae. They then stated that:

> "This action treats Etheriidae Swainson 1840 and Mycetopodidae Gray 1840 as synonyms. Acting as 'first reviser' we select Mycetopodidae Gray as the senior synonym." (Heard and Vail, 1976: 22).

Their statement is doubly erroneous: (1) Swainson's publication actually appeared earlier in 1840 (*i.e.*, May) than did Gray's (*i.e.*, November) and this clear priority should have led to the "selection" of Etheriidae as the senior synonym; (2) in any case, the Etheriidae actually dates to Deshayes 1830, as shown herein.

Therefore, for those authors who desire to treat *Etheria*, *Mycetopoda*, and related genera as confamilial, then the Etheriidae Deshayes 1830 has priority as the family name. In such classifications, Mycetopodinae Gray 1840 could still be used as a subfamily name for certain South American genera within this family. Alternatively, if these genera are classified in separate families, then of course both names are to be used at the family level.

Finally, to resolve the question of the proper superfamily name for "muteloid" bivalves. The oldest family level names available are the Etheriidae and Mulleriidae both of Deshayes 1830; the next name is the Iridinidae Swainson 1840. Obviously, the name "Muteloidea" (or Mutelacea), dating from Gray 1847, must fall into synonymy. Based upon priority (and synonymy of Mulleriidae with Etheriidae), the correct superfamily name for the unionoidan bivalves with a lasidium larva is **Etherioidea** (or Etheriacea). As it happens, only the aforementioned Russian authors have arrived at this determination, albeit they also recognized the "**Mulleroidea**" as a separate superfamily (Starobogatov, 1992: 21). As Boss (1982: 1127) noted, "Soviet authorities are inclined to separate each genus into its own family..." and indeed other

Table 1. Selected twentieth-century classifications of "mutelid" bivalves. An asterisk * indicates an incorrect author or date for a family-level taxon.

MODELL, 1942:
Mutelidae (Gray) Ihering 1893 *
Prisodontinae Modell 1942
Monocondylaeinae Modell 1942
Glabarinae Modell 1942
Anodotitinae Modell 1942
Bartlettiinae Modell 1942
Mycetopodinae Modell 1942 *
Pseudaviculinae Modell 1942
Spathopsinae Modell 1942
Iridininae Modell 1942 *
Aspathariinae Modell 1942
Etheriinae Modell 1942 *
Mutelinae Ortmann 1911 *
Diplasminae Modell 1942
Velesunioninae Iredale 1934
Lortiellinae Iredale 1934
[The last two taxa are now in Unionoidea: Hyriidae]

PARODIZ & BONETTO, 1963 (pages 205-206):
Mutelacea
Mutelidae Gray 1847
Mycetopodidae Gray 1840
Mycetopodinae Adams & Adams 1858 *
Monocondylaeinae Modell 1942
Anodontitinae Modell 1942
? Leilinae Morretes 1949
[The status of the Etheriidae was not discussed by Parodiz & Bonetto]

NEVESSKAYA, *et al.*, 1971a (page 13); 1971b (page 149):
Mullerioidea Deshayes 1830
Mulleriidae Deshayes 1830
Mycetopodidae Modell 1942 *
Etherioidea Deshayes 1830
Mutelidae Gray 1847
Etheriidae Deshayes 1830
Pseudomulleriidae Starobogatov 1970
? Desertellidae Dechaseaux 1946

malacologists have consistently rejected the extensive splitting of these Russian publications.

A review of the twentieth-century literature on "muteloid" bivalves has revealed a remarkable range of usage of family names, and often erroneous attributions of their author and dates (Table 1). In particular, the works of Modell (1942; 1949; 1964) have internal inconsistencies and lack compliance with the ICZN principles concerning the attributions of family names. The two publications of Haas (1969a: 548-606; 1969b: N463-N467) are also inconsistent; in the second work, the Mutelidae was dated to "Swainson, 1840" instead of Gray 1847 (see also Vokes, 1980: 92).

In conclusion, it is documented that the correct superfamily name for unionoidan bivalves having a lasidium larval stage is **Etherioidea** Deshayes 1830, with constituent families **Etheriidae** Deshayes 1830, **Iridinidae** Swainson 1840 (+ Mutelidae) and **Mycetopodidae** Gray 1840 (the last as a subfamily of Etheriidae in some classifications).

CATALOGUE OF FAMILY-LEVEL NAMES

Acostaeidae Morrison 1973: 45. As a family in the Mutelacea. For *Acostaea* d'Orbigny 1851 [South America].

Aetheridae Herrmannsen 1846: 24. Emendation for Etheriidae (and of "Aethéries" Deshayes). For "*Aetheria* Lamck. 1808" [= *Etheria* Lamarck] [Africa].

Anodontitinae Modell 1942: 175. As a subfamily of Mutelidae. For *Anodontites* Bruguière 1792 [South America].

Aspathariinae Modell 1942: 177. As a subfamily of Mutelidae. For *Asphatharia* [sic] Bourguignat 1885; *Leptospatha* Rochebrune & Germain 1904; *Arthropteron* Rochebrune 1904 [Africa].

Bartlettiinae Modell 1942: 176. As a subfamily of Mutelidae. For

Bartlettia H. Adams 1870 and *Acostaea* d'Orbigny 1835 [South America].

Dentaspathariinae Modell 1964: 83. As a subfamily of Mutelidae. For *Dentaspatharia* Modell 1964 [fossil, Europe]; *Prisodontopsis* Tomlin 1928 [= *Pseudavicula* Simpson 1900 *non* Etheridge 1892] [Africa]. As the type genus of the Pseudaviculinae was a junior homonym, Modell thought that this necessitated a change in the family-level name.

Desertellidae Dechaseaux 1947: 307-309. For *Desertella* Haug 1905 [*ex* Munier-Chalmas MS.] [fossil, North Africa].

Diplasminae Modell 1942: 177-178. As a subfamily of Mutelidae. For *Diplasma* Rafinesque 1831 [South Asia]. See Hemisolasminae Starobogatov 1970; new name for Diplasminae Modell 1942.

Etheriae Owen 1837: 64. Printed in italics, but not properly latinized.

Etheridae Swainson 1840 (May): 257, 390. For *Etheria* Lamarck 1807 and *Mulleria* Férussac 1824 [Africa and South America]. This represents the first latinization of "Ethéries" Deshayes (*q.v.*). Emended to "Etheriadae" by Gray (Nov. 1840: 141); emended to "Aetheridae" by Herrmannsen (1846: 24).

Ethéries Deshayes 1830 (also in 1831): table, Famille 20. For "*Ethérie*" [*i.e.*, *Etheria* Lamarck 1807]. The family and genus are given in the vernacular French spelling; this was latinized by Swainson 1840. See also "Mullerie" herein.

Etheriinae: Modell (1942: 176) stated that this was a "n. subfam." -- in fact, the name dates to Deshayes 1830.

Fossulini Bonetto 1966: 3*ff.* As a tribe in the Monocondylaeinae. For *Fossula* Lea 1870 [South America].

Glabarinae Modell 1942: 175. As a subfamily of Mutelidae. For *Glabaris* Gray 1847 and *Leila* Gray 1840 [Central and South America].

Hemisolasminae Starobogatov 1970, pg. 73, 192. New name for Diplasminae Modell 1942. For *Hemisolasma* Rafinesque 1831.

However, Starobogatov transferred this taxon to the Hyriidae (Unionoidea).

Iridininae Swainson 1840: 286, 380. As a subfamily of Unionidae. For *Iridina* Lamarck 1819; *Calliscapha* Swainson 1840; *Mycetopus* d'Orbigny 1847 [Africa and South America]. As a full family, Iridinindae, in Gray (1840: 142, 155).

Iridininae: Modell (1942: 176) stated that this was a "n. subfam." -- in fact, the name dates to Swainson 1840.

Leilinae Morretes 1949: 28. As a subfamily of Monocondylaeidae [*i.e.*, Mycetopodidae]. For *Leila* Gray 1840 [South America].

Monocondylaeinae Modell 1942: 175. As a subfamily of Mutelidae. For *Monocondylaea* d'Orbigny 1835; *Iheringella* Pilsbry 1893; *Marshalliella* Haas 1931; *Diplodontites* Marshall 1922; *Tamsiella* Haas 1931 [South America].

Mullerie Deshayes 1830 (also 1831): table, Famille 23. For "*Mullerie*" [*i.e.*, *Mulleria* Férussac 1824]. The family and genus are given in the vernacular French spelling; this was latinized by Herrmannsen (1847: 61), as "Mülleriae". Subsequently emended to "Mulleriidae" by Starobogatov (1970: 73, 74). However, note that Herrmannsen had previously (1846: 24) listed "Mülleriae Desh. olim" as a synonym of "Aetheriae Desh." (*q.v.*). See also "Ethéries" herein.

Muteladae Gray 1847: 197. For *Mutela* Scopoli 1777; *Leila* Gray 1840; *Pleiodon* Conrad 1834; *Paxyodon* Schumacher 1817; *Prisodon* Schumacher 1817 [Africa].

Mycetopodidae Gray 1840: 142, 155. For *Mycetopus* d'Orbigny 1840 [= *Mycetopoda* d'Orbigny 1835] [South America].

Mycetopodinae: Modell (1942: 176) stated that this was a "n. subfam." -- in fact, the name dates to Gray 1840.

Pliodontidae Rochebrune 1904: 342. As a family. For "*Pliodon* Conrad 1854" [= *Pleiodon* Conrad 1834]; *Iridina* Lamarck 1819; *Cameronia* Bourguignat 1879.

Pleiodoninae Pain & Woodward 1964: 5. As a subfamily of Mutelidae. For *Pleiodon* Conrad 1834 [Africa]. Pain & Woodward had overlooked Rochebrune's "Pliodontidae" (*q.v.*) which is a senior homonym. The authors stated, in a footnote, that:

> "It has been brought to our notice that the subfamily name Pleiodoninae is an example of incorrect latinisation and should be emended to Pleiodontinae, however, we consider it advisable to retain the name Pleiodoninae since the emended name Pleiodontinae infers [*sic*! implies] that the type genus is *Pleiodonta* and not *Pleiodon* and thus may lead to unnecessary confusion."

Prisodontinae Modell: 1942: 174-175. As a subfamily of Mutelidae. For *Prisodon* Schumacher 1817 [South America].

Pseudaviculinae Modell 1942: 176. As a subfamily of Mutelidae. For *Pseudavicula* Simpson 1900 [Africa].

Pseudomulleriidae Starobogatov 1970: 75, 288. For *Pseudomulleria* Anthony 1907 [India].

Spathopsinae Modell 1942: 176. As a subfamily of Mutelidae. For *Spathopsis* Simpson 1900 [Africa].

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BIBLIOGRAPHY

Anthony, R. 1907 ["1906"]. Étude monographique des Aetheriidae (anatomie, morphogénie, systématique). Annales de la Société Royale Zoologique et Malacologique de Belgique, **41**: 322-430, plates 11-12.

Bonetto, A.A. 1966. Especies de la subfamilia Monocondylaeinae en las aguas del sistema del Rio de la Plata (Moll. Mutelacea). Archiv für Molluskenkunde, **95**(1-2): 3-14.

Boss, K.J. 1982. Mollusca [and] classification of Mollusca. [*In*], S.P. Parker (ed.), Synopsis and Classification of Living Organisms. New York, McGraw Hill, **1**: 945-1166; **2**: 1092-1096.

Dechaseaux, C. 1947 ["1946"]. Le genre *Desertella* Munier-Chalmas, type d'une nouvelle famille de Lamellibranches: les Desertellidae. Société Géologique de France, Compte-Rendu Sommaire des Séances, **1946**(15): 307-309.

Deshayes, G.P. 1830 [in 1792-1832]. Mollusques. volume 2, Pages 471-553, [*in*] Encyclopédie méthodique; histoire naturelle des vers. Paris, Panckoucke, 3 volumes.

Deshayes, G.P. 1831. Considérations générales sur les mollusques. Extrait du Tome II de l'histoire naturelle des vers de *l'Encyclopédie Méthodique*. Paris, Agasse, 308 pages + 2 foldout tables.

Deshayes, G.P. 1853 [*in* 1839-1853]. Traité Élémentaire de Conchyliologie avec les applications de cette science a la Géologie. 3 volumes. Paris, Victor Masson, **1**(1): 1-368 [1839]; **1**(2): 1-128 [1839]; **1**(2): 129-824 [1850]; **2**: 1-384 [1853]; 132 plates (+ text, 80 pages).

Gray, J.E. 1840 [4 November]. [Mollusca], pages 86-89; 106-151, [*in*], Synopsis of the Contents of the British Museum, 42nd edition. London: G. Woodfall and Son, iv + 370 pages.

Gray, J.E. 1847 [post November 9]. A list of the genera of recent Mollusca, their synonyma and types. Proceedings of the Zoological Society of London, **15**(179): 129-219.

Haas, F. 1969a [January]. Superfamilia Unionacea. Das Tierreich, Lieferung **88**: x + 663 pages. Berlin, Walter de Gruyter & Co.

Haas, F. 1969b [November]. Superfamily Unionacea Fleming, 1828. Pages N411-N471, [*in*], R.C. Moore (ed.), Treatise on Invertebrate Paleontology, Part N, Mollusca 6 Bivalvia. Boulder and Lawrence,

Geological Society of America and University of Kansas Press, 2 volumes, xxxviii + pages N1-N952.

Heard, W.H. and V.A. Vail. 1976. Anatomical systematics of *Etheria elliptica* (Pelecypoda: Mycetopodidae). Malacological Review, **9**(1-2): 15-24.

Herrmannsen, A.N. 1846-1852. Indicis Generum Malacozoorum. Cassell, Fischer. [2 volumes + supplement. Dates of publication, **1**: 1-232 (1846); **1**: 233-637, **2**: 1-352 (1847); **2**: 353-492 (1848); **2**: 493-717 (1849); Supplement, vi + 1-140 (1852)].

International Commission on Zoological Nomenclature [ICZN]. 1985. International Code of Zoological Nomenclature, Third Edition. University of California Press, Berkeley, xx + 338 pages.

Modell, H. 1942. Das natürliche System der Najaden. Archiv für Molluskenkunde, **74**(5-6): 161-191.

Modell, H. 1949. Das natürliche System der Najaden. 2. Archiv für Molluskenkunde, **78**(1-3): 29-46.

Modell, H. 1964. Das natürliche System der Najaden. 3. Archiv für Molluskenkunde, **93**(3-4): 71-126.

Morretes, F.L. de. 1949. Ensaio de Catálogo dos Moluscos do Brasil. Arquivos do Museu Paranaense (Curitaba), **7**(1): 5-216.

Morrison, J.P.E. 1973. The families of the pearly freshwater mussels. Bulletin of the American Malacological Union, Inc., **38**: 45-46.

Nevesskaya, L.A., O.A. Scarlato, Ya.I. Starobogatov, and A.G. Eberzin. 1971a [May]. Novyye predstavleniia o sisteme dvustvorchatykh molliuskov. Paleontologicheskii Zhurnal, **1971**(2): 3-20.

Nevesskaya, L.A., O.A. Scarlato, Ya.I. Starobogatov, and A.G. Eberzin. 1971b [December]. New ideas on bivalve systematics. Paleontological Journal, **5**(2): 141-155 [English translation of the previous item].

Ortmann, A.E. 1921. South American Naiades; a contribution to the

knowledge of the freshwater mussels of South America. Memoirs of the Carnegie Museum, **8**(3): 451-670, plates 34-48.

Owen, R. 1837 [20 Dec.]. On the structure of the shell of the water clam (*Spondylus varius*). Proceedings of the Zoological Society of London, **5**(liv): 63-66.

Pain, T. and F.R. Woodward. 1964. A monograph of the African bivalves of the genus *Pleiodon* Conrad (= *Iridina* authors) (Mollusca - Mutelidae). Koninklijk Museum voor Midden-Afrika, Annalen, Zoologische Wetenschappen / Museé Royal de l'Afrique Centrale, Annales, Sciences Zoologiques, **130**: 1-33, plates 1-4

Parodiz, J.J. and A.A. Bonetto. 1963. Taxonomy and zoogeographic relationships of the South American naiades (Pelecypoda: Unionacea and Mutelacea). Malacologia, **1**(2): 179-213.

Rochebrune, A.-T. de. 1904. Recherches sur quelques types de la famille des Mutelidae. Bulletin du Muséum d'Histoire Naturelle, Paris, **10**(6): 332-343.

Scarlato, O.A. and Ya.I. Starobogatov. 1979. Osnovnye Cherty Evolyutsii i sistema Klassa Bivalvia. Pages 5-38, [*in*], O.A. Scarlato (ed.), Morfologiya, Sistematika i Filogeniya Molliuskov [Morphology, systematics and phylogeny of molluscs]. Trudy Zoologischeskogo Instituta, Akademiia Nauk SSSR, **80**: 1-126 [In Russian]. [Translated by K.J. Boss and M.K. Jacobson (1985), Special Occasional Publication No. 5, Dept. of Mollusks, Harvard University, 77 pages].

Starobogatov, Ya.I. 1970. Fauna molliuskov i zoogeograficheskoe raionirovanie kontinental'nykh vodoemov zemnogo shara [Fauna of molluscs and zoogeographical separation into districts of the continental water reservoirs of the world]. Leningrad, Zoologicheskii Institut, Akademiia Nauk SSSR, 372 pages [In Russian].

Starobogatov, Ya.I. 1992. Morphological basis for phylogeny and classification of Bivalvia. Ruthenica, **2**(1): 1-25.

Swainson, W. 1840 [May 20]. A Treatise on Malacology; or the natural classification of shells and shell fish. London, Longman, vii + 419

pages.

Thiele, J. 1929-1935. Handbuch der systematischen Weichtierkunde. Jena, Gustav Fischer, **1**(1): 1-376 [1929]; **1**(2): 377-778 [1931]; **2**(3): 779-1022 [1934]; **2**(4): iv + 1023-1154 + vi (for volume 1) [1935]. [Reprinted (1963), Amsterdam, A. Asher and Company.]

Vaught, K.C. 1989. A Classification of the Living Mollusca. Melbourne (Florida), American Malacologists, Inc., xiii + 189 (195) pages.

Vokes, H.E. 1980. Genera of the Bivalvia. A systematic and bibliographic catalogue (revised and updated). Ithaca (New York), Palentological Research Institution, xxviii + 307 pages.

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THE EFFECT OF BREEDING PERIOD ON THE BIOGEOGRAPHY OF FRESHWATER MUSSELS (BIVALVIA: UNIONOIDEA) IN THE MINNESOTA REGION OF NORTH AMERICA

Daniel L. Graf[1]

ABSTRACT. The freshwaters of Minnesota are biogeographically significant as they form the headwaters of the Great Lakes, Hudson Bay, and Mississippi River basins. The 46 species of freshwater pearly mussels (Bivalvia: Unionoidea) that inhabit Minnesota can be divided into two general breeding types based on the length of their brooding period: *tachytictic*, or short-term brooding, and *bradytictic* long-term brooders. During the late glacial northern re-expansion of the Unionoidea into Minnesota, the completion of the life-cycle of short-term breeding mussels was inhibited by the harsh meltwater conditions. This led to the preferential establishment of certain bradytictic Mississippi species in ice-contact, meltwater environments. This tendency is reflected in the distribution of the Unionoidea of Minnesota; only nine species were able to freely disperse throughout the region until Recent climatic improvement. All other species invaded postglacially.

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INTRODUCTION

The effect of brooding period duration on the zoogeography of freshwater pearly mussels (Bivalvia: Unionoidea) in the Minnesota Region of North America is here reviewed. The generalized life cycle of freshwater mussels is well documented (for summaries, see Coker *et al.*, 1921; Kat, 1984). Equally well known is the variation that occurs at different stages in their life history (*i.e.*, glochidial morphology, marsupial anatomy, length of larval brooding period, *etc.*). However, the implications of these different reproductive strategies on the biology of mussels have been paid little attention.

As noted by Sterki (1895, 1898, 1903), freshwater mussels are divisible into two general breeding types; he referred to them as winter- and summer-breeders. However, as suggested by Lefevre and Curtis (1912), these breeding types are more accurately defined by the length of their brooding period rather than its seasonality.

Tachytictic (short-term/summer breeding) mussels spawn (*i.e.*, release their gametes) in the spring and expel their glochidia by the end of summer, brooding them in ctenidial marsupia only until mature. Mussels exhibiting *bradytictia*[2]

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[2] The terms *tachytictic* and *bradytictic* were coined by Ortmann (1911) to describe short- and long-term breeding mussels, respectively. Davis and Fuller (1981) suggested the suffix *-ixis* for the noun formation (*e.g.*, tachytixis). However, this formation is considered improper (Zeph Stewart, Andrew W. Mellon Professor, *Emeritus*, of the Humanities, Harvard University, letter to K.J. Boss, 18 March, 1996). Since this convention is not in wide use, the forms *tachytictia* and *bradytictia* are herein utilized as nouns, as suggested by Professor Stewart.

(long-term/winter breeders) spawn during the late summer and retain their mature glochidia until the following spring (Lefevre and Curtis, 1910, 1912; Ortmann, 1909, 1911). Bradytictia is the norm in the anodontine and lampsiline clades, and correlated with their mode of parentage is the modification of their marsupia to accommodate long-term brooding (Sterki, 1903; Ortmann, 1911; Lefevre and Curtis, 1912). Tachytictic taxa of the Amblemini and Pleurobemini [*sensu* Davis and Fuller (1981) and Lydeard *et al.*, 1996)] are generally tetragenous (with exceptions, *e.g., Pleurobema*) and without ctenidial specialization.

The Minnesota Region of North America is biogeographically significant, being composed of the headwaters of the three major drainage basins east of the Rocky Mountains: Hudson Bay, Great Lakes, and Mississippi (Graf, 1997a). As a political entity rather than a faunal province, the arbitrary yet well-known state boundaries limit the scope of this study; concepts applied to a particular basin within the Region, however, apply outside as well.

DISTRIBUTION OF BREEDING TYPES IN THE MINNESOTA REGION

Table 1 lists the 46 species of freshwater pearly mussels that inhabit Minnesota, including their distributions and breeding types. The breeding periods of mussel species in the Region generally conform to those predicted by their taxonomic affinities (Sterki, 1895, 1898, 1903; Frierson, 1904; Conner, 1907, 1909; Ortmann, 1909, 1911, 1919; Lefevre and Curtis, 1910, 1912; Surber, 1912, 1913; Howard, 1914, 1915; Utterback, 1916; Coker *et al.*, 1921; Baker, 1928; Clarke and Berg, 1959; Yokley, 1972; Clarke, 1981, 1985; Gordon and Smith, 1990; Haggerty *et al.*, 1992; Woody and Holland-Bartels, 1993; see additional references in Watters,

1994). Five noteworthy exceptions are *Cumberlandia monodonta*, *Megalonaias nervosa*, *Utterbackia imbecillis*, *Simpsonias ambigua*, and *Obliquaria reflexa*.

Cumberlandia monodonta (*i.e.*, the Margaritiferidae, in general) has been described by some as being bradytictic (*e.g.*, Heard and Guckert, 1970) and tachytictic by others (Sterki, 1903; Conner, 1909; Ortmann, 1911). The latter seems more correct based on the absence of marsupial adaptations for long-term glochidial brooding, such as those of the Anodontinae and Lampsilini (Davis and Fuller, 1981). However, the shoe-horning of margaritiferids into unionid categories may make this a moot point. Both Howard (1915) and Gordon and Smith (1990) suggested that *C. monodonta* may produce two broods per year. Thus, *Cumberlandia* may be neither in terms of unionid breeding types (or both!).

The placement of *Megalonaias nervosa* among the Amblemini suggests that it is a short-term breeder; however, its period of gravidity led early taxonomists to hesitantly describe it as bradytictic (Surber, 1912; Utterback, 1916; Lydeard *et al.*, 1996). Frierson (1904) reported that Louisiana specimens were gravid from October to January. Similar results were reported by Howard (1914, 1915) and Woody and Holland-Bartels (1993) further north; *M. nervosa* was found gravid from late August to early November. Lefevre and Curtis (1912) discovered gravid individuals in late May, but Howard (1914) confirmed that this condition occurred in only 2% of the *Megalonaias* he found. Thus, although the chronology of the breeding period of *M. nervosa* is anomalous, the length of its brooding period supports its position among the tachytictic (Lefevre and Curtis, 1910, 1912; Howard, 1914, 1915).

It has been demonstrated that *Utterbackia imbecillis* is bradytictic (like other *Anodonta*) and undergoes

Table 1. The Distribution of the Unionoidea in the Minnesota Region and their Breeding Types.

LMRS = Lower Mississippi River System (Mississippi River and tributaries below St. Anthony Falls); UMRS = Upper Mississippi River System (above St. Anthony Falls); RRS = Red River System; LWS = Lake of the Woods System; LSS = Lake Superior System. X = presence in a particular basin; B = bradyticitc; T = tachytictic; † = exception (see text).

Species	breeding type	LMRS	UMRS	RRS	LWS	LSS
Upper Mississippi River Fauna:						
Anodontoides ferussacianus (Lea)	B	X	X	X	X	X
Lampsilis cardium Rafinesque	B	X	X	X	X	X
Lampsilis siliquoidea (Barnes)	B	X	X	X	X	X
Lasmigona complanata (Barnes)	B	X	X	X	X	X
Lasmigona compressa (Lea)	B	X	X	X	X	X
Ligumia recta (Lamarck)	B	X	X	X	X	X
Pyganodon grandis (Say)	B	X	X	X	X	X
Stophitus undulatus (Say)	B	X	X	X	X	
Utterbackia imbecillis (Say)	B†	X	X			X
Red River of the North Fauna:						
Lasmigona costata (Rafinesque)	B	X		X		
Potamilus alatus (Say)	B	X		X		
Amblema plicata (Say)	T	X		X		
Fusconaia flava (Rafinesque)	T	X		X		
Quadrula quadrula (Rafinesque)	T	X		X		
Lake Superior Fauna:						
Elliptio complanata (Lightfoot)	T				X	
Lower Mississippi River Fauna[3]**:**						
Cumberlandia monodonta (Say)	?†	X				
Megalonaias nervosa (Rafinesque)	T†	X				
Obliquaria reflexa Rafinesque	T†	X				
Simpsonaias ambigua (Say)	B†	X				

[3] The remaining mussels of the Lower Mississippi River Fauna are similarly distributed and either bradytictic [*Actinonaias ligamentina* (Lamarck); *Alasmidonta margnata* Say; *Anodonta suborbiculata* Say; *Arcidens confragosus* (Say); *Ellipsaria lineolata* (Rafinesque); *Epioblasma triquetra* (Rafinesque); *Lampsilis higginsi* (Lea); *Lampsilis teres* (Rafinesque); *Leptodea fragilis* (Rafinesque); *Obovaria olivaria* (Rafinesque); *Potamilus capax* (Green); *Potamilus ohiensis* (Rafinesque); *Toxolasma parvus* (Barnes); *Truncilla donaciformis* (Lea); *Truncilla truncata* (Rafinesque); *Venustaconcha ellipsiformis* (Conrad)] or exhibit tachytictia [*Cyclonaias tuberculata* (Rafinesque); *Elliptio crassidens* (Lamarck); *Elliptio dilatata* (Rafinesque); *Fusconaia ebena* (Rafinesque); *Plethobasus cyphyus* (Rafinesque); *Pleurobema coccineum* (Conrad); *Quadrula fragosa* (Conrad); *Quadrula metanevra* (Rafinesque); *Quadrula nodulata* (Rafinesque); *Quadrula pustulosa* (Rafinesque); *Tritogonia verrucosa* (Rafinesque)].

metamorphosis on a fish host (like the rest of the Unionoidea) (Ortmann, 1909, 1919; Utterback, 1916; Clarke and Berg, 1959). It has also been reported that metamorphosis without parasitism can occur within the marsupia of this species (Howard, 1915; Howard and Anson, 1923; Allen, 1924) and that the breeding period lasts only a few weeks and may occur repeatedly throughout the year (Allen, 1924). As far as northern populations are concerned, however, Heard (1975) reported that bradytictia is exclusively encountered.

The data on *Simpsonaias ambigua* are so meager that direct evidence of its breeding times and brooding period are, for the most part, unavailable. Howard (1915; repeated in Clarke, 1985) collected *Necturus* (the mud puppy) infected with the glochidia of this species in October. These glochidia took the entire winter for metamorphosis in Howard's lab. The only observational data available suggests that *S. ambigua* releases its glochidia in the fall; its evolutionary relationships suggest bradytictia.

The decidedly lampsiline modifications of the marsupium of *Obliquaria reflexa* suggest that it might be placed among the long-term brooders (Ortmann, 1911; Utterback, 1916; Lydeard *et al.*, 1996). However, it has only been reported gravid from May or June to August (Lefevre and Curtis, 1910; Surber, 1912; Utterback, 1916; Ortmann, 1919) and is thus considered tachytictic.

DISCUSSION

The Minnesota Region is composed of five drainage systems (Figure 1). The Red River and Lake of the Woods systems are confluent at Lake Winnipeg, but their differing mussel communities warrant their division (Graf, 1997a). The Upper and Lower Mississippi River systems are separated by the Falls of St. Anthony at Minneapolis, a barrier

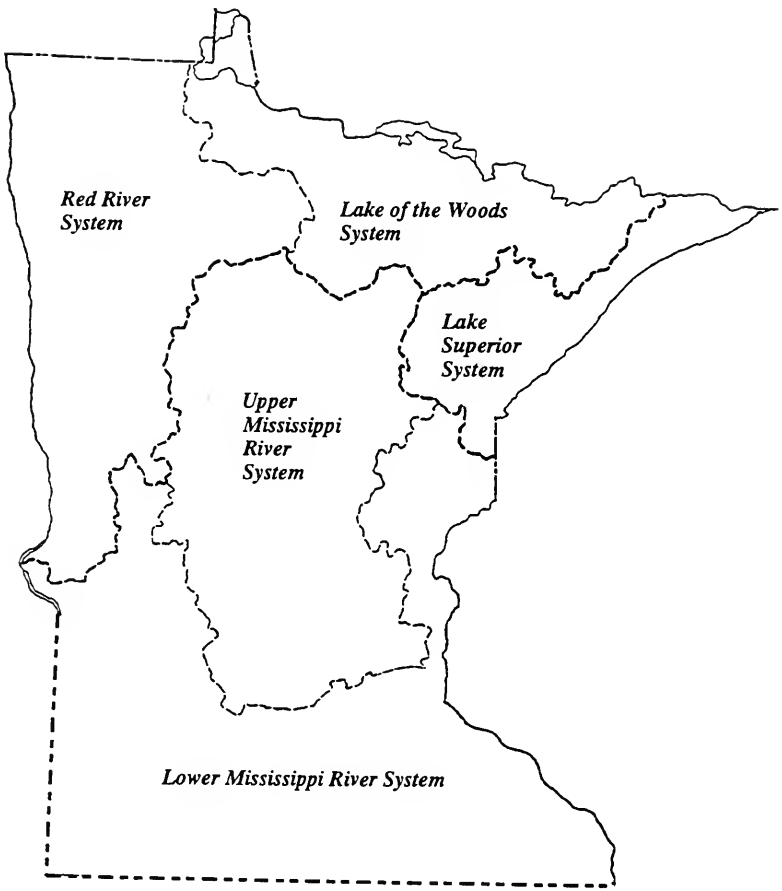

Figure 1. The drainage systems of the Minnesota Region (redrawn from Graf, 1997a)

to mussel distribution via their host fishes (Underhill, 1989; Graf, 1997b). All Unionoidea occurring in Minnesota except *Elliptio complanata* (see below) migrated into the Region from unglaciated refugia in the Mississippi below the maximum extent of Pleistocene glaciation (Johnson, 1980).

As discussed by Graf (1997b), the earliest invading mussel community arrived in the Region sometime after 14,000 years before present (bp) when central Minnesota became ice-free and before 11,000 bp, the latest date of formation for St. Anthony Falls. These unionoideans correspond to the Upper Mississippi River Fauna (UMRF) of Graf (1997a) (Table 1). The remaining mussel species migrated into the Region post-glacially; this includes those five species occurring in addition to the UMRF in the Red River system: they entered that basin after 9500 bp either via high water through Lakes Big Stone and Traverse or, more likely, stream capture in the Otter Tail River watershed (Graf, 1997b).

As Table 1 shows, the UMRF is completely bradytictic. Thus, all of the mussel species present in the Region for at least 1500 years (i.e., from before 11,000 to 9500 bp) were long-term breeders that brooded their glochidia over the frigid winter months.

The observed dominance of bradytictic species in the earliest invading mussel fauna in the Minnesota Region has an analog in the northern Atlantic Slope drainage of eastern North America (Graf, 1996). Both there and in Minnesota, obliteration of the unionoidean community by Wisconsin glaciation was followed by repopulation from unglaciated refugia; subsequent development of a barrier then halted further mussel migration. In the case of the northern Atlantic Slope, it was the rise in sea level as continental ice melted (Johnson, 1970) and the creation of fall lines (D. Smith, pers. comm.) that curtailed further dispersal; in the Minnesota

Region it was the formation of St. Anthony Falls and the drop in water level associated with glacial retreat from the Region (Graf, 1997b). The mussel fauna of the northern Atlantic Slope is mostly bradytictic (87%; Graf, 1996).

With the retreat of glacial ice from the Minnesota Region, aquatic connections existed (Clayton and Moran, 1982) that would have allowed the newly deglaciated area to be repopulated from unglaciated refugia (Underhill, 1989; Graf, 1997b). The conditions of these periglacial meltwater streams were probably more severe than in rivers of the Minnesota Region today, with near-freezing melt water and a greater silt load; newly deglaciated Minnesota was boreal spruce forest until perhaps 8000 bp (Barry, 1983). Such an environment is indicative of a cooler climate and a shortened growing season.

A shortened growing season would have inhibited the ontogeny of tachytictic mussels. The period prior to completion of metamorphosis is the time of greatest mortality (McMahon, 1991), and cold temperatures can slow metamorphosis from a few to hundreds of days (Howard and Anson, 1923). With a later spring and earlier fall, the summer breeding season would be shortened; tachytictic glochidial encystment and metamorphosis would have to begin while temperatures were declining. Glochidia released in the following spring, however, would have the entire growing season for their development.

Such conditions existed in the Minnesota Region and inhibited the establishment of tachytictic species. With the development of barriers to further dispersal, additional, possibly tachytictic mussel species, were no longer able to colonize the Region beyond the lower Mississippi drainage (the Mississippi River and its tributaries below St. Anthony Falls) subsequent to climatic improvement. This explanation is appropriate on the northern Atlantic Slope as well.

Relevant to this discussion is Hutchins' (1947) generalization regarding the breeding time of marine invertebrates. Animals that begin breeding in the fall do so because summer temperatures are too warm; those that begin in the spring do so because winter conditions are too harsh. The former, with regard to the Unionoidea, is bradytictia, the latter tachytictia. Coker *et al.* (1921) noted that generally the long-term breeders begin their annual reproduction on the falling temperatures of late summer, while spawning in tachytictic forms is initiated by rising spring temperatures. According to Hutchins (1947), animals that spawn as temperatures drop have a tendency to move in a pole-ward direction, while summer breeders do the opposite. This supports the selective dispersal of bradytictic freshwater mussels to northern, cooler waters from warmer southern refugia.

Both Sterki (1903) and Ortmann (1909) speculated about the phylogenetic significance of these differences in the larval brooding period. According to Ortmann (1919), who recognized the Pleurobemini and Amblemini (= "Unioninae") as the phylogenetically least derived unionid clade, tachytictia developed early in the Tertiary when the climate was more mild; long-term breeding evolved in response to the harsh glacial climate and shortened growing season of the late Tertiary and Quaternary. Conflicting with this interpretation is the opinion that bradytictia is ancestral in the Unionoidea (Heard and Guckert, 1970; Davis and Fuller, 1981). However, there can be little doubt of Sterki's (1903) conclusion that differences in brood period among the taxa are a reflection of the climatic regime of their ancestors.

CONCLUSIONS

The length of the brooding period can not be the only

factor that determined the chronology of northward range expansion of freshwater pearly mussels at the close of the Pleistocene. Regardless of a mussel's ability to survive and produce glochidia under periglacial conditions, its host must not only have been tolerant of the same environment (at least during the mussel's breeding period) but also have been present. The necessity of the combination of cold-tolerant mussel and host may explain the paucity of unionoideans that invaded Minnesota immediately following Wisconsin glaciation.

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REFERENCES CITED

Allen, E. 1924. The existence of a short reproductive cycle in *Anodonta imbecillis*. Biological Bulletin **46**: 88-94.

Baker, F.C. 1928. The fresh water Mollusca of Wisconsin. Wisconsin Geological and Natural History Survey Bulletin **70**: 1-495, pls. 1-105.

Barry, R.G. 1983. Late-Pleistocene climatology. pp. 390-407. [In] S.C. Porter (ed.). Volume I: The Late Pleistocene. [In] H.E. Wright, jr. (ed.). Late-Quaternary Environments of the United States.

Clarke, A.H. 1981. The tribe Alasmidontini (Unionidae: Anodontinae), Part I: *Pegais*, *Alasmidonta*, and *Arcidens*. Smithsonian Contributions to Zoology (326): 1-101.

Clarke, A.H. 1985. The tribe Alasmidontini (Unionidae: Anodontinae), Part II: *Lasmigona* and *Simpsonaias*. Smithsonian Contributions to Zoology (399): 1-75.

Clarke, A.H., C.O. Berg. 1959. The freshwater mussels of central New York. Cornell University, Agriculture Experimental Station, Memoir (367): 1-79.

Clayton, L., S.R. Moran. 1982. Chronology of Late Wisconsin glaciation in Middle North America. Quaternary Science Reviews **1**: 55-82.

Coker, R.E., A.F. Shira, H.W. Clark, and A.D. Howard. 1921. Natural history and propagation of freshwater mussels. Bulletin of the Bureau of Fisheries **37**: 77-181. (Reprinted as Bureau of Fisheries Document No. 893.)

Conner, C.H. 1907. The gravid period of unios. Nautilus **22**: 87-89.

Conner, C.H. 1909. Supplementary notes on the breeding seasons of the Unionidæ. Nautilus **22**: 111-112.

Davis, G.M., S.L.H. Fuller. 1981. Genetic relationships among Recent Unionacea (Bivalvia) of North America. Malacologia **20**: 217-253.

Frierson, L.S. 1904. Observations on the genus *Quadrula*. Nautilus **17**: 111-112.

Gordon, M.E., D.G. Smith. 1990. Autumnal reproduction in *Cumberlandia monodonta* (Unionoidea: Margaritifera). Transactions of the American Microscopical Society **109**: 407-411.

Graf, D.L. 1996. The Brady Bunch: A preliminary look at the bradytictic Unionoidea and their taxonomic and geographic distribution in the Atlantic Slope region of North America. NU-Biology, A Newsletter of Research Synopsis [*sic*] and Proposals at Northeastern University **2**(2): 1-3.

Graf, D.L. 1997a. Distribution of unionoid (Bivalvia) faunas in Minnesota, USA. Nautilus **110**: 45-54.

Graf, D.L. 1997b. Northern redistribution of freshwater pearly mussels (Bivalvia: Unionoidea) during Wisconsin deglaciation in the southern Glacial Lake Agassiz region: a review. American Midland Naturalist **138**, in press.

Haggerty, T.M., G.P. Patterson, L.C. Jones. 1992. Aspects of the reproductive biology of *Cyclonaias tuberculata* (Unionidae: Bivalvia). Journal of Alabama Academy of Science **63**: 56 [abstract].

Heard, W.H. 1975. Sexuality and other aspects of reproduction in *Anodonta* (Pelecypoda: Unionidae). Malacologia **15**: 81-103.

Heard, W.H., R.H. Guckert. 1970. A re-evaluation of the Recent Unionacea (Pelecypoda) of North America. Malacologia **10**: 333-355.

Howard, A.D. 1914. Experiments in propagation of fresh-water mussels of the *Quadrula* group. Report of the Commissioner of Fisheries for the Fiscal Year 1913, Appendix 4: 1-52, 6 pls. (Reprinted as Bureau of Fisheries Document No. 801.)

Howard, A.D. 1915. Some exceptional cases of breeding among Unionidae. Nautilus **29**: 4-11.

Howard, A.D., B.J. Anson. 1923. Phases of parasitism of the Unionidae. Journal of Parasitology **9**: 68-82, pls. 7-8.

Hutchins, L.W. 1947. The bases for temperature zonation in geographical distribution. Ecological Monographs **17**: 325-335.

Johnson, R.I. 1970. The systematics and zoogeography of the Unionidae (Mollusca: Bivalvia) of the southern Atlantic Slope region. Bulletin of the Museum of Comparative Zoology **140**: 263-449.

Johnson, R.I. 1980. Zoogeography of North American Unionacea (Mollusca: Bivalvia) north of maximum Pleistocene glaciations. Bulletin of the Museum of Comparative Zoology **149**: 77-189.

Kat, P.W. 1984. Parasitism and the Unionacea (Bivalvia). Biological Reviews **59**: 189-207.

Lefevre, G., W.C Curtis. 1910. Experiments in the artificial propagation of fresh-water mussels. Bulletin of the U.S. Bureau of Fisheries **28**: 615-626. (Reprinted as Bureau of Fisheries Document No. 671.)

Lefevre, G., W.C. Curtis. 1912. Studies on the reproduction and artificial propagation of fresh-water mussels. Bulletin of the U.S.

Bureau of Fisheries **30**: 105-201, pls. 6-17. (Reprinted in parts in Sterkiana, 1972-1976.)

Lydeard, C., M. Mulvey, G.M. Davis. 1996. Molecular systematics and evolution of reproductive traits of North American freshwater unionacean mussels (Mollusca: Bivalvia) as inferred from 16S rRNA gene sequences. Philosophical Transactions of the Royal Society of London B **351**: 1593-1603.

McMahon, R.F. 1991. Mollusca: Bivalvia. pp. 315-399. [in] J.T. Thorp and A.P. Covich (eds.). Ecology and Classification of North American Freshwater Invertebrates. Academic Press, New York.

Ortmann, A.E. 1909. The breeding season of Unionidæ in Pennsylvania. Nautilus **22**: 91-95, 99-03.

Ortmann, A.E. 1911. Monograph of the naiades of Pennsylvania. I. Anatomical investigations. Part II. The system of North American najades. Memoirs of the Carnegie Museum **4**: 279-347, pls. 86-89.

Ortmann, A.E. 1919. Monograph of the naiades of Pennsylvania. III. Systematic account of the genera and species. Memoirs of the Carnegie Museum **8**: 1-385.

Sterki, V. 1895. Some notes on the genital organs of Unionidæ, with reference to systematics. Nautilus **9**: 91-94.

Sterki, V. 1898. Some observations on the genital organs of Unionidæ, with reference to classification. Nautilus **12**: 18-21, 28-32.

Sterki, V. 1903. Notes on the Unionidæ and their classification. American Naturalist **37**: 103-113.

Surber, T. 1912. Identification of the glochidia of freshwater mussels. Report of the Commissioner of Fisheries for the Fiscal Year 1912 and Special Papers: 1-10. (Reprinted as Bureau of Fisheries Document No. 771.)

Surber, T. 1913. Notes on the natural hosts of fresh-water mussels. Bulletin of the U.S. Bureau of Fisheries **32**: 101-115, pls. 29-31. (Reprinted as Bureau of Fisheries Document No. 778.)

Underhill, J. 1989. The distribution of Minnesota fishes and Late Pleistocene glaciation. Journal of the Minnesota Academy of Science **55**: 32-37.

Utterback, W.I. 1916. Breeding record of Missouri mussels. Nautilus **30**: 13-21.

Watters, G.T. 1994. An Annotated Bibliography of the Reproduction and Propagation of the Unionoidea (Primarily of North America). Ohio Biological Survey Miscellaneous Contribution No. 1. 158 pp.

Woody, C.A., L. Holland-Bartels. 1993. Reproductive characteristics of a population of the washboard mussel *Megalonaias nervosa* (Rafinesque 1820) in the upper Mississippi River. Journal of Freshwater Ecology **8**: 57-66.

Yokley, P. 1972. Life history of *Pleurobema cordatum* (Rafinesque) (Bivalvia: Unionacea). Malacologia **11**: 351-364.

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THE WESTERN LAKE SUPERIOR FRESHWATER MUSSEL (BIVALVIA: UNIONIDAE) COMMUNITY AND ITS ORIGIN

Daniel L. Graf[1] and James C. Underhill[2]

ABSTRACT. Nine species of freshwater pearly mussels (Bivalvia: Unionidae) occur in the western Lake Superior basin. All of these species, except *Elliptio complanata* (Lightfoot), entered the Superior drainage from the Interior Basin via Late Wisconsin high-water spillways; the chronology of availability of these channels is described. *E. complanata* invaded in the Recent from the eastern Great Lakes. A new record of *Utterbackia imbecillis* (Say) is reported, and the anomalous distributions of *Amblema plicata* (Say) and *Strophitus undulatus* (Say) are discussed.

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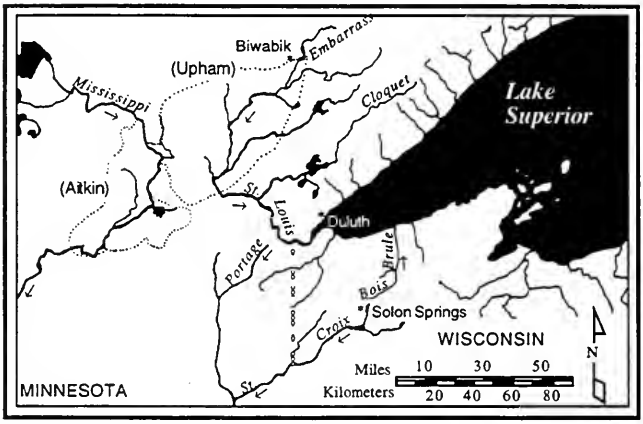

*Figure 1. Map of the western Lake Superior basin and adjacent drainage systems. Dotted lines indicate the shores of Late Wisconsin glacial lakes (*teste *Hobbs, 1983); arrows indicate the present direction of flow.*

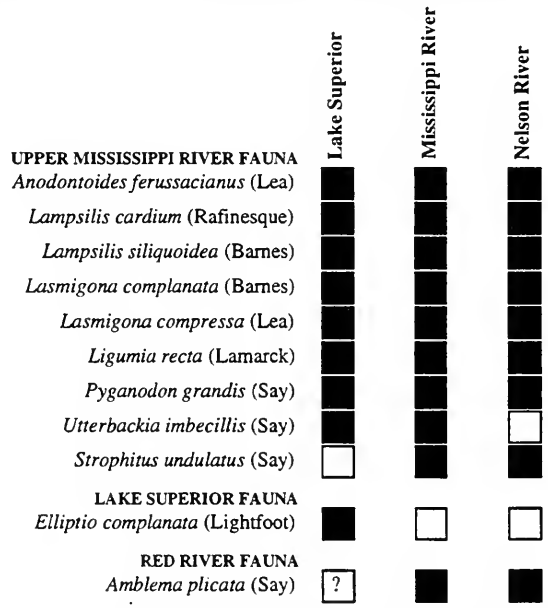

Figure 2. The freshwater pearly mussel community of the western Lake Superior drainage and its distribution in that and neighboring watersheds. Shaded box = present; black box = new record; empty box = not reported; ? = a spurious record.

INTRODUCTION

Nine species of freshwater pearly mussels (Bivalvia: Unionidae) have been previously recorded from the western Lake Superior basin. However, even such a depauperate assemblage is of zoogeographical significance. Our purpose is to describe the distribution and origin of this community.

The western Lake Superior basin is defined as that portion of the Lake watershed extending west from the arbitrary boundary of 90° W (Figure 1). That area is relevant as a region of confluence between the Great Lakes, Nelson River and upper Mississippi River during the final stages of Wisconsin glaciation.

METHODS AND MATERIALS

Unionid distributions were determined using deposited specimens and the available literature. The holdings of the James Ford Bell Museum of Natural History (JFB), University of Minnesota were searched using *The Bell Museum of Natural History Collection Database* (Graf *et al.*, unpublished) for Lake Superior System mussels. Literature on the Unionidae of Lake Superior in general (Goodrich and van der Schalie, 1932; van der Schalie, 1961; Johnson, 1980), the western Lake drainage (Grant, 1887; Baker, 1928; Dawley, 1944, 1947; Smith and Moyle, 1944; Moyle, 1947; Mathiak, 1979), and others (Dall, 1905; Walker, 1913; Graf, 1997a) were reviewed. Taxonomy follows Williams *et al.* (1993) and these mollusks were figured by Clarke (1973) and Baker (1928).

Short expeditions were undertaken in 1994 and 1996 to sample the St. Louis River drainage and its tributaries. Both live and dead unionids were collected by wading and

snorkeling. Vouchers have been deposited in the JFB and the Museum of Comparative Zoology, Cambridge, Mass.

THE MUSSEL COMMUNITY OF THE WESTERN LAKE SUPERIOR BASIN AND ITS ORIGIN

Nine species of freshwater pearly mussels have been previously noticed in the western Lake Superior drainage (Figure 2; see references above). In addition to these, we collected *Utterbackia imbecillis* in Embarrass Lake at Biwabik, Minnesota on separate occasions in 1994 and 1996. Until now, *U. imbecillis* has not been known in the Great Lakes basin west of Lake Michigan (Baker, 1928; Mathiak, 1979; Goodrich and van der Schalie, 1932).

During the Pleistocene, any unionid community that existed in Lake Superior and its tributaries was eliminated by glacial advance. As the last Wisconsin ice wasted north, the meltwater liberated was impounded into large glacial lakes that bridged present-day drainage divides. Such breeches between the Mississippi and Lake Superior drainages allowed mussels (via their host fish) to disperse into the latter from unglaciated southern refugia (Johnson, 1980).

For the ten mussel species recorded from the Lake Superior basin, three basic patterns of distribution are evident (Figure 2). Nine of these species also occur in the adjacent Mississippi basin; of these, only *A. plicata* is not found in that watershed above St. Anthony Falls at Minneapolis, Minnesota. Graf (1997a) considered the anomalous distribution of this unionid spurious, and since its presence in the Lake Superior basin is suggested by only a single valve, we concur.

The remaining eight species have been united as the Upper Mississippi River Fauna (UMRF) by Graf (1997a) based on their common occurrence in the Mississippi above

St. Anthony Falls. *Strophitus undulatus* was also included in this assemblage but has not been reported from the Lake Superior basin (see discussion below).

A single species, *Elliptio complanata*, occurs only in Lake Superior and no other adjacent catchment; it is the lone member of the Lake Superior Fauna (LSF) (Figure 2). While mussels of the UMRF occur in Lake Superior and its western tributaries, the LSF is confined to the Lake proper.

The earliest Unionidae to re-invade the western Lake Superior drainage were those of the UMRF. Beginning around 11,300 years before present (bp) (Clayton and Moran, 1982), invasion of the Lake basin occurred via any of three late Pleistocene breeches in the Great Lakes-Mississippi divide. The first breech lasted until 11,000 bp (Hobbs, 1983) and was formed by a short-lived pair of glacial lakes known as Aitkin and Upham (Figure 1). Their confluence at the highest lake levels united the Mississippi and Lake Superior basins.

The second and third breeches of the Mississippi-Lake Superior divide occurred while Lake Superior overflowed via two distinct channels to the St. Croix River, a tributary of the Mississippi River (Figure 1). The lake in the Superior basin, ice-dammed to a level higher than at present, spilled via the Portage River near Moose Lake, Minnesota and reversed the flow of the Bois Brule River at Solon Springs, Wisconsin. Thus, members of the UMRF migrated up the St. Croix-Portage or St. Croix-Brule spillways to the south shore, or they dispersed up the Mississippi through Glacial Lake Aitkin-Upham to the St. Louis River and other north shore streams to gain access to the western Lake Superior basin.

Although there is some disagreement regarding the sequence of availability of the two overflow channels (*e.g.*, Clayton, 1983; Farrand and Drexler, 1985), direct confluence

between the Superior Basin and Mississippi below St. Anthony Falls was permanently arrested around 9500 bp (Clayton and Moran, 1982). By that time, the ice dam at its outlet to the eastern Great Lakes had wasted, and Lake Superior shrank to its present level.

Besides these reasonably well-dated breeches, Martin (1911) suggested that the initial retreat of glacial waters in the western lake basin left the Cloquet and upper St. Louis rivers flowing southwest to the Mississippi rather than southeast to the lower St. Louis River. Eventually the upper St. Louis was captured by the headward migration of the lower St. Louis (Ojakangas and Matsch, 1982). The chronology of such a connection is unclear, but it was certainly a post-Aitkin-Upham event. Since it would have also succeeded the formation of St. Anthony Falls (Graf, 1997b), no unionids other than those UMRF could have used it.

Within the last 80 years or so, *E. complanata* has moved into the western Lake Superior drainage from the eastern Great Lakes (Graf, 1997a). *E. complanata* will likely remain limited to only the Lake proper since the St. Louis River and other north shore tributaries are isolated by waterfalls which limit unionid dispersal.

CONCLUSIONS AND COMMENTS

The western Lake Superior basin (indeed, the Lake Superior basin in general), in terms of unionid species composition, is very similar to the upper Mississippi River drainage. Of the 10 species of freshwater pearly mussels that occur in the Upper Mississippi River and western Lake Superior drainages, eight are present in both (Figure 2). *E. complanata* is found only in Lake Superior; however, this mussel invaded in the Recent from the east, so its absence in

the Mississippi River is expected. *Strophitus undulatus* occurs in the Mississippi River but has not been recorded in the Lake Superior basin. However, the mussel's absence may only be apparent; the widespread distribution of *S. undulatus*, its association with the UMRF, and the distributions of its known glochidial hosts (Hoggarth, 1992; Underhill, 1989) suggest its presence in the Lake. *Strophitus* may be revealed with further study.

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REFERENCES CITED

Baker, F.C. 1928. The fresh water Mollusca of Wisconsin: Part II. Pelecypoda. Bulletin of the Wisconsin Geological and Natural History Survey **70**(2). University of Wisconsin. 495 pp.

Clarke, A.H. 1973. The freshwater Molluscs of the Canadian Interior Basin. Malacologia **13**: 1-509.

Clayton, L., S.R. Moran. 1982. Chronology of Late Wisconsin glaciation in middle North America. Quaternary Science Reviews **1**: 55-82.

Dall, W.H. 1905. Land and freshwater mollusks of Alaska and adjoining regions. Harriman Alaska Expedition **13**: 1-171.

Dawley, C.W. 1944. Distribution and growth studies of the Unionidae and aquatic Gastropoda found in Minnesota. Ph.D. Thesis, University of Minnesota. 307 pp.

Dawley, C.W. 1947. Distribution of aquatic mollusks in Minnesota. American Midland Naturalist **38**: 671-697.

Farrand, W.R., C.W. Drexler. 1985. Late Wisconsinan and Holocene history of the Lake Superior basin. [in] Quaternary Evolution of the

Great Lakes (P.F. Karrow, P.E. Calkins, eds.). Geological Association of Canada Special Paper **30.** pp. 17-32.

Goodrich, C.H., H. van der Schalie. 1932. I. On an increase in the Naiad fauna of Saginaw Bay, Michigan; II. The Naiad species of the Great Lakes. Occasional Papers of the Museum of Zoology, University of Michigan (238):1-14.

Graf, D.L. 1997a. Distribution of unionoid (Bivalvia) faunas in Minnesota, USA. Nautilus **110**: 45-54.

Graf, D.L. 1997b. Northern redistribution of freshwater pearly mussels (Bivalvia: Unionoidea) during Wisconsin deglaciation in the southern Glacial Lake Agassiz region: a review. American Midland Naturalist **138**, in press.

Graf, D.L., R.C. Bright, J.C. Underhill, J.T. Hatch. Unpublished. *The Bell Museum of Natural History Collection DataBase*, Version 1.0 for Macintish. An application of FileMaker Pro 2.1 by Claris.

Grant, U.S. 1887. Notes on the Molluscan fauna of Minnesota. Minnesota Geological and Natural History Survey Annual Report **16**: 481-484.

Hobbs, H.C. 1983. Drainage relationships of the Glacial Lakes Aitkin and Upham and early Lake Agassiz in northeastern Minnesota. [in] *Glacial Lake Agassiz* (J.T. Teller, L. Clayton, eds.). Geological Association of Canada Special Paper **26.** pp. 245-260.

Hoggarth, M.A. 1992. An examination of the glochidia - host relationships reported in the literature for North American species of Unionacea (Mollusca: Bivalvia). Malacology Data Net **3**: 1-30.

Johnson, R.I. 1980. Zoogeography of North American Unionacea (Mollusca: Bivalvia) north of maximum Pleistocene glaciations. Bulletin of the Museum of Comparative Zoology **149**: 77-189.

Martin, L. 1911. Physical geography of the Lake Superior Region. [in] The Geology of the Lake Superior Region (C.R. Van Hise and C.K. Leith, eds). Monographs of the United States Geological Survey **52**. pp. 85-117.

Mathiak, H.A. 1979. A River Survey of the Unionid Mussels of Wisconsin, 1973-1977. Sand Shell Press, Horicon, WI. 75 pp.

Moyle, J.B. 1947. A biological survey and fishery management plan for the streams of the Saint Louis River Basin. Fisheries Research Investigational Report No. 69. Minnesota Department of Conservation, Division of Game and Fish. 112 pp.

Ojakangas, R.W., C.L. Matsch. 1982. Minnesota's Geology. University of Minnesota Press, Minneapolis. 255 pp.

Smith, L.L., jr., J.B. Moyle. 1944. A biological survey and fishery management plan for the streams of the Lake Superior North Shore Watershed. Technological Bulletin No. 1, MN Department of Conservation, Division of Game and Fish.

Underhill, J. 1989. The distribution of Minnesota fishes and Late Pleistocene glaciation. Journal of the Minnesota Academy of Science **55**: 32-37.

van der Schalie, H. 1961. The naiad (fresh-water mussel) fauna of the Great Lakes. Great Lakes Research Division, Institute of Science and Technology, University of Michigan. Publication No. 7: 156-157.

Walker, B. 1913. The unionid fauna of the Great Lakes. Nautilus **27**: 18-23, 29-34, 40-47, 56-59.

Williams, J., M. Warren, K. Cummings, J. Harris, R. Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries: A Bulletin of the American Fisheries Society **18**(9): 6-22.

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A NEW MUSSEL, *DISCONAIAS CONCHOS* (BIVALVIA: UNIONIDAE) FROM RIO CONCHOS OF THE RIO GRANDE SYSTEM, MEXICO

Dwight W. Taylor[1]

ABSTRACT: *Disconaias conchos*, a new species of Unionidae, and first member of the genus Disconaias, from the Rio Grande System, Mexico, is described.

INTRODUCTION

A number of years ago, Dr. D. W. Taylor submitted a manuscript to Richard I. Johnson for his comments on some Unionidae from the Rio Grande System of Mexico and Texas. The latter disagreed with some of its conclusions, and Taylor suggested that Johnson present his own interpretation of the data. In the manuscript Taylor proposed the new species described here. Though the kindness of Dr. James H. McLean of the Natural History Museum of Los Angeles County, Los Angeles, California, the original specimens were

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made available with permission for one to be retained buy the Museum of Comparative Zoology. Taylor's manuscript is presented here, essentially in its original form, but photographs have been substituted for the original line drawings of the holotype and an additional record, extending the distribution of the species, has been included.

Abbreviations:

MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts

LACM: Natural History Museum of Los Angeles County, Los Angeles, California

Family UNIONIDAE
Subfamily LAMPSILINAE
Genus *Disconaias* Crosse and Fischer, 1894

Type species (by original designation): *Unio discus* Lea, 1838, "India;" later corrected by Lea to Rio Panuco drainage, state of Vera Cruz.

** *Disconaias conchos* new species **

Plate 21, figure 1

Diagnosis.-- A species of *Disconaias* with elongate-oval outline, low beaks with shallow concavity, and relatively compressed form.

Holotype.-- LACM 2257 (body preserved separately) from the Rio Conchos, about .5 km. west of Julimes, Chihuahua [State], Mexico; collected by Dwight D. Taylor and Artie L. Metcalf, August 29, 1969.

Paratypes.-- From the same locality.

Measurements

Length (mm)	Height (mm)	Width (mm)	
124	70	42	Holotype LACM 2257
119	68	42	LACM 69-239.1
117	67	44	MCZ 316166
112	56	42.5	*Unio aztecorum* forma *major* Martens(1900: 502, 672, pl. 37, figs. 3, 3a, b)

Etymology.-- Conchos, shells, in reference to the river.

Description of the Holotype.-- Shell elongate-oval, compressed, thick and solid. Anterior margin rounded asymmetrically, barely convex above, broadly convex below, passing smoothly into an almost straight ventral margin. Posterior margin with three weak angles: ventral, bordering the ventral margin; dorsal, the weakest angle, bordering the dorsal margin; and central, below the midline of the shell. Dorsal margin broadly curved, convex regularly except for the beak. Beak smooth, slightly projecting, at 68% of shell length. Beak sculpture removed by erosion. Ligament long and thick, 45 mm. long; sinus short, triangular, inconspicuous; sinulus lanceolate, impressed. Neither area nor areola distinct. Exterior surface with fine concentric raised threads and irregular coarser swellings, dark brown. Hinge plate solid, 60% of shell length. Right valve with two pseudocardinal teeth, a small anterior tooth, oblique, and a large, stout, trigonal posterior tooth, oblique, and a large, stout, trigonal posterior tooth, nearly vertical, with fine, jagged, oblique crenulations; a deep, broadly concave socket for posterior left pseudocardinal, with oblique crenulations; a small oblique tooth bordering the pseudocardinal socket; and a weakly curved, short, strong, lateral tooth. Left valve with two strong pseudocardinals, with oblique crenulations over their surfaces and on the socket between, and with two

short, strong, slightly curved lateral teeth striate on their opposing faces. Both anterior and posterior adductor and retractor-pedis muscle scars fused; protractor-pedis scars distinct and large, about one-fifth the area of the combined adductor-retractor scars. Suspensor scars conspicuous, forming an oblique series of five or six adjacent strongly impressed scars, the dorsoposterior scars within the shallow cavity of the beaks. Pallial line strong. Nacre white, with faint salmon finish.

Comparisons.-- The present species is much like that figured by Martens (1900: 502) as *Unio aztecorum*, forma *major* (plate 21, figure 2), from Playa de Misantla, Verz Cruz. It differs by the more nearly oval outline, less prominent beaks that are more posterior, straight ventral margin, and lack of posterior inflation of the shell. Some of these differences might be sexual; age difference seems excluded because the specimen illustrated by Martens is the largest he measured (112 mm.), compared to 124 mm. for the type of *D. conchos*.

The interpretation of *Unio aztecorum* forma *major* Martens has varied with later authors. Frierson (1927: 83) thought it was based on a full-grown specimen of *Lampsilis (Disconaias) fimbriata* Frierson (1907: 86), originally described from immature material, of which *Actinonaias walkeri* H. B. Baker (1922: 20) and *Unio salinaensis* Simpson ([in] Dall, 1908: 181) are synonyms. Pilsbry (1910: 533) held the opposite view and believed *L. fimbriata* and *L. aztecorum* (as illustrated by Martens) were distinct. H. B. Baker (1922: 22) discussed *L. fimbriata* and distinguished it from his *Actinonaias walkeri*, but did not mention *Unio aztectorum* forma *major*.

Actinonaias walkeri H. B. Baker, 1922 from the Rio San Juan, southern Vera Cruz, is similar in the male shells to *Disconaias conchos*. As illustrated, *A. walkeri* differs by a more strongly curved dorsal margin, with a concavity anteriad

of the beak; a blunter, more regularly rounded anterior end; and slightly more posterior beak.

Classification of species and details of synonymy in *Disconaias* cannot be resolved at this time. The interpretations by all of the authors cited are that *Lampsilis fimbriata* and *Actinonaias walkeri* are related to one another, or even synonyms, and that both are related to *Unio discus* Lea, 1838, type species of *Disconaias*. Those various nominal species all show a range of variation that includes shells with far more swollen shape and arcuate dorsal margin than in *D. conchos*.

The occurrence of *Disconaias* in the Rio Conchos is significant because its relatives are all to the southeast, in the Rio Panuco drainage and others farther south that drain into the Gulf of Mexico. None of the fishes of the region shows a similar distribution (Smith and Miller, 1986).

SPECIMENS EXAMINED

Six adult specimens were collected at the type locality. The remaining records from the Rio Conchos are based on worn fragments.

RIO GRANDE SYSTEM

Rio Conchos Drainage. State of Chihuahua, Mexico: Rio Conchos, 15 km NE Saucillo (LACM 69-240.2); 1 km N Rosetilla (LACM 69-242.1); 1.5 km NW Rosetilla (LACM 69-243.1); *all* worn valves, collected by Taylor and Metcalf; Rio Conchos, about 1.2 km W Julimes, collected by Taylor and Metcalf (LACM 69-239.1).

Rio Salado Drainage. State of Coahuila, Mexico: Rio Sabinas, Villa Juarez (LACM 95117, Huffman collection, December 1937, identified by R. I. Johnson).

LITERATURE CITED

Baker, H. B. 1922. The Mollusca collected by the University of Michigan - Walker Expedition in southern Vera Cruz, Mexico. I - III. Occasional Papers of the Museum of Zoology, University of Michigan (106): 1-94, pls. 1-17 (February).

Dall, W. H. 1908. Descriptions and figures of some land and freshwater shells from Mexico, believed to be new. Proceedings of the United States National Museum **35**: 177-182, pls. 29, 30 (November).

Frierson, L. S. 1907. A new Mexican mussel, *Lampsilis fimbriata*. The Nautilus **21**: 86, 87, pl. 12 [two upper figures and lower left one] (December).

Frierson, L. S. 1927. A Classified and Annotated Check List of the North American Naiades. Baylor University Press, Waco, Texas. 111 pp., errata et corrigenda.

Martens, E. von. 1890-1901. Land and freshwater Mollusca. pp. i-xxviii + 706, pls. 1-44. [in] F.D. Godman and O. Salvin (eds.). Biologia Centrali-Americana, vol. 9. R.H. Porter, London.

Pilsbry, H. A. 1910. Unionidae of the Panuco River System, Mexico. Proceedings of the Academy of Natural Sciences of Philadelphia **61**: 532-546, pls. 15-17 (November).

Smith, M.L. and R.R. Miller. 1986. The evolution of the Rio Grande basin as inferred from its fish fauna. pp. 457-485. [in] C.H. Hocutt and E.O. Wiley (eds.). The Zoogeography of North American Freshwater Fishes. John Wiley and Sons, New York.

Plate 21

Figure 1. *Disconaias conchos* Taylor. Rio Conchos, about ½ km. West of Julimes, Chihuahua, Mexico. Holotype LACM 2257. Length 124 mm, height 70 mm, width 42 mm (reduced).

Figure 2. *Unio aztecorum* forma *major* Martens. Playa de Misantla, Vera Cruz, Mexico. (From Martens) Length 112 mm, height 56 mm, width 42.5 mm (reduced).

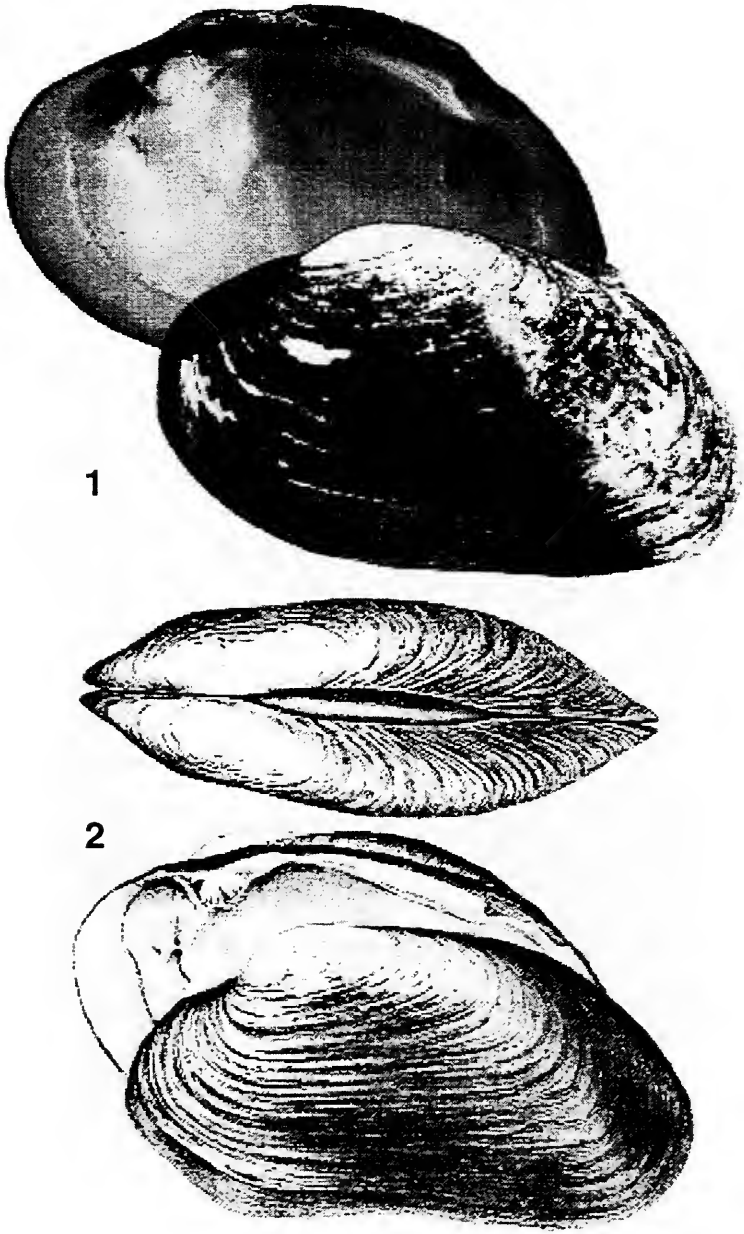

Plate 21

Occasional Papers on Mollusks

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A NEW MUSSEL, *POTAMILIS METNECKTAYI* (BIVALVIA: UNIONIDAE) FROM THE RIO GRANDE SYSTEM, MEXICO AND TEXAS WITH NOTES ON MEXICAN *DISCONAIAS*

Richard I. Johnson[1]

ABSTRACT: *Potamilis metnecktayi*, a new species of Unionidae from the Rio Grande system of Mexico and Texas, is described. It has been mistaken for *Lampsilis (Proptera) salinasensis* Simpson, 1908, which is a synonym of both *Lampsilis fimbriata* Frierson, 1907 and *Disconaias disca* (Lea, 1838) from the Rio Panuco System. Also discussed are *Potamilis purpurata* (Lamarck, 1819), *Cyrtonaias tampicoensis* (Lea, 1838), *Disconaias walkeri* (Baker, 1922), and *Lampsilis explicata* (Morelet, 1849).

INTRODUCTION

The supposed correction of the non-existent type locality of *Lampsilis (Proptera) salinasensis* Simpson, 1908, from "Salinas River, Coahuila, Mexico" to "Rio Sabinas, at Sabinas, Coahuila" by Taylor (1966: 165) led Artie L. Metcalf

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(1982: 48), Raymond W. Neck and Metcalf (1988: 262), and Dwight W. Taylor (unpublished *ms.*) to assume that the species described here, in their honor, was the one described by Simpson. It is here shown that Simpson's species is at a synonym of *Lampsilis fimbriata* Frierson, 1907, which itself is probably a young *Disconaias disca* (Lea, 1838), all from the Rio Panuco System, Mexico. In his synonymy of *L. fimbriata*, Frierson (1927: 83) included *Unio aztecorum* forma *major* Martens, 1900 and *Actinoniaias walkeri* H. B. Baker, 1922. Taylor (1997) discussed Marten's *forma major* but did not actually resolve its identity, and thought it is probably merely an old *aztecorum.* Frierson, subsequently seeing a large specimens of his *L. fimbriata* sent to him by its original collector, A. A. Hinkley, was led by its superficial resemblance to the type of *A. walkeri* to place this distinct species, also discussed here, from the Rio San Juan in the synonymy of *fimbriata.*

Much of the information on the plate captions is not repeated elsewhere.

Abbreviations:

ANSP:	Academy of Natural Sciences of Philadelphia, Pennsylvania
JANSP:	Journal of the Academy of Natural Sciences, Philadelphia
MCZ:	Museum of Comparative Zoology, Cambridge, Massachusetts
PANSP:	Proceedings of the Academy of Natural Sciences, Philadelphia
TAPS:	Transactions of the American Philosophical Society
UMMZ:	Museum of Zoology, University of Michigan, Ann Arbor, Michigan
USNM:	National Museum of Natural History, Smithsonian Institution, Washington, District of Columbia
UTEP:	Department of Biological Sciences, The University of Texas at El Paso, El Paso, Texas.

Family UNIONIDAE Rafinesque, 1820
Subfamily LAMPSILINAE (Ihering, 1901) Ortmann, 1910
Genus *Potamilis* Rafinesque, 1818

Type species: *Unio alatus* Say, 1817, by subsequent designation (Morrison, 1969). Placed on the Official List of Generic Names in Zoology (1992, Bulletin of Zoological Nomenclature **49** (1): 81), replacing the well-known taxon *Proptera* Rafinesque 1819. The case is closed, but for a historical discussion see Johnson (1980: 128).

Potamilis metnecktayi new species
(Plate 22, figures 1, 2)

Lampsilis salinasensis Metcalf 1982 *non* Simpson, [in] Davis, Proc. Symposium Recent Benthological Investigations in Texas and Adjacent States, p. 48, pl. 2, fig. 2.

Potamilus salinasensis Neck and Metcalf 1988, *non* Simpson, Texas Jour. Sci. **40**: 262; Howells, Neck, and Murray, 1996, *non* Simpson, *Freshwater mussels of Texas*, p. 103, figs., p. 212, col. figs.

Potamilus (Disconaias) salinasensis Howells and Garrett 1995 *non* Simpson, Triannual Unionid Report no. **8**: [10].

Holotype. UMMZ 255018 from Rio Salado, 45 mi. S Nuevo Laredo, State of Tamaulipas, Mexico, male; allotype UMMZ 255019 from the same locality.

Paratypes. UMMZ 66993 also from type locality; paratype UTEP 2519 from Rio Grande, 6 mi. W Del Rio, Val Verde Co., Texas.

Length (mm)	Height (mm)	Width (mm)	
109	65	33	Holotype UMMZ 255018, Male
83	56	31	Allotype UMMZ 255019
69	42	24.5	Paratype UTEP 2519, Female

Description: Shell medium, probably reaching over 120 mm in length. Outline somewhat obovate. Valves moderately inflated; shell solid. Anterior end regularly rounded, posterior end more broadly rounded, angled above and somewhat pointed in males; females more broadly round. Ventral margin straight or slightly curved. Dorsal margin broadly curved, somewhat convex, and winged at the meeting of the posterior margin. Posterior slope with double, sometimes triple, radiating ridges. Umbos slightly elevated above the hinge line, located in the anterior quarter of the shell, their sculpture not observed. Ligament long and prominent. Surface of the shell with fine concentric raised threads and irregular ridges, covered with a lightly shining brownish periostracum with hints of green, and with faint rays, especially in young specimens. Left valve with two pseudocardinal teeth, and two short, slightly curved lateral teeth. Right valve with two pseudocardinal teeth, the anterior one tiny, with a large, trigonal posterior tooth, and a single lateral one. Beak cavities rather shallow. Anterior adductor muscle scars well impressed, posterior ones faint. Pallial line distinct. Nacre white to bluish white, and iridescent. Howells, *et al.* (1996: 104) report a specimen with a nacre of a pale salmon tint.

Breeding season: Not known.

Anatomy: Studying a single male *P. metnecktayi*, Taylor (*ms.*) observed that the mantle margin and gill structure which he compared to that of a specimen of *P. purpurata* (Lamarck), had a similar "preforate mantle between [the] anal and supra-anal openings, a structure previously unknown," and suggested that these two species should be placed in a new sub-genus. He may still be of this opinion, though the entire genus probably consists of fewer than half a dozen valid species.

Remarks: *Potamilis metnecktayi* appears to be restricted to the Rio Grande System of Mexico and Texas. It is most

similar to *P. purpurata* (Lamarck, 1819), which occurs in the Interior Basin on the west side of the Mississippi River from the White River Drainage, Missouri, south through the drainages of Kansas, Oklahoma, and Arkansas; it also occurs to the east in the Hatchie River Drainage, Tennessee. In the Gulf Coastal Region, it now appears to extend from the Rio Grande System, Texas, to the Mobile-Alabama-Coosa River System, Alabama and northern Georgia.

The occurrence of *P. purpurata* (Plate 23, figure 1) in the Guadalupe River System is based on three records: Blanco River Drainage. Wimberly Lake, Hayes Co. (UMMZ 79411); Guadalupe River Drainage. Guadalupe River, Seguin, Guadalupe Co. (Wurtz, 1950: 2, ANSP); and Guadalupe River, Victoria Co. (Strecker, 1931: 45, Mitchell List). It was not formerly reported from the San Antonio or Nueces River Systems which intervene between the Rio Grande System. The two published records from the latter system are probably based on misidentifications. They are: Pecos River Drainage. Mouth of Pecos River [Val Verde Co.] (Stearns, 1891: 104 "single right valve of a half-grown individual [of *Unio coloradoensis* Lea] William Lloyd"), which was not located in the USNM by Taylor, 1986 (*ms.*); and Devils River Drainage, Blaines Lake, Val Verde Co. (Strecker, 1931: 45, R. C. Edgar). Neck and Metcalf (1988: 264) may not have found this lot in the Strecker Museum (Baylor University, Waco, Texas), but their examination of the collection led them to state, "that Strecker often confused *P. purpuratus* with *Cyrtonaias tampicoensis berlandieri* (Lea, 1857)." Both of these records were probably based on specimens of what is now known as *Cyrtonaias tampicoensis* (Lea, 1838) (pl. 23, fig. 2; pl. 24, figs. 1,2) a species of which Neck and Metcalf (1988: 259) found abundant in the lower Rio Grande, but where they did not locate *P. purpurata*. Recently however, Howells *et al.* (1996: 100) reported that *P. purpuratus* was found in the Nueces River System, Lake Corpus Christi, Live

Oak County, Texas in 1993 and that it was an introduction. They also reported specimens from the Rio Grande System, Amistad Reservoir and Devils River, Val Verde County, collected in 1994 and 1995, the identity of these specimens was confirmed with electrophoretic analysis and suggested that these too represent an introduced population.

Both *P. purpurata* and *metnecktayi* have similar general outlines in both male and female shells, and like all species of *Potamilis*, and some other members of North American genera, they have a shallow dorsoposterior sulcus bordered by two weak ridges. The shell of *purpurata* is much more inflated, especially in the umbonal region, is heavier, grows much larger, and has a purple nacre whereas that of *metnecktayi* is white.

The only other species in the Rio Grande with which *metnecktayi* might be confused is the abundant *C. tampicoensis* which is more rotund, there being little sexual difference expressed in the shell; the umbos are more centrally located, the periostracum is often polished and yellowish with green rays, and the nacre is often pinkish. It has recently been discussed and figured by Howells (1996: 24) and Howells *et al.* (1996: 48, figs., p. 205, col. figs.).

Possibly because Simpson suggested *Proptera* as the subgenus of *Lampsilis salinasensis* as well as associating it with the Rio Grande System, Neck and Metcalf as well as Taylor (*ms.*) were led to think that the immature specimens described by Simpson were the species described here, but they are young examples of *Disconaias disca* (Lea, 1838) from the Panuco River System, Mexico.

Distribution: Endemic to the lower Rio Grande System, Mexico and Texas.

RIO GRANDE SYSTEM

Rio Grande Drainage. Texas: Rio Grande at San Francisco Creek, Brewster Co. (Howells *et al.* 1996: 103, figs.).

Pecos River Drainage. New Mexico: Pecos River, below McMillan Dam, Eddy Co., Pleistocene, outside present range (Metcalf 1982, loc. 2, [not seen]). *Texas*: mouth of Pecos River, at former US 90 bridge (now flooded by Amistad Reservoir), Val Verde Co. (Taylor, et al., July 1968 [not seen]).

Rio Grande Drainage. Texas: Rio Grande, 6 mi. W Del Rio, Val Verde Co. (Metcalf, October 1972, UTEP 2519). Rio Grande, Chapengo gaging station (Metcalf, December 1975, UTEP 4660); Rio Grande, Roma (Metcalf, December 1975, UTEP 4639 [not seen]); *both* Star Co.

Rio Salado Drainage. State of Coahuila, *Mexico:* sediments S bank, Rio Salado, Municipio Villa Juarez (Metcalf, 1982, loc. 10, p. 48, pl. 2, fig. 2 UTEP 4844 [not seen]). State of Tamaulipas : Rio Salado, 45 mi. S Nuevo Laredo (M. M. Ellis, July 1929, UMMZ 66993). State of Nuevo Leon : Rio Salado, Lampozos (ANSP 44200 [not seen]).

Genus *Disconaias* Crosse and Fischer, 1894

Type species, *Unio discus* Lea, 1838, original designation [introduced as a new section]; 1894 [in] Fischer and Crosse, Mission Scientifique au Mexique, part 7, **2**: 556.

Crosse and Fischer [*in*] Fischer and Crosse (1894: 555-57) divided the Mexican and Central American Unionidae into nineteen sections, most with a type species by original designation. Some of these were later given generic standing by both Martens and Simpson in 1900. Frierson (1917: 48) proposed that *Actinonaias* (type species, *Unio sapotalensis* Lea, 1841) be raised to generic level. It was so used by Ortmann and Walker (1922: 47) and Baker (1922: 20). Frierson later (1927) reduced *Actinonaias* to a subgenus, but retained Baker's use of *Disconaias* (type species, *Unio discus* Lea, 1838) as a subgenus and raised *Cyrtonaias* (type species, *Unio berlandieri* Lea, 1857) to a subgenus. Haas (1969) essentially merely copied Frierson's classification of the North American Unionacea. Heard and Guckert (1971: 340) and Fuller (1975) both use *Cyrtonaias* as a genus. Their

usage and that of *Disconaias* as a genus by Taylor (1997) is followed here. It hardly seems necessary to indicate that the status of Mexican and Central American Unionid genera is not resolved.

Disconaias disca (Lea, 1838)
(Plate 25, figures 1, 2; Plate 26, figures 1, 2)

Unio discus Lea, 1838, TAPS **6**: 74, pl. 18, fig. 57 (Obs. *Unio* **2**: 74); 1843, *TAPS* **8**: 243, (Obs. *Unio* **3**: 72). Holotype USNM 85341 [single valve] (Moctezuma [sic] River, a southern confluent of the Panuco [*teste* Martens 1900: 510]).

Unio panacoensis Busch [in] Philippi, 1843, *Abbild. und Beschr. .... Conch.* **1**: 75, pl. 2 Lectotype, have selected, MCZ 178882 (Flumen Pancao prope Tampico [Panuco River, near Tampico, Tamaulipas State, Mexico] (pl. 25, fig. 2) from Busch *ex* J.G. Anthony).

Unio mexicanus Sowerby, 1867, [in] Reeve, *Conch. Iconica* **16**, *Unio*, pl. 55, species 281 Lectotype BMNH 79.2.26.281 (Mexico) inadvertently selected by Johnson (1971: 88) as "holotype."

Unio lapidosus Villa [in] Kobelt, 1893, *Nach. Bl. Deutsch. Malacoz. Gesellsch.* **25**: 151 (Fluvio Euphrates [erroneous, *teste* Martens 1900, pp. 511, 651]); 1893, *Rossmässler's Icon.* (2) **6**: 90, pl. 176, fig. 1120 (Figured type, Zoologisches Museum, Humboldt Universitat, Berlin).

Unio discus connnectens Martens, 1900, *Bio. Cent. Americana* **9**: 510 (Rio Panuco, near Tampico [Tamaulipas State, Mexico]). Based on *Unio panacoensis* Busch (Küster 1861, Conch. Cab. (2) **9**, 2: 242, pl. 18, fig. 1), and *Unio mexicanus* Sowerby, 1867.

Lampsilis fimbriata Frierson, 1907, The Nautilus **21**: 86, pl. 12, two upper figs. (type) and lower left one (Valles River [near Valles, State of San Luis Potosi, Mexico], A. A. Hinkley; holotype UMMZ 87579 refigured by Johnson (1972: 144, pl. 27, fig. 2); 2 paratypes USNM 207440; 3 paratypes MCZ 167699; paratypes ANSP 99547-9). Pilsbry, 1910, PANSP **61**: 553. Simpson, 1914, *Cat. naiades* **1:** 177.

Paraptera (?) *fimbriata* (Frierson), Ortmann 1912, *Annals of the Carnegie Mus.* **8**: 332.

Lampsilis(Disconaias) fimbriata Frierson 1927, *Check List N. American naiades*: 83; Haas 1969, 467.

Actinonaias (Disconaias) fimbriata (Frierson) Taylor (1966, The Veliger **9**: 165.

Lampsilis (Proptera) salinasensis Simpson, 1908, [in] Dall, Proc. U.S. Nat'l. Mus. **35**: 181, pl. 30, fig. 3 (Salinas River, Coahuila, Mexico, Nelson and Goldman; type locality, here restricted, to the second locality, Valles River, Valles, State of San Luis Potosi, Mexico. Lectotype USNM 163156 inadvertently selected by Johnson (1975: 9) as the "figured holotype," paralectotype USNM 251834; also 2 paralectotypes USNM 196262 and paralectotype USNM 207440, both labeled: Valles River, Valles, Mexico, A.A. Hinkley).

In the introduction to his paper, Dall (1908: 177) stated that, "some species collected by Nelson and Goldman in 1898, which though recognized as new and *figured at that time* [this author's italics], have not been hitherto published." Simpson mentioned that he had three specimens, all probably young and female, apparently exclusive of the three specimens from Hinkley. While Metcalf (1982: 48) refers to USNM 251834, as "a series of paratypes," this lot now consists of a single specimen with a label that reads the same as that of the figured holotype, but with "paratype = *fimbriata fide* Simpson" on the verso. Metcalf (1982: 49) called attention to an additional label with this paratype "older in appearance [which] reads, 'May 26, 1902, Sabinas R., Sabinas, Coahuila, Mexico, Nelson and Goldman.'" It also has "*Lampsilis fimbriata* Frierson" on the verso, not mentioned by Metcalf.

Nelson and Goldman went to Mexico mainly to collect birds and mammals, but they did pick up other natural history objects. In the summary of their expedition, Goldman (1951: 131) mentioned that they spent 10 days between May 20-31, 1902 at Sabinas, a town on the railroad in eastern Coahuila, and that the Rio Sabinas is, "easily fordable except after rains which bring down flood water. Recent rains have brought out many wild flowers." Even if the river had receded sufficiently during the time Nelson and Goldman were at this station to make collecting in it feasible, the supposed date of doing so on May 26, halfway through their stay, hints that this

is the newer label. It is suggested here that this label is an attempt to locate the imaginary Salinas River based on a subsequent interpretation of the field notes.

As previously mentioned, Dall specifically stated that the material was collected in 1898. Taylor (1966: 165) pointed out that Nelson and Goldman were not in Coahuila at all during that year. Peradventure with this in mind, Metcalf (1982: 49) accepted what is regarded here as the "corrected" label as authentic. Taylor was correct: Nelson and Goldman were not at Coahuila during 1898; they were actually at Valles during April 27-29 and May 27-29 of that year, and in the State of San Luis Potosi even longer.

The original locality does not exist and the corrected one appears to be a spurious interpolation, confirmed by the absence of any authentic published records of *Lampsilis (Proptera) salinensis* from the Rio Grande system since the mussel was described almost a century ago. It is almost certain that it does not occur there. It is most probable that all of Simpson's materials came from the Panuco River System. The type locality has therefore been restricted to the second locality, Valles River, Valles, State of San Luis Potosi, Mexico.

Description: Shell usually medium, though reaching over 130 mm in length. Outline somewhat obovate or elliptical. Valves quite compressed, shell solid. Anterior end broadly rounded, posterior end more broadly rounded, tending to be subtruncate. Ventral margin somewhat rounded. Dorsal margin broadly curved. Posterior ridge rounded, ending in a blunt point below the medial line. Unbos slightly elevated above the hinge line, located in the anterior quarter of the shell, without observed sculpture. Ligament long and prominent. Surface of the shell smooth when young, but sometimes with a feebly nodulously sculptured dorsal slope. Some specimens with numerous irregular pit-like impressions, concentric striae and shallow sulci.

Periostracum yellowish-green with wide or narrow greenish rays, or becoming yellowish and brownish in older specimens. Left valve with two subcompressed, ragged pseudocardinal teeth and two lateral ones. Right valve with one large tooth and a vestigial one before it; one lateral tooth. Umbonal cavities shallow. Anterior adductor muscle scars well impressed, posterior ones faint. Pallial line somewhat distinct anteriorly. Nacre white, bluish white or purple, with a wide prismatic border.

Length (mm)	Height (mm)	Width (mm)	
132	87	36	*U. discus* Holotype, USNM 85341
120	85	37	*U. panacoensis* Lectotype, MCZ 178882
80	47	25	*L. fimbriata* Holotype, UMMZ 87579, Probably female
80	52	22	*L. fimbriatia* Paratype, MCZ 167699, Male
70	40	20	*L. (P.) salinasensis* Lectotype. USNM 163156. Female

Breeding season and anatomy: Ortmann (1912: 332), on the basis of a gravid paratype of *L. fimbriata* that was collected in December, 1906 or January, 1907, said that the breeding season in "winter should be noted." He suggested that the soft parts were in every respect like that of *P. gracilis* [*Leptodea fragilis* (Rafinesque, 1820)], but so were those of other genera, and he tentatively placed *fimbriata* in *Proptera*. He further noted that *fimbriata* lacked the special structure on the edge of the mantle typical of *Lampsilis*.

Remarks: Pilsbry (1910: 533) placed *U. panucoensis* [sic] Busch, *lapidosus* Villa and *connectens* Martens under the synonymy of *D. disca*, all of which Martens (1900: 509, 510) regarded as varieties of it, remarking that "they occur together and fully integrate. The nacre may be white, salmon, or purple." Pilsbry further regarded *salinasensis* Simpson as a synonym of *fimbriata* Frierson as did Ortmann (1912: 332)

and Simpson himself (1914: 188). Pilsbry further suggested that *fimbriata* was related to *Lampsilis strebeli* (Lea) and *discus* (Lea).

In his description of *L. fimbriata*, Frierson does not compare it with any other described species, but mentions that A. A. Hinkley had informed him that C. T. Simpson had an unnamed species so near to, if not identical, to *fimbriata* under the name *Lampsilis salinasensis*, that he did not intend to describe it. Both Frierson and Simpson had received Valles River specimens from Hinckley.

Nevertheless, Simpson's description of *L. (P.) salinasensis* did appear during the following year, 1908. He compared it to *Lampsilis explicata* (Morelet, 1849)(Plate 27, figure 1) and suggested that the former was more obovate rather than true rhomboid, and had more compressed and sharper beaks. He further mentioned that the posterior slope of *explicata* was nearly or quite smooth, whereas that of *salinasensis* was corrugated, but that is true only in young specimens such as the few he had before him, all of which he regarded as females.

Lampsilis explicata (Morelet, 1849) appears to be restricted to the Rio Usumacinta System of Guatemala and Mexico. The several specimens that Simpson had before him collected by Nelson and Goldman from the Rio Usumacinta, Monte Cristo, State of Tabasco, Mexico are all much larger than his specimens of *salinasensis*. They are much more inflated, yellowish or yellowish-brown, with only an occasional hint of rays. The hinges are quite different: the pseudocardinals of *salinasensis (disca)* are subcompressed and ragged and an interdentum is present, but in *explicata* the teeth are lamellar and almost parallel to the hinge line, and there is no interdentum. Baker (1922: 23) stated that he could not believe that Simpson would ever confuse a species, even a male specimen, of this group [*D. disca*] with *A. explicata*.

Baker (1922: 21), in his description of *Actinonaias*

(Disconaias) walkeri (Plate 27, figure 2) from the Rio San Juan system, called attention to the marked dimorphism in older specimens, suggested that older males somewhat resemble *L. fimbriata* Frierson (1907), while those taken from older females have the slightly hooked beaks and humped posterior dorsal margin of *U. discus Lea*, 1838. He then states,

> "I think it probably that *Unio discus* (more normal development *U. panacoensis* von d. Busch) is largely based on old female specimens which have reached, in the quieter water of the large river near Tampico, their completely distinctive form, while *L. fimbriata* Frierson, also from the Panuco River System, is a small stream form of the same thing, mainly described from males and from rather immature females that have not developed the characteristic shape of the older specimens. A youngish shell, approaching *L. fimbriata*, in the ANSP from near Tampico, perhaps represents the male of typical *A. disca* (Lea). Some of the young shells of disca in the ANSP are indistinguishable from specimens of *L. fimbriata*, which might be regarded as females that had not yet completely developed the adult dimorphism."

Baker (1922: 22) thought that *disca* and *fimbriata* were the same species, but because of their ecophenotypic differences, he chose to regard them as subspecies. Naming ecophenotypic forms was a common practice before the biological species was defined.

Distribution: *Disconaias disca* (Lea) appears to be restricted to the Rio Tamesi and Panuco Systems, Mexico.

RIO TAMESI SYSTEM

Rio Sabinas Drainage. State of Tamaulipas, Mexico: Rio Sabinas, 18 km E Gomez Farias, H. D. Athearn (personal communication).

Rio Guavalejo Drainage. State of Tamaulipas Mexico: Rio Guavalejo, 19 mi ENE Ciudad Mante, MCZ 288410.

RIO PANUCO SYSTEM

Rio Panuco Drainage. State of San Luis Potosi, Mexico: Casas Viejas [River], MCZ 69845; Valles [River] 2 mi. W Mecos, Pilsbry, ANSP; near Valles, USNM 207449. Panuco [River], near Tampico, Tamaulipas, MCZ 316163, ANSP 125585.

Moctezuma [River] Drainage. State of San Luis Potosi, Mexico: Moctezuma River, just below ford, [S Tampamolin], ANSP 99546.

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LITERATURE CITED

Baker, H. B. 1922. The Mollusca collected by the University of Michigan - Walker expedition in southern Vera Cruz, Mexico I - III. Occasional Papers of the Museum of Zoology, University of Michigan, **106**: 1-95, pls. 1-17 (February).

Busch, G. von dem 1843 [in] Philippi, R. A. 1842-44, Abildungen und Beschreibungen .... Conchylien **1**: 1-204, [8] 47 pls., pt. **3**: 47-76.

Crosse, H. and P. Fischer. 1894 [in] Fischer, P. and H. Crosse. 1880-1902. Mission scientifique au Mexique et dans l'Amerique Centrale. Pt. **7** (Mollusques), 2: 1-731, pls. 32-82. 1894, Pt. **15**: 489-576, pls. 59-62.

Dall, W. H. 1908. Descriptions and figures of some land and fresh-water shells from Mexico, believed to be new. Proceedings of the United States National Museum **35**: 177-182, pls. 29-30 (November).

Frierson, L. S. 1907. A new Mexican mussel, *Lampsilis fimbriata*. The Nautilus **21** (8): 86, two upper figures and lower left one (December).

——. 1917. New genera and species of Central American Naiades. The Nautilus **31** (2): 47-48 (October).

——. 1927. A classified and annotated check list of the North American naiades. Waco, Texas: Baylor University Press: 111, and "errata and corrigenda" sheet.

Fuller, S. L. H. 1975. The systematic position of *Cyrtonaias*. Malacological Review **8**: 81-89 (June).

Goldman, E. A. 1951. Biological investigations in Mexico. Smithsonian Miscellaneous Collections **115**:i-xiii + 1-476, pls. 1-10, frontispiece.

Haas, F. 1969. Superfamilia Unionacea. Das Tierreich, Berlin, Pt. **88**: I-x + 1-663 (January).

Heard, W. H. and R. H. Guckert. 1971. A re-evaluation of the recent Unionacea (Pelecypoda) of North America. Malcologica [1970] **10** (2): 333-355 (July).

Howells, R. G. 1996. The Tampico pearlymussel (*Cyrtonaias tampicoensis*): shades of the old west. American Conchologists **24** (2) 24-26.

—— and G. P. Garrett. 1995. Freshwater mussel surveys of Rio Grande tributaries in Chihuahua, Mexico [in] Biggins, R. G. (Editor). Asheville, North Carolina, U. S. Fish and Wildlife Service, Triannual Unionid Report **8**: 50 pages [not numbered] (November).

Howells, R. G., R. W. Neck and H. D. Murray 1996. Freshwater mussels of Texas. Texas Parks and Wildlife Press, Austin Texas, pp. iv, 218, unnumbered plain colored figures.

Johnson, R. I. 1971 The types and figured specimens of Unionacea (Mollusca: Bivalvia) in the British Museum (Natural History). Bulletin of the British Museum (Natural History), Zoology **20** (3): 73-108, 2 pls.

——. 1972. Illustrations of all of the Mollusks described by L. S. Frierson. Occasional Papers on Mollusks **3** (41): 137-173, pls. 22-32.

——. 1974. Lea's unionid types or Recent fossil taxa of Unionacea and Mutelacea introduced by Isaac Lea, including the location of all the extant types. Special Occasional Publication No. 2 Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts: 159.

——. 1975. Simpson's unionid types and miscellaneous unionid types in the National Museum of Natural History. Special Occasional

Publication No. 4, Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts: 56, 3 pls.

——. 1980. Zoogeography of North American Unionacea (Mollusca: Bivalvia) north of maximum Pleistocene glaciation. Bulletin of the Museum of Comparative Zoology **149** (2): 77-189 (September).

Kobelt, W. 1893. Diagnosen neuer palaertischer Arten. Nachrichtsblatt der deutschen malakozoologischen gesellschaft **25** (9, 10): 150-153 (September - October).

—— and E. A. Rossmässler. 1892-1893. Iconographie land & süsswasser-mollusken.... (2) **6**: 1-102, pls. 151-180. Pts. 5, 6: 82-102.

Küster, H. C. 1839-1862 [in] Martini und Chemnitz. Systematisches Conchylien-Cabinet (2) **9**, pt. 2, *Unio* et *Hyria*: 1-318, pls. 1- 100; 1853, Pt. 127, pp. 65-88, pls. 18-22; 1861, Pt. 178, pp. 209-256, pls. 86-88.

Lea, I. 1834-74. Observations on the genus *Unio*. 1-13. Philadelphia: privately published. [A reprint of papers from the Transactions of the American Philosophical Society and the Journal of the Academy of Natural Sciences of Philadelphia. They are repaged, but the plate and figure numbers are the same as those in the original publications.]

——. 1838. Description of new freshwater and land shells. Transactions of the American Philosophical Society, **6**: 1-152, pls. 1-24.

——. 1843. Description of new freshwater and land shells. Transactions of the American Philosophical Society, **8**: 133-252, pls. 5-27.

——. 1856. Description of four new species of exotic Uniones. Proceedings of the Academy of Natural Sciences, Philadelphia, **8**: 103.

——. 1857. Description of six new species of freshwater and land shells from Texas and Tamaulipas, from the collection of the Smithsonian Institution. Proceedings of the Academy of Natural Sciences, Philadelphia, **9**: 101-102.

——. 1858. New freshwater and land shells. Journal of the Academy of Natural Sciences, Philadelphia, (2) **3**: 289-321, pls. 21-33.

——. 1860a. Descriptions of three new species of Uniones from Mexico. Proceedings of the Academy of Natural Sciences, Philadelphia, **12**: 305-306.

——. 1860b. New Unionidae of the United States and northern Mexico. Journal of the Academy of Natural Sciences, Philadelphia, (2) **4**: 327-374, pls. 51-66.

——. 1861. Descriptions of eleven new species of the genus *Unio* from the United States. Proceedings of the Academy of Natural Sciences, Philadelphia, **13**: 391-393.

——. 1862. New Unionidae of the U. States and Arctic America. Journal of the Academy of Natural Sciences, Philadelphia, (2) **5**: 187-256, pls. 24-33.

Martens, E. von. 1900 [in] 1890-1901. Biologia Centrali-Americana. Land and freshwater Mollusca **9**:i-xxviii + 1-706, pls. 1-44. Part. 155: 497-520, pls. 33-35 (April); Pt. 157: 529-536, pls. 36, 37 (August).

Metcalf, A. L. 1982. Fossil Unionacean bivalves from three tributaries of the Rio Grande. pp. 43-58, 2 pls. [in] J. R. Davis [editor], Proceedings of the Symposium on Recent Benthological Investigations in Texas and Adjacent States. Austin, Texas: Texas Academy of Sciences, Aquatic Sciences Section, 278 pp.

Morelet, A. L. 1849. Testacea novissima insulae Cubanae et Americae Centralis. Pt. 1: 1-31, Paris.

Morrsion, J. P. E. 1969. The earliest names for North American naiades. Annual reports of the American Malacological Union for 1969: 22-24.

Neck, R. W. and A. L. Metcalf. 1988. Freshwater bivalves of the lower Rio Grande, Texas. The Texas Journal of Sciences, **40** (3): 259-268 (August).

Ortmann, A. E. 1912. Notes upon the families and genera of naiades. Annals of the Carnegie Museum **8**: 222-355, pls. 18-20.

—— and B. Walker. 1922. On the nomenclature of certain North American naiades. Occasional Papers of the Museum of Zoology, University of Michigan, **112**: 1-75 (July).

Pilsbry, H. A. 1910. Unionidae of the Panuco River System, Mexico. Proceedings of the Academy of Natural Sciences, Philadelphia, **61**: 532-539, pls. 25-25 (January).

Simpson, C. T. 1900. Synopsis of the naiades, or pearly freshwater mussels. Proceedings of the United States National Museum **32**: 501-1044.

——. 1908. See under: Dall, W.H.

——. 1914. A descriptive catalogue of the naiades or pearly freshwater mussels. Detroit, Michigan: privately published. Parts 1-3, pp. I-xi + 1-1540.

Sowerby, G. B. 1865, 67. [in] L. Reeve, 1864-67, Conchologia Iconica **16**, *Unio*: pls. 1-96 with letterpress; 1865, pl. 22 (April); 1867, pls. 55 (April).

Stearns, R. E. C. 1891. List of North American land and fresh-water shells received from the United States Department of Agriculture, with notes and comments thereon. Proceedings of the United States National Museum **14**: 95-106.

Strecker, J. K. 1931. The distribution of the naiades or pearly freshwater mussels of Texas. Baylor University Museum Special Bulletin **2**: 69, table.

Taylor, D. W. 1966. A remarkable snail fauna from Coahuila, Mexico. The Veliger **9** (2): 152-228. pls. 8-19, 25 text figures (October).

——. 1977. A new mussel, *Disconaias conchos* (Bivalvia: Unionidae) from Rio Conchos of the Rio Grande System, Mexico. Occasional Papers on Mollusks **5** (75): 419-425 (August).

Villa, A. 1893. See under: Kobelt, W.

Wurtz, C. B. 1950. *Quadrula (Quincuncina) guadalupensis* sp. nov. (Unionidae: Pelecypoda). Notulae Naturae, **224**: 1-3.

Plate 22

Potamilis metnecktayi Johnson.

Fig. 1. **Rio Salado, 45 mi. S Nuevo Laredo, State of Tamaulipas, Mexico. Holotype UMMZ 255018. Length 109 mm, height 65 mm, width 33 mm Male (approx. 0.75X).**

Fig. 2. **Rio Salado, 45 mi. S Nuevo Laredo, State of Tamaulipas, Mexico. Allotype UMMZ 255019. Length 83 mm, height 56 mm, width 31 m. (reduced).**

Plate 22

Plate 23

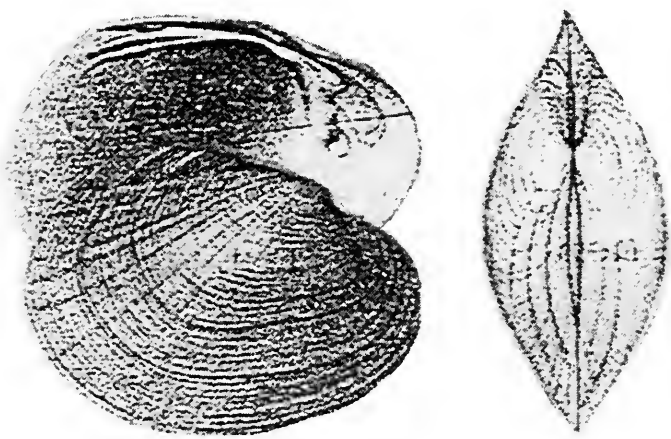
Potamilis purpurata (Lamarck, 1819)

Fig. 1. *Unio coloradoensis* Lea 1856, PANSP 8: 103 (Rio Colorado, Texas); 1858, JANSP (2) 3: 314, pls. 31, fig. 29; 1857, Obs. Unio, 6: 34. Lectotype USNM 84845 inadvertently selected by Johnson (1975: 32) as the "figured holotype." Length 124 mm, height 77.5 mm, width 44 mm Male (approx. 0.75X).

Cyrtonaias tampicoensis (Lea, 1838)

Fig. 2. *Unio saladoensis* Lea 1860, PANSP 12: 305 (Rio Salado, New [Neuvo] Leon [State], Mexico); 1860, JANSP (2) 4: 370, pl. 65, fig. 195; 1860, Obs. Unio 8: 52. Figured holotype only USNM [lost]. Length 30 mm, height 22 mm, width 13.5 mm (approx. 2X).

1



2

Plate 23

Plate 24

Cyrtonaias tampicoensis (Lea, 1838)

Fig. 1. *Unio berlandierii* Lea, 1857, PANSP 9: 101 ([Rio Grande] Matamoras State of Tamaulipas, Mexico; 1860, JANSP (2) 4: 369, pl. 64, fig. 195; 1860, Obs. Unio 8: 52. Lectotype USNM 84427 inadvertently selected by Johnson (1974: 20) as the "figured holotype." Length 87 mm, height 64 mm, width 41.5 mm (approx. nat. size).

Fig. 2. *Unio heermanii* Lea, 1861, PANSP 13: 392 (Medina River [San Antonio River System], Texas); 1862, JANSP (2) 5: 194, pl. 26, fig. 263; 1863, Obs. Unio 9: 16. Lectotype USNM 83932 inadvertently selected by Johnson (1974) as the "figured holotype." Length 62.5 mm., height 40 mm., width 21 mm. (approx. 1.25X). Topotypes UMMZ 79392 ex J. A. Singley.

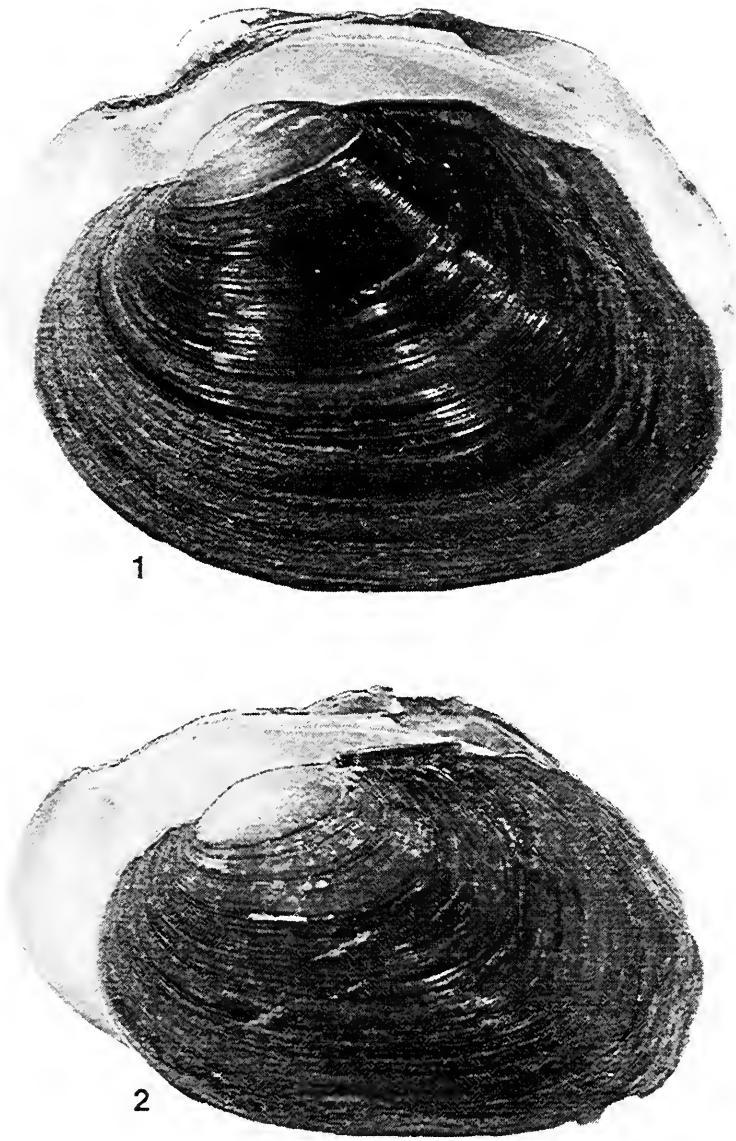


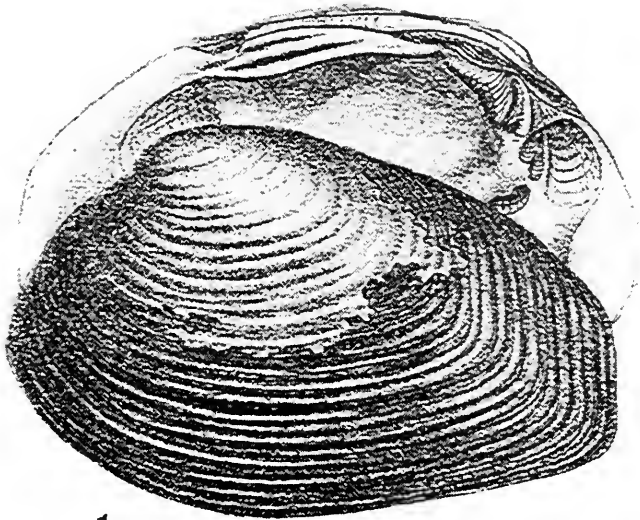
Plate 24

Plate 25

Disconaias disca (Lea, 1838)

Fig. 1. *Unio discus* Lea. River Moctezuma [Panuco River System, Mexico]. Holotype (single valve) USNM 85341. Length 123 mm, height 87 mm, width 36 mm (approx. 0.75X).

Fig. 2. *Unio panacoensis* Busch. [Panuco River, near Tampico, State of Tanaulipas, Mexico]. Lectotype MCZ 178882. Length 120 mm, height 85 mm, width 37 mm (approx. 0.75X).



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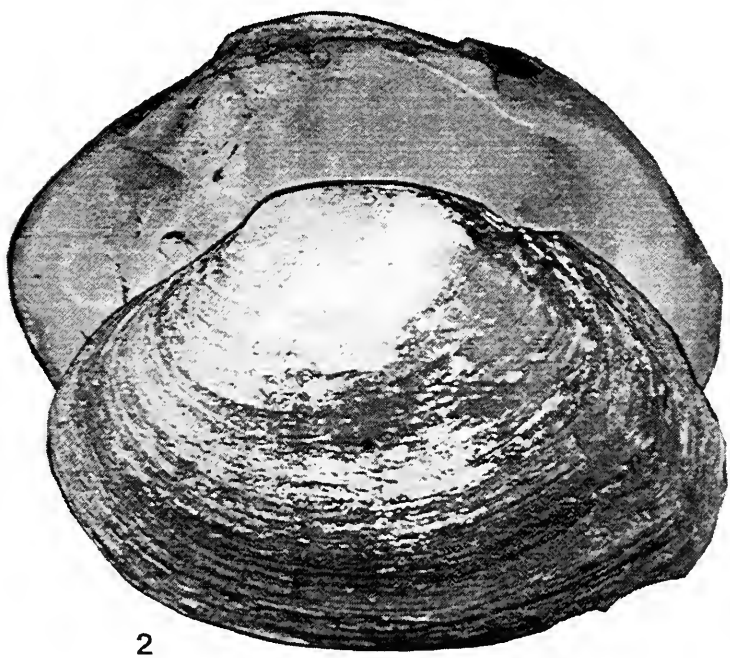

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Plate 25

Plate 26

Disconaias disca (Lea, 1838)

Fig. 1. ***Lampsilis fimbriata*** **Frierson. Valles River [near Valles, State of San Luis Potosi, Mexico]. Holotype UMZM 87579 . Length 80 mm, height 47 mm, width 25 mm (slightly enlarged).**

Fig. 2. ***Lampsilis fimbriata*** **Frierson. Valles River [near Valles, State of San Luis Potosi, Mexico]. Paratype USNM 207440. Length 87.5 mm, height 54 mm, width 22 mm (reduced).**

Fig. 3. ***Lampsilis (Proptera) salinasensis*** **Simpson. [Valles River, near Valles, State of San Luis Potosi, Mexico]. Lectotype USNM 163156 inadvertently selected by Johnson (1975: 19) as the "figured holotype." Length 69 mm, height 38 mm, width 20 mm (slightly enlarged).**

Plate 27

Lampsilis explicata (Morelet, 1849)

Fig. 1. ***Lampsilis explicata*** **(Morelet). [Rio Usumacincta]. Monte Cristo [now Emiliano Zapata], State of Tabasco, Mexico. USNM 160741. Length 107 mm, height 59, width 32 mm (slightly reduced).**

Unio explicatus Morelet 1849. Testacea noviss. insulae Cubanae et Amer. Centralis, Pt. 1: 28 (flumen Usumasinta, ad pagum Balanan Tabascensium). Lectotype BMNH 93.2.4.2027 figured by Fischer and Crosse, 1894, Mission Scientifique au Mexique, pl. 7, **2**: 594, pl. 61, fig. 1, inadvertently selected by Johnson (1971: 83) as the "measured holotype."

Unio (Mesonaias) explicatus (Morelet) Crosse and Fischer [in] Fischer and Crosse, 1894, Mission Scientific au Mexique, pt. 7, **2**: 556, 594.

Lampsilis explicata (Morelet) Simpson 1914, *Cat. naiades* **1**: 176.

Lampsilis (Cyrtonaias [sic]*) explicata* (Morelet) Frierson, 1927, *Check List N. American naiades*, p. 85.

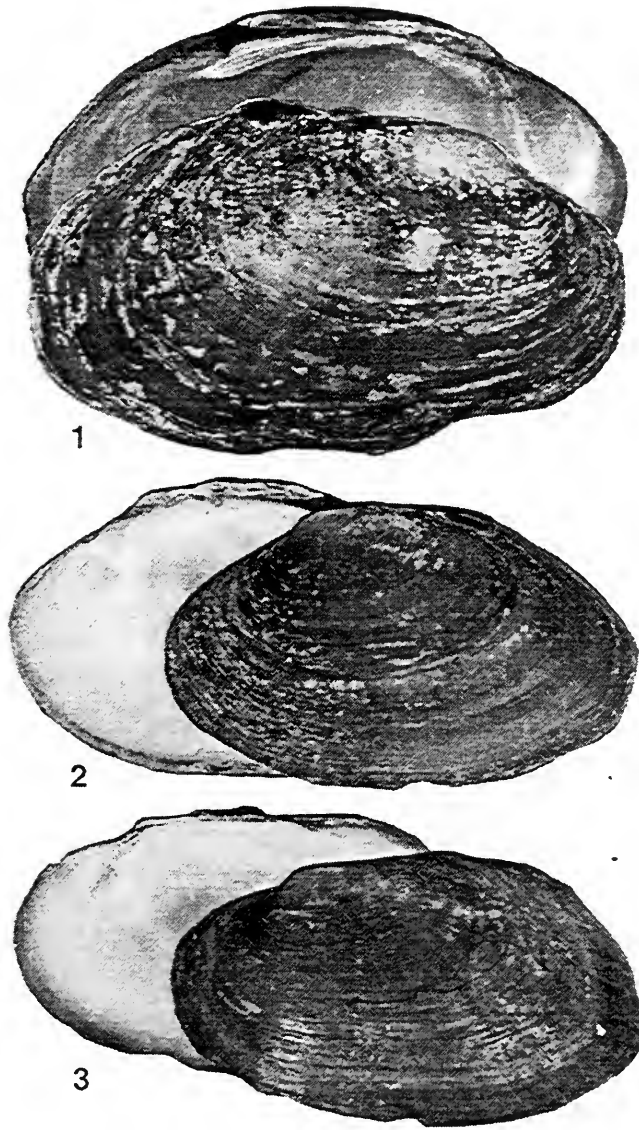

Plate 26

Plate 27 (continued)
Lampsilis explicata (Morelet, 1849) (continued)

Lampsilis (Mesonaias) explicata (Morelet) Haas, 1969, Das Tierreich 88: 466.
Unio testudineus Sowerby 1865 [in] Reeve, Conchologia Iconica **16**, *Unio:* pl. 22, sp. 101 (Rio Usumasinto, Portugal [sic], Cuming coll'n) non Morelet 1849.
Lampsilis lividus Simpson 1900, Proc. U. S. Nat. Mus. **32**: 571. New name for *Unio testudineus* Sowerby 1865 non Morelet 1849.
Lampsilis livida Simpson, 1914, *Cat. naiades*, **1**: 174.

Distribution

Appears to be restricted to the Usmasinta River system of Guatemala and Mexico.
USUMACINTA RIVER SYSTEM

Rio Salinas (Rio Chixoy) Drainage. [State of El Péten]*Guatemala:* Rio Chixoy [at Arroyo] Rompido, Ihering USNM 128995.

Rio de la Pasion Drainage[State of El Péten]. *Guatemala:* Rio de la Pasion, USNM 783045.

Rio Usumacinta Drainage. State of Tabasco Mexico: [Rio Usumacinta] Monte Cristo [now Emillano Zapata], Nelson and Goldman, USZM 160741; 5.5 mi. SE Emillano Zapata, F. G. Thompson, MCZ 288408.

Genus *Actinonaias* Crosse and Fischer, 1894

Type species *Unio sapotalensis* Lea, 1841; original designation. Originally described [in] Fischer and Crosse, 1894, Mission Scientifique au Mexique, pt. 7, **2**: 556 as a section of *Unio, Actinonaias* was raised to a genus by Frierson (1917: 48) as accepted as such by Ortmann and Walker (1922: 47). While reduced to a subgenus of *Lampsilis* by Frierson (1927: 84), it has since been widely accepted as a genus.

Actinonaias walkeri Baker, 1922

Fig. 2. ***Actinonaias (Disconaias) walkeri* Baker. Rio San Juan, near Hacienda de Cutotolapam, State of Vera Cruz, Mexico. Paratype UMMZ 31844 (single valve). Length 101 mm, height 58 mm., width (estimated) 28 mm (slightly reduced).**

Actinonaias (Disconaias) walkeri H. B. Baker 1922, Occasional Papers Museum of Zoology, University of Michigan, **106**: 20, pl. 1, figs. 1, 2; pl. 9, fig. 49; pl. 10, figs. 48-50; pl. 11, figs. 48, 49 (Rio San Juan, near Hacienda de Cutotolapam, State of Vera Cruz, Mexico; holotype UMMZ 31844, figured on pl. 9, fig. 49); paratypes UMMZ 31844 and ANSP 133694.

Distribution

Known only from the type lot consisting of "fifteen specimens, including odd valves," from the Rio San Juan System and further south from the [Rio Coaszacoalcos], Coatzacoalcos, State of Vera Cruz , Mexico, LACM 111413.

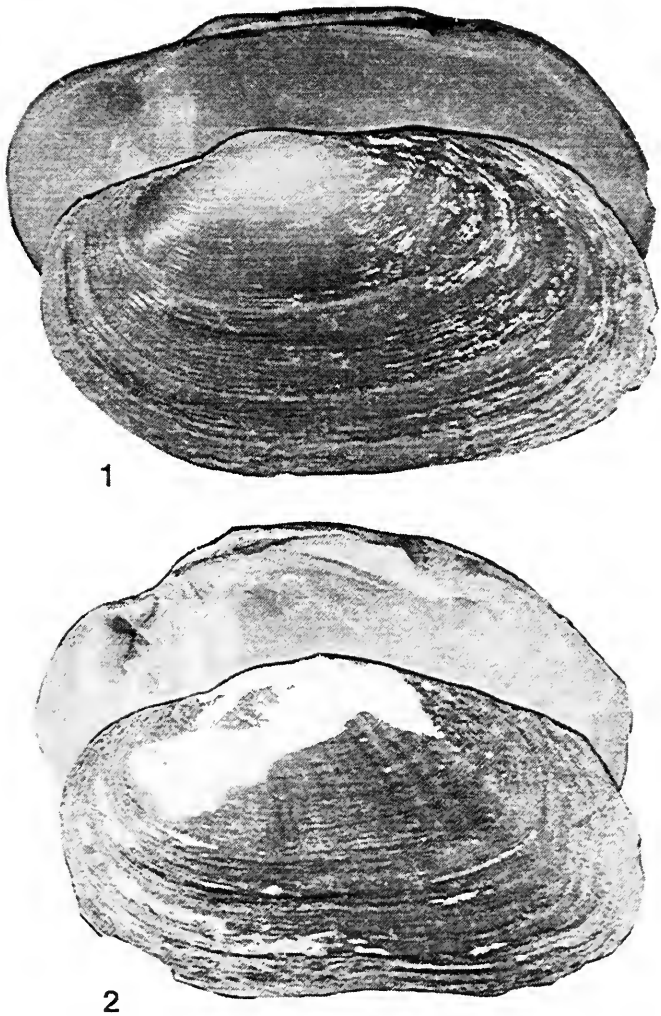

Plate 27

THE MYTH OF *OCTOPUS GIGANTEUS* VERRILL, 1897: A WHALE OF A STORY

Richard I. Johnson

The work of Gennaro (1971) and Mackel (1986) on samples of tissue from the Florida Sea Monster, *Octopus giganteus* Verrill, 1897 led them to the conclusion that is was indeed, an *Octopus*. Their identification was accepted by Johnson (1989:39), though Verrill (1897), himself, was sure that his identification was erroneous. Over the years among the other believers that the monster was an *Octopus* were Wood (1971), Mangiacopora (1975, 1977), and Mangiacopora *et al.* (1994, 1995). The last work was titled, "Final vindication for *Octopus giganteus*."

However, very shortly thereafter, Pierce *et al.* (1995), on the basis of electron microscopy and amino acid analyses of tissue from specimens saved from the creature grounded so many years before on a Florida beach, concluded that the tissue was certainly part of an ordinary whale. A great blob washed into a lagoon in Bermuda during the summer of 1988 was also studied by them, and they concluded from its amino acid fingerprint that it was part of a cold-blooded fish, shark, or ray. Dr. Clyde Roper, curator of invertebrate zoology at the National Museum of Natural History was impressed with the rigor of the research by Pierce *et al.*, and he was quoted by Weiss (1995), "This settles the question of the Florida Sea Monster and the Bermuda Blob." Alas, neither was an invertebrate.

Many of the following references were kindly furnished by Dr. Alan R. Kabat.

LITERATURE CITED

Gennaro, Jr., J.F. 1971. An Octopus Trilogy. Part 2 The Creature Revealed. Natural History. The Journal of the American Museum of Natural History. **80**(3): 24,84,85 (March).

Johnson, R.I. 1989. Molluscan taxa of Addision Emery Verrill and Katherine Jeannette Bush, including those introduced by Sanderson Smith and Alpheus Hyatt Verrill. Occasional Papers on Mollusks **5**(67): 1-143, pls. 1-19 (August).

Mackel, R.P. 1986. Biochemical analysis of preserved *Octopus giganteus* tissue. Cryptozoology **5**:55-62.

Mangiacopra, G.S. 1975. *Octopus giganteus* Verrill: a new species of Cephalopod. Of Sea and Shore **6**(1): 3-10, 51 (Spring).

-----1977. More on *Octopus giganteus*. Of Sea and Shore **8**(30): 174, 178 (Fall).

Mangiacopra, G.S., M.P.R. Raynal, D.G. Smith and D.F. Avery. 1994. Update on *Octopus giganteus* Verrill Part I: More forgotten fragments of its 19th century history. Of Sea and Shore **17**(4): 171-178, 9 figs. (Fall).

-----1995. History repeating itself: Part II: Ignored-rediscovered-ignored again!-and final vindication for *Octopus giganteus* 1909-1994. Of Sea and Shore **17**(4): 221-225 (Winter).

Pierce, S.K., G.N. Smith, Jr., T.K. Maugel and E.Clark. 1995. On the giant octopus (*Octopus giganteus*) and the Bermuda Blob: Homage to A.E. Verrill. Biological Bulletin **188**: 219-230 (April).

Verrill, A.E. 1897. A gigantic Cephalopod on the Florida Coast. American Journal of Science (4)**3**:79 (January); Additional information concerning the giant Cephalopod of Florida, *Ibid.* 162-163 (February); The supposed great Octopus of Florida; certainly not a Cephalopod, *Ibid.* 355-356 (April)

Weiss, R. 1995. Scientists sink a sea monster tale. Masses of flesh didn't come from a colossal *Octopus*, study concludes. The Washington Post, p. A18 (Sunday, April 2).

Wood, F.G. 1971. An *Octopus* Triology. Part I Stupefying colossus of the deep. Natural History. The Journal of the American Museum of Natural History **80**(3): 14-16, 18, 20-24. Part III In which Bahamian fisherman recount their adventures with the beast. *Ibid* 84, 86, 87 (March).

ON "THE CHAMBERED NAUTILUS" BY OLIVER WENDELL HOLMES

Richard I. Johnson

If Oliver Wendell Holmes is remembered by the present generation, it is because of *Old Ironsides*. This poem, written in 1830 whilst he was a student at the Harvard Law School, led directly to the preservation of the frigate *Constitution*, which had been slated to be dismantled at the Charlestown Navy-Yard. He changed from law to medicine and became a professor at the Harvard Medical School. He invented an improved stethoscope and wrote a medical classic on Puerperal Fever thereby helping to save the lives of many women during childbirth, but we only look for the influences that inspired him to write *The Chambered Nautilus.*

In the introduction to a new edition of *The Autocrat of the Breakfast Table*, first published in 1858, Van Wyck Brooks (1960: v) pointed out that what kept the book alive was an ever-timely wit that sprang from the "code of finalities", a general agreement of "values" as they were later called. This, according to Holmes, was the "necessary condition of profitable talk between two persons," the sort said to have flourished at the Saturday Club founded in 1855. Amongst the original members besides Holmes, one of the founders, were Emerson, Longfellow, Lowell, Motley, and Louis Agassiz, who was to receive the charter for the Museum of Comparative Zoology in 1859 from the Commonwealth of Massachusetts. The extent to which the club was a mutual admiration society will not even be guessed at, but both it and the Museum are still extant.

Brooks (1936: 354), paraphrasing the doctor, speaking of his inspiration says, "Well he recalled the moments when a 'lyric conception' had struck him like a bullet in the forehead, when the blood dropped from his cheek and he felt himself turning as white as death. Once or twice only had he had this feeling, -- as when he wrote *The Chambered Nautilus*, -- a creeping as of centipedes running down the spine, a gasp, a jump of the heart, then a sudden flush, a beating in the vessel of the head, then a long sigh -- and the poem was written."

Holmes' poem was considered to be fresh, intense in feeling, and American. In his introduction he says, "We need not trouble ourselves about the distinction between this [Pearly Nautilus] and Paper Nautilus, the *Argonauta* of the ancients. The name applied to both shows that each has long been compared to a ship, as you may see more fully in Webster's Dictionary (1846) or the 'Encyclopedia' to which he refers." Webster also calls attention to Roget (1836: 191, figs. 126, 127) where there are rather wretched figures of a *Nautilus*, one showing it sectioned. Of this figure Holmes says, "the last will show you the series of enlarging compartments successively dwelt in by the animal that inhabits the shell which is built in a widening spiral. Can you find no lesson in this?" This equiangular spiral is discussed by Thompson (1942: 748).

The poem opens with the line, "This is the ship of pearl," the following seven lines refer not to the *Nautilus*, but to the female of *Argonauta argo,* an octopod. The Argonaut, or Paper Nautilus, has mistakenly been known for over 2,000 years as a navigator which sails the warm seas of the world, near the surface, in a boat of shell. While the first membranes, do look like miniature sails, both the

ancients and Holmes were wrong as to their function. Actually, the skin glands of these arms secrete calcium carbonate which forms a delicate white "shell" or nest-case which does not resemble any other cephalopod shell and, unlike the several species of *Nautilus*, is not chambered. Lane (1960: 9) described how the shell is formed, but that is not relevant to this discussion. The "Encyclopedia" mentioned by Webster as authored by Cuvier (see under: Griffith and Pidgeon, 1834: 9) claims incorrectly that the six tentacula are used as oars. Sex is not mentioned is these lines describing the anatomy of the female *Argo*, it might please feminists to know that while the female may reach over a foot in length, the dwarf male is seldom more than one half an inch in length. Yes, one half inch.

Beginning with the ninth line, "Wrecked is the ship of pearl!" is a description of the shell of the *Nautilus*, probably *Nautilus pompilius*, one of six living species remaining of the some 3,000-odd species known from the fossil record. Living *Nautilus* are rarely seen at the surface, excep along the coast of the Nicobar Islands. As the animal moves forward into each enlarging chamber of its shell, it seals off all but a small hole with slender wall. A siphuncle runs back through the hole in each chamber to the original one. Gas in the chambers gives the animal, which lives in the last chamber, buoyancy. Thus, it is not quite true that he "knew the old [chamber] no more."

The facts would have probably been of little interest to Holmes who says, "Thanks for the heavenly message brought by thee." He seems to have been quite impressed with the physico-theology which was especially popular in England during the first half of the nineteenth century, probably having studied Paley (1802) *Natural Theology: Or*

Evidences of the Existence and Attributes of the Diety Collected from the Appearances of Nature, but especially by the *Bridgewater Treatise* authored by Roget (1836) of *Thesaurus* fame. Paley and the other authors of the Treatises (1833-36) used scientific subjects to demonstrate "the Power, Wisdom, and Goodness of God, as manifested in the Creation" (see: Mayr, 1982: 367-375). Science and theology were not separate subjects in those days, and while Agassiz never accepted evolution, there is no evidence that Holmes did either, though the records of the Boston Athenaeum indicate that from January 31 to March 9, 1845 he had out *Vestiges of the Natural History of Creation* (1844) published anonymously by Robert Chambers, which caused a sensation when "the author embraced the doctrine of Progressive Development as a hypothetic history of organic creation." In a lengthy review, glowing with praise, of Agassiz's *Contibutions to the Natural History of the United States of America*, Holmes (1858) concluded that, "Natural History must, in good time, become the analysis of the thoughts of the Creator of the Universe, as manifested in the animal and vegetable kingdoms." There is no evidence that the subsequent publication of Darwin's *On the Origin of Species by Means of Natural Selection* in 1860, had any more effect on Holmes views that it did on those of Agassiz. Agassiz soon ceased to oppose evolution on a professional level, but continued his attack on the popular level where his prestige remained high, becoming increasingly more dogmatic. Morris (1997: 122), however, has pointed out that in the chapter added by Agassiz (1869) to the French translation of his *Essay on Classification* Agassiz explained what he believed to be a factual rejection of Darwinism, based on the data he thought Darwin was

unable to explain, as well as to Ernst Haeckel's application of Darwinism to evolutionary classifications. Holmes and Agassiz were able to continue basking in each others admiration at the Saturday Club until the death of Agassiz in 1873.

Quoting an early biographer of Holmes in his *Early Years of the Saturday Club*, Emerson 1918: 167) relates that when once asked if he had "derived more satisfaction from having written his 'Essay on Puerperal Fever,' which had saved so many lives, or from having written the lyric which had given pleasure to so many thousands. Dr. Holmes replied 'I think I will not answer the question you put to me. I think oftenest of *The Chambered Nautilus*, which is a favorite poem of mine, though I wrote it myself. The essay comes up at long intervals. The poem repeats itself in my memory, and its very often spoken of by correspondents in terms of more than ordinary praise."

Bowen (1945: 321) mentioned that when Holmes died at home, in 1894, seated in his chair that, "on a table by the fire the pearly nautilus shell sat, gleaming with iridescent color." This doubly sectioned shell is now in the Countway Library of the Harvard University Medical School.

Unlike Thomas Stearns Elliot writing, *The Waste Land*, some sixty-five years later, who subsequently admitted that his notes to the poem were bogus scholarship" and who gave no credit to Madison Cawein from whom he cribbed so much, Holmes introduced his poem by giving his sources and possibly his inspiration for *The Pearly Nautilus.*

ACKNOWLEGDEMENTS

This examination of *The Pearly Nautilus*, from a non literary, non poetry appreciation view, was inspired by Professor Lynn Wardly of the Department of English and American Literature, Harvard University, following a discussion with her as to why she was in the Department of Mollusks consulting Owen (1832) *On the Pearly Nautilus*. Trevor Joy Johnson kindly supplied a list of the books checked out by Dr. Holmes from the Boston Athenaeum from 1844-1852.

LITERATURE CITED

Agassiz, L. 1869. De l' espèce et de la classification en zoologie. Trans. Felix Vogeli. Paris: Bailière. pp. 375-391.

Bowen, C.D. 1945. Yankee from Olympus: Justice Holmes and his family. Little Brown and Company: Boston.

Brooks, Van Wyck. 1936. The Flowering of New England. The Modern Library. Random House, Inc.: New York.

Brooks, Van Wyck. 1960. Introduction [to] Holmes, O.W., The Autocrat of the Breakfast Table. Everyman's library, Dutton, New York. Reprinted 1960 and 1970.

Emerson, E.W. 1918. The Early Years of the Saturday Club 1855-1870. Houghton Mifflin Company: Boston and New York.

Griffith, E. And E. Pidgeon. 1834. The Mollusca and Radiata arranged by the Baron Cuvier with supplementary additions to each other, vol. 12, Whittaker and Co.: London.

Holmes, O.W. [1858]. The Autocrat of the Breakfast Table. Everyman's Library, Dutton: New York. Reprinted 1960 and 1970.

Lane, F.W. 1960. Kingdom of the Octopus. The Life History of the Cephalopoda. Sheridan House: New York.

Mayr, E. 1982. The Growth of Biological Thought and Diversity, Evolution, and Inheritance. The Belknap Press of Harvard University Press Cambridge, Massachusetts, London, England.

Morris, P.J. 1997. Louis Agassiz's argument against Darwinism in his additions to the French Translation of the *Essay on Classification*. Journal of the History of Biology **30**: 121-134.

Owen, Richard. 1832. Memoir on the Pearly Nautilus (*Nautilus Pompilius*, Linn.) with illustrations of its external form amd internal structure. Council of the Royal College of surgeons in London. Richard Taylor: London.

Roget, P.M. 1836. Animal and Vegetable Physiology considered with references to natural Theology. 2 vols. Carey, Lea & Blanchard: Philadelphia. This was the edition of the Bridgewater Treatises most probably available to Holmes.

Thompson, D'Arcy, W. 1942. On Growth and Form. University Press; Cambridge; England New Edition.

Webster, N. 1846. Webster's Dictionary, unabriged in one volume. G.and C. Merriam: Springfield, Massachusetts.

ADDITIONAL RECORDS AND NOTES ON THE UNIONID FAUNA OF THE GULF DRAINAGE OF ALABAMA, GEORGIA AND FLORIDA.

Herbert D. Athearn[1]

Alasmidonta wrightiana (Walker) was reported by Johnson (1967) from the Ochlockonee River on the basis of a specimen he received from the Florida State Museum. I have examined the headwaters of that stream where the Forks come in (Confederate Bridge), and *A. wrightiana* appears to be extirpated here, perhaps, due to the extinction of its host fish. Walker's original locality, in the Apalachicola River System; "tributaries of the Flint River, Baker Co., Georgia," appears to be correct since four living specimens (which perfectly match the type figure) were collected by me from a tributary of the Flint River: Potato Creek, 3.6 km NW Thomaston, Upson Co., Georgia.

Lampsilis haddletoni Athearn was reported by Johnson (1967) only from the type locality in the Choctawhatchee River system. I have since identified specimens in my collection from the Mobile-Alabama-Coosa River System: West Fork, Sipsey River (Black Warrior River Drainage), 6.5 km W Grayson, Winston Co., Alabama (now inundated by a large reservoir) MCZ 316520 and from the Pascagoula River System:

[1] Museum of Fluviatile Mollusk, 5819 Benton Pike NE, Cleveland, TN 37323-5301

Okatibbee Creek, 2.4 km SE Hookston, Lauderdale Co., Mississippi.

Obovaria rotulata (B.H. Wright) should be placed in *Fusconaia* and *Lampsilis jonesi* Vander Schalie in *Ptychobranchus* (see Johnson 1967, pp. 9, 11 respectively).

LITERATURE CITED

Johnson, R.I. 1967. Additions to the unionid fauna of the Drainage of Alabama, Georgia and Florida (Mollusca:Bivalvia). Breviora, Museum of Comparative Zoology, no. 270: 21, 3 pls. (June).

ON THE PROVENANCE OF CERTAIN BOOKS IN THE DEPARTMENT OF MOLLUSKS.

Richard I. Johnson

The recent sale by the John Crerar Library of Chicago of a duplicate of Galilei, Galileo. 1632 *Dialogo...sopra i due massimi sistemi del mondo Tolemico, e Copernicano*...Florence, Giovanni Batista Landini, 1832, turned out to be a remarkable copy inscribed by Galileo to Zaccaria Sagredo, brother of Galileo's patron Giovanni Francesco, as well as, a previously unrecognized uncorrected first issue, obviously to the delight of the London dealer who purchased it.

This reminded me that a copy of Planci (1739) which I purchased many years ago was a sold by the British Museum even though it was inscribed and presented by the Museum's founder Hans Sloane (1660-1753), "Hansio Sloan Regiae Academeiae

Praesidi." Catherine I. Wolfe presented the extensive shell collection and library amassed by her father, Dr. John C. Jay (1808-1891) to the American Museum of Natural History, yet they disposed of his own *Catalogue* (1850) which was interleaved and contained his annotations, even though the book plate indicated that it was the "Wolfe Memorial Gift: Jay Library." Among duplicates sold by the library of the Museum of Comparative Zoology in 1964 was a copy of *Seaside Studies* by (1865) Elizabeth Cary Agassiz (1822-1907) and Alexander Agassiz (1835-1910). This was a popular book which Alexander helped his stepmother to write, and is inscribed, "A.Agassiz, Nahant, August 1865," Nahant being the summer seat of the Agassiz family. While the bookplate indicates that it was deposited by Alex. Agassiz in the library of the Museum of Comparative Zoology, it suffered the same fate as the other items mentioned. All three of these works are now in the Department of Mollusks.

LITERATURE CITED

Agassiz, Elizabeth C. and Alexander Agassiz. 1865. Sea Side Studie in Natural History. Marine Animals of Massachusetts Bay. Radiates. pp. vi [ii] 155, 186 text figs. Boston: Ticknor and Fields.

Jay, John C. 1850. A Catalogue of the Shells, ...Contained in the Collection of John C. Jay, M.D. Fourth Edition, pp. 460; 1852 Supplement, pp. 461-479. New York: R. Craighead.

Planci, J. [Pseud., i.e. Simon Giovanni Bianchi] 1739. De Conchis minus notis liber cui accessit specimen aestus reciproci maris superi ad littus Portumque Arimini. pp. 88, 5 pls. Venetiis.

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The index which follows does not include all of the names covered in this volume. Omitted names are easily found in the various numbers which are alphabetically arranged and are thus self-indexed. These are:

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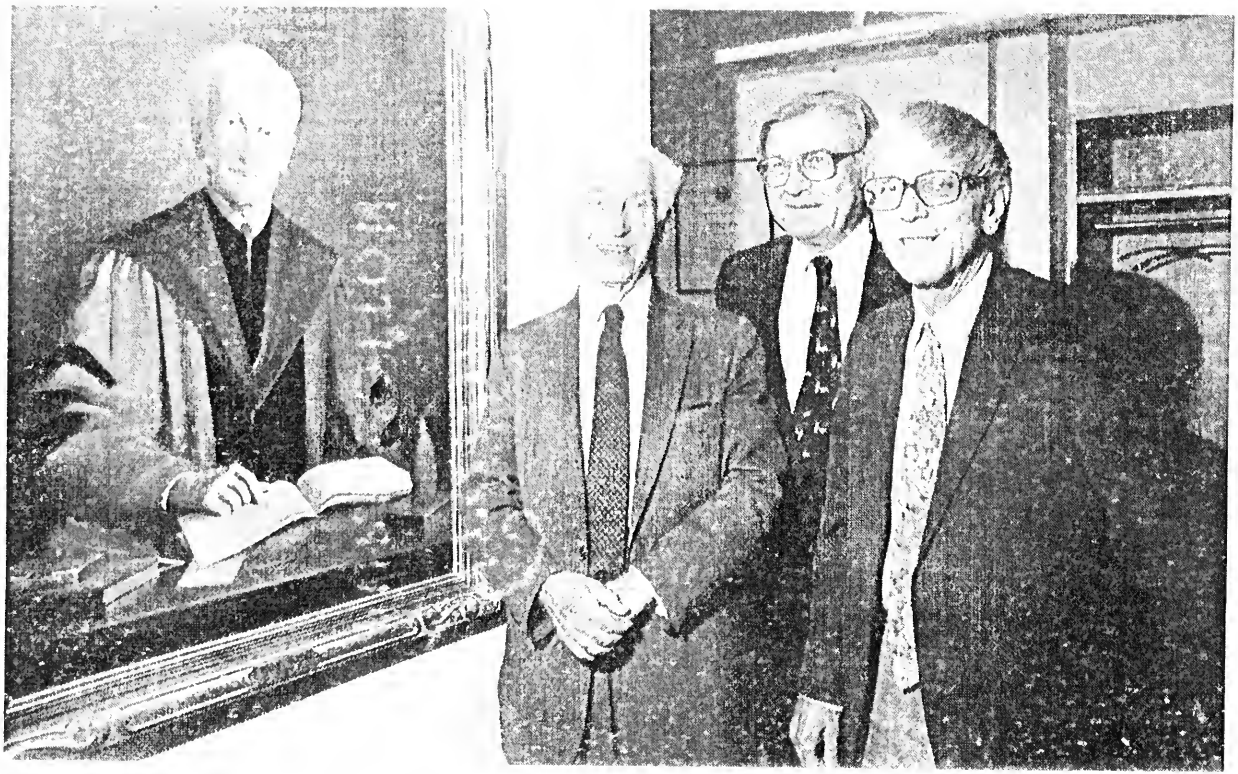


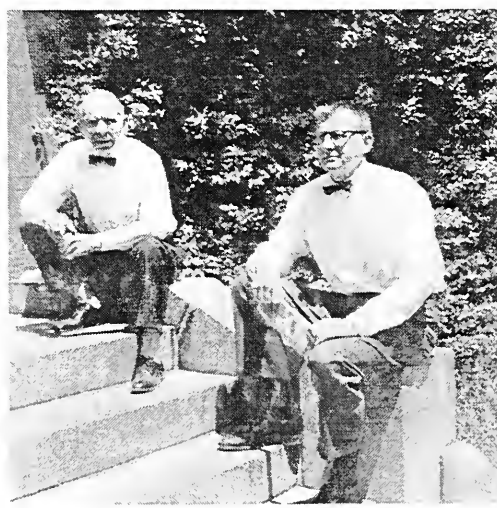
Dedication of the Ernst Mayr Library, Museum of Comparative Zoology, October 1993. Left to Right, Prof. Ernst Mayr, Mr. Richard L. Johnson and Prof. Kenneth E. Boss. Portrait of Prof. Mayr by Mr. Robert Douglas Hunter. Mr. Johnson and Prof. Boss helped make the portrait possible.

RICHARD IRWIN JOHNSON

It is a great pleasure to be able to dedicate this volume of Occasional Papers on Mollusks to Mr. Richard Irwin Johnson who has, during almost six decades of association with the Department of Mollusks, made numerous contributions to both malacology and its history, a number of which have appeared in this series and the Bulletin of the Museum of Comparative Zoology, as well as Breviora and Miscellaneous Occasional Papers. He has generously supported the Department and added considerably to its library; such works as Kiener, the Küster edition of Martini and Chemnitz; and the original pattern set to Reeve's, *Conchologia Iconica*, all duplicates from his library, which is the most extensive malacological collection in private hands.

During 1939 when Richard was fourteen years old and showed an interest in biology, his science teacher, Mr. Albert Clish took him to meet Clish's old classmate from the Huntington School, Boston, William James Clench, Curator of Mollusks at the Museum of Comparative Zoology. With his remarkable and infectious enthusiasm, Clench assured Clish that if Richard wished to volunteer in the Department he might become especially interested in mollusks. Richard was set to unpacking the extensive incoming collections of Unionoidea, including both those of the Grand Rapids, Michigan, Public Museum and of the duplicates from the Bryant Walker collection, which had recently been received from the University of Michigan. He was assured by Clench that this group was his special interest and it has been ever since. So much for imagination.

Among those working in the Department at the time were Richard Winslow Foster, Henry Drummond Russell, and Robert Tucker Abbott, an undergraduate. The latter already appeared to be a distinguished malacologist to a fourteen year old. In August of 1941 most of the members of the Department attended the eleventh annual meeting of the American Malacological Union at Rockland and Thomaston, hosted by Norman W. Lermond, and it was here that Richard met Frank Collins Baker, Horace B. Baker, Paul Bartsch, Fritz Haas, Henry A. Pilsbry and many others.



William J. Clench (left) and Richard I. Johnson comtemplating unios on the steps of the Museum of Comparative Zoology, May 1963.

During October of 1940 to April 1941, Clench was at the B.B. Bishop Museum, Honolulu, on a grant to study Hawaiian land snails with Dr. C. Montague Cooke, and Dr. Russell was left in charge. During this time, Richard became acquainted with James R. Miller, a professional collector of biological specimens, and through him, Herbert D. Athearn, who has also spent his life collecting and studying Unionoidea. Miller volunteered at the New England Museum of Natural History, and it was here, while helping him, that Richard discovered an old catalogue which led to his being able to reidentify many of the type specimens of mollusks described a century before by Joseph Pitty Couthouy. He also made the acquaintance of Ruth D. Turner, then Assistant Curator of Birds. Either he or Miller introduced her to Clench whose infectious enthusiasm for mollusks caused her to abandon ornithology for malacology. She became a leading specialist of the bivalve family Teredinidae.

In early December of 1941, Johnson and Turner accompanied Miller to Tiverton for several days to help him prepare starfish which Miller was dredging for the Cambosco Scientific Company. Turner left a day early to assist at Audubon Society's annual bird count. Those who returned to port on the 7th of December learned that the Japanese had bombed Pearl Harbor. Johnson was drafted in June 1943, knowing only that he had an early acceptance to Harvard if he returned. The proofs of the Couthouy paper were corrected while he was on latrine duty at Camp Hood, Texas. When finally sent to Europe, he was occasionally able to sneak to Paris where he found the most important works on mollusks so cheaply priced that he purchased virtually everything he saw. Later, as a Harvard

undergraduate, he financed his summers in Europe with the books he bought and sold. At college, he rowed on the freshman crew, successfully defeating Yale that year in 1947. As an undergraduate he was a member of the Hasty Pudding Club and the Spee Club, known as a Final Club, which had Maximilian Agassiz and John F. Kennedy as members. After graduating in 1951, he attended what is now the American Graduate School of International Management near Phoenix, Arizona, but he never appeared at the National City Bank in New York which had hired him. He returned to Boston and the Museum, becoming involved in life insurance, and trading securities at White, Weld & Co. In 1954 he married Marjory Weld Austin. They had three children; Sally, married to David Lurie; Marjory; and Richard, married to Karen O'Leary who had given him a grandson, Mason. The marriage ended in divorce in 1982. Later at the opening of an event at the Boston Athenaeum, Richard met Marrian Geer Gleason, the widow of Edward Hollis Gleason, a Harvard Graduate whom he had come to know at graduate school, and married her in 1988. She also has two adult children, Julia and Edward.

In 1960, at the insistence of Dr. Giles W. Mead, Curator of Fishes, Johnson accompanied Frank Mather on the Woods Hole vessel *Crawford*. Mather was studying the breeding habits of the tuna, and Johnson baited the Japanese long lines about which everyone has heard ever after. In 1952, Johnson led the Harvard Expedition to Peninsular Florida to collect Unionidae. He was accompanied by an undergraduate, Samuel Liberty Harvey Fuller. Fuller subsequently became a professional biologist associated with the Academy of Natural Sciences of

Philadelphia, especially interested in Unionoidea. After trips to Mississippi, Louisiana, Alabama, and Central Ohioin 1964 and 1965, Johnson had constructed an office in the room which contains the Unionoidea, retired from business, and has since then devoted most of his time to the Museum.

From 1958 until 1970, under the directorship of Professors Alfred Sherwood Romer and later, Ernst Mayr, Johnson served on a Committee with Drs. Charles Pierson Lyman and Raymond Andrew Paynter planning exhibition work. The Committee was abolished by the then new Director, Dr. Alfred W. Crompton, who also, after more than 100 years ceased publishing the Annual Report of the Museum.

In 1989 the Mollusk Department held a party at the Harvard Faculty Club to celebrate Johnson's fifty years at the Museum. A few months before James R. Miller appeared at the Department. Though close to ninety, he had hitch hiked from Florida. Johnson's original thank-you note to Clench, obviously written with his mother's prodding, was found in the Departmental files and read to a distinguished audience.

Having served under all of the directors of the Museum save the two Agassiz's and Samuel Henshaw, Johnson realized that of those he had known, the most distinguished was Ernst Mayr, the world's foremost evolutionary biologist. He and the author, with the permission of Mr. Rudenstein, President of the University, established a fund for a portrait of Professor Mayr, by the distinguished artist Robert Douglas Hunter. The portrait hangs in the Museum's library, now known as the Ernst Mayr Library.

Richard Irwin Johnson

Seen here prepared for the annual meeting of The Club of Odd Volumes, the purpose of which is "to promote literary and artistic tastes." It was founded in Boston in 1887 and limited to 87 resident members. Both Samuel Henshaw and Thomas Barbour, former directors of the Museum of Comparative Zoology, were members. (Though his beer glass is visible, conspicuously hidden in his right hand is Johnson's ubiquitous cigar.)

As a boy Johnson quickly recognized the difference between Dr. Thomas Barbour, the museum director, and other rentiers who held positions of authority, as opposed to Mr. Clench, who had to support a family on a modest salary. He decided early that financial success was important, even if he had then been aware that Robert Louis Stevenson had said "it is perhaps a more fortunate destiny to have a taste for collecting shells than to be born a millionaire." Alas, who would have known by the time Johnson was able to spend all of this time at the Museum, the rentiers were a dying race. He continues to come in daily while the author retreats to Maine from late May until early September after the end of the academic year. I am happy to say that Richard and I have remained friends throughout my nearly forty years at Harvard.

Kenneth J. Boss

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