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No. 59, 33 pages, 41 figures.

June 30, 1966.

MOERCH'S WEST CENTRAL AMERICAN
MOLLUSCAN TYPES WITH PROPOSAL
OF A NEW NAME FOR
A SPECIES OF *SEMELE*

By

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*Department of Geology,
Stanford University, California*

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The Danish malacologist Otto Andreas Lowson Mörch, who died of tuberculosis in Nice, Italy, at the early age of fifty (May 17, 1828 - January 25, 1878), displayed an unusual versatility in the scope of his publications, which amounted to some 109 titles. He is perhaps best known for his systematic work on Vermetidae and his catalogue of the Yoldi and Kjerulf collections, but he had gained a competent knowledge in other aspects of malacology also, as is shown by his review of the molluscan fauna of West Central America (1859-1861), which was cited first among his publications by the editors of the *Journal de Conchyliologie* in their review of his life.

Although Mörch's type specimens have in the main not been figured, his paper is far from being a forgotten one, and some of the specimens have been borrowed by American authors, as, for example, by Dall and Bartsch, when they were reviewing West American Pyramidellidae. Knowing this, I

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hoped, during the preparation of my book on the tropical American fauna, to have the opportunity to get the illustrations into print. However, the curators of the University of Copenhagen collection were faced with too large a task in the reorganization of their material after the vicissitudes of World War II to search for the specimens, and I was obliged to guess, as others had done, at what Mörch intended by his descriptions or to use the few figures available in the literature, hoping that identifications had been correct. In 1964, while in Europe, I visited the University of Copenhagen and found that many of the Mörch types had become available. Making what photographs I could during a short stay, I took notes on the material and thought I might be able to interpret most of the types from these. However, even with additional photographs later supplied by the Mollusk Section of the University of Copenhagen, there still remained gaps. The opportunity for another visit during the Second European Malacological Congress in August, 1965, gave me a welcome chance to re-photograph all the material and to look for some of the still missing lots. Several of these came to light. Mörch described 46 species of West Central American marine and brackish-water mollusks. Type material is discussed herein for all but four of these. Some unhappy consequences, nomenclaturally, must be pointed out, for several of Mörch's names have priority over names currently in use. Few can qualify as *nomina oblita*, not having been senior synonyms for the requisite fifty years, even though they were proposed a century ago. In another sense, they are not "forgotten" names, for authors have cited and attempted to interpret them on the basis of the descriptions.

The principal collection that Mörch had for study was made by Dr. A. S. Oersted during a trip to the Americas, June, 1846, to February, 1848. Although Oersted began his trip through the West Indies, stopping off at Jamaica for two months, he seems to have been careful to keep his collections separate, there being no evidence of the mixing of western Atlantic with eastern Pacific material that could easily have occurred. From Jamaica he sailed to San Juan del Norte, Nicaragua (also known as Greytown), journeyed up-river to Lake Nicaragua, visiting Mombacho Volcano near Granada, then went to the West Coast at Corinto (Real Llejós--spelled Realejo by Mörch). Here he made three dredging excursions and put out traps, baited with dead fish, in which he caught *Ficus* and other scavengers. From Corinto he went south to Puntarenas, in northern Costa Rica, with especially good collecting results on the small island of Bocorones, Gulf of Nicoya. He returned across Costa Rica, past the volcano Irazu to "Segovia," which I assume is the modern Limón. Altogether he had collected well over 300 species of West American mollusks. Mörch in his numbered list recognized 373 species. However, some of these were from Sonsonate, El Salvador, and in a foot-

note Mörch stated that Oersted had not collected this material, that it had come in from America separately, but he gave no clue as to the collector.

The paper labels Mörch had written are preserved with the extant lots of Central American material in the Copenhagen collection and their odd shade of greenish gray was an aid in distinguishing these items when one was searching for them in the general collection.

Mörch used one abbreviation in his account of material that is unusual ---"org." Authors have inferred - rightly - that the word means "fathoms"; perhaps they were aided by his use of "Klafter" in a few places, this being the German equivalent. I find that "org." is from the Greek *orgyia*, meaning the distance that is measured by a man's outstretched arms.

ACKNOWLEDGMENTS

To Dr. Henning Lemche, Curator of Mollusks in the Zoological Museum of the University of Copenhagen, I express my gratitude for courtesies received during my two visits there. I am indebted also to Dr. Jorgen Knudsen, who did most of the preliminary work of hunting out the types; without his aid this paper would have been very much less complete. Illustrations of several of the smaller forms were made by the Museum photographer, as indicated in the plate explanations. Dr. Robert Robertson made the photographs of the *Strigilla* types, while they were on loan at the U. S. National Museum.

A grant from the John Simon Guggenheim Foundation made possible my trips to Europe for museum study.

SYSTEMATIC REVIEW

EXPLANATION OF FORMAT. In the following list, the original name combination used by Mörch introduces the discussion of each species. Modern systematic order determines the sequence of genera. Type localities are cited as a part of the original reference. The synonymies given for each species include only those references considered to be essential for its interpretation and are not intended to be complete. The category "Type material" summarizes Mörch's statements as to number of specimens and dimensions, translated into English (his original descriptions were in Latin, with comments in German). A registry-number system not being in use in the Zoological Museum of the University of Copenhagen, I have therefore not made a separate entry for present status but have incorporated my observations on the content of the type lots under "Remarks," with additional comments on nomenclatural matters. However, some corrections of Mörch's stated dimensions have been made, in square brackets, under "Type material." My conclusions as to the acceptable name for each recognized species are given as a final sentence in each "Remarks" section.

Superfamily VOLUTACEA

Gibberula coniformis Mörch.

(Figure 33.)

Marginella polita CARPENTER, 1857. Catal. .. Mazatlan shells .., p. 462. Mazatlan, Mexico.*Gibberula coniformis* MÖRCH, 1860. Malak. Bl., vol. 7, no. 2, p. 86 (July). Puntarenas [Costa Rica].*Marginella moerchii* REDFIELD, 1870. American Jour. Conch., vol. 6, pt. 2, p. 244 (for *G. coniformis* Mörch, 1860, not *Marginella coniformis* Sowerby, 1850).

TYPE MATERIAL. Four specimens. Length, 2 mm.; diameter, 1 mm.

REMARKS. The adult specimen of the syntype lot has been selected by Coan and Roth, 1966 (Veliger, vol. 8, no. 4, p. 293, pl. 51, fig. 75), as lectotype. There are also three juvenile paralectotypes that are somewhat transparent and that have not yet developed the columellar teeth distinctly, one of which is figured here. The name was unnecessarily replaced by Redfield and is preoccupied only if both species are classed as *Marginella*. Coan and Roth synonymize the Mörch species with *Kogomea polita* (Carpenter, 1857).Figure 31. *Mitrella elegantula*. Two syntypes. × 6.Figure 32. *Pygmaea sonsonatensis*. Holotype. × 6. Courtesy, University of Copenhagen Zoological Museum.Figure 33. *Gibberula coniformis*. a) Paralectotype, × 12; b) Lectotype, selected by Coan and Roth, 1966. × 22. Photograph of lectotype courtesy, University of Copenhagen Zoological Museum.Figure 34. *Volvarina taeniolata*. Lectotype, selected by Coan and Roth, 1966. × 11. Courtesy, University of Copenhagen Zoological Museum.Figure 35. *Pleurotoma granulatissima*. Holotype. × 6. Courtesy, University of Copenhagen Zoological Museum.Figure 36. *Pleurotoma stellata*. Holotype. × 10. Courtesy, University of Copenhagen Zoological Museum.Figure 37. *Terebra pachyzona*. Two syntypes. × 1.Figure 38. *Turbonilla cinctella*. Copied from Dall and Bartsch, 1909. × 7.Figure 39. *Turbonilla craticulata*. Copied from Dall and Bartsch, 1909. × 6.Figure 40. *Turbonilla subula*. Copied from Dall and Bartsch, 1909. × 7.Figure 41. *Rissoina contabulata*. Holotype. × 20. Photograph courtesy, University of Copenhagen Zoological Museum.

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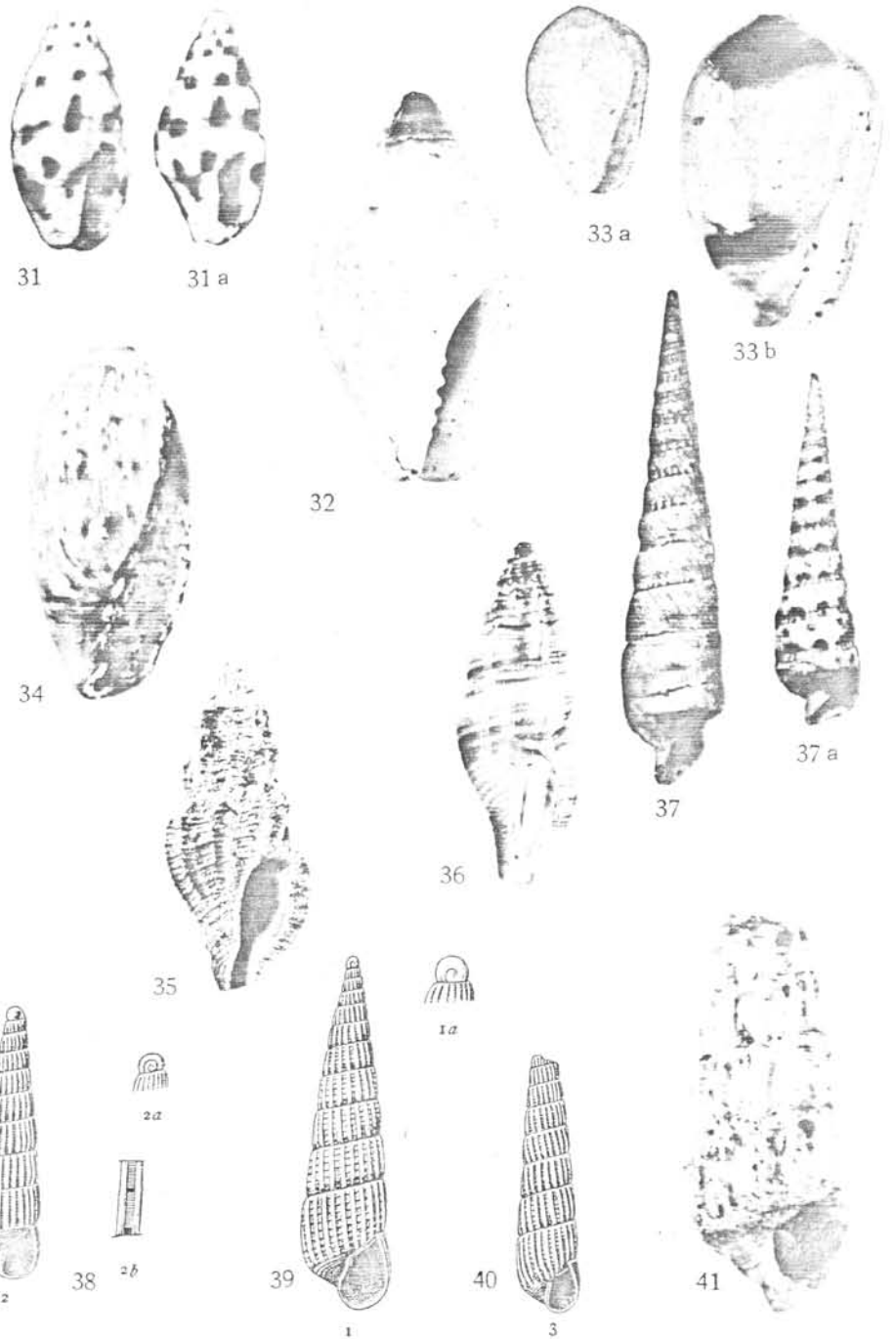
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ange colored. Mörch's specific name was chosen to call attention to the star-shaped cross section of the whorls caused by the continuous axial ribs, of which there are 6 to 7 on the last whorl. *Mangelia (Agathotoma) stellata* (Mörch, 1860).

Lachesis craticulata Mörch.

Lachesis craticulata MÖRCH, 1860. Malak. Bl., vol. 7, no. 3, p. 104 (Aug.). Bocorones [Costa Rica].

TYPE MATERIAL. Two specimens. Length, 8 mm.; diameter, 3 mm.

REMARKS. The type lot has not yet been detected. Presumably it should be in Turridae, for Mörch compared the species to *Pleurotoma sculpta* Hinds, 1843, as figured by Reeve, figure 154. Experience with other of Mörch's species has shown that attempts to recognize them without the type material in hand are apt to be futile; therefore, I shall not transcribe here the original description. Until the type material is found, this must remain a *species dubia*.

Lachesis perlata Mörch.

Lachesis perlata MÖRCH, 1860. Malak. Bl., vol. 7, no. 3, p. 104 (Aug.). Type locality not given.

TYPE MATERIAL. No information given as to number of specimens. Length, 4.75 mm.; diameter, 2 mm.

REMARKS. This lot, also, has eluded determined search. Mörch's comparisons for this form are confused (he cited "*Pleurotoma sculpta*" Reeve, figure 338, which turns out to be a smooth form recorded by Reeve as "*sculpta*," whereas Mörch's is sculptured). This, also, must remain a species of doubtful status until the type material is found.

Terebra pachyzona Mörch.

(Figure 37.)

Terebra formosa DESHAYES, 1857. Jour. Conchyl., vol. 6, p. 65, pl. 3, fig. 6. Panama. *Terebra pachyzona* MÖRCH, 1860. Malak. Bl., vol. 7, no. 3, p. 105 (Aug.). Realejo [Nicaragua].

TYPE MATERIAL. Three worn specimens. Length, 72 mm.; diameter, 15 mm.

REMARKS. All three specimens are in the Copenhagen Museum lot and are, as Mörch realized, worn shells. On the basis of the discussion by Campbell, 1963 (Veliger, vol. 5, no. 3, p. 102, pl. 12, figs. 5, 8-13; pl. 13, figs. 3-6), I conclude that Mörch's species is synonymous with that of Deshayes. Mörch perhaps was unaware of the latter form, as he makes no mention of *T. formosa* in his comparisons. *Terebra (Terebra) formosa* Deshayes, 1857.