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MALACOLOGICAL NOTES—IV

FRITZ HAAS

CURATOR OF LOWER INVERTEBRATES

Through the interest of several of my colleagues, various specimens that appear to merit report have been added to the shell collection of Chicago Natural History Museum. The collection has been especially enriched by the collecting of minute forms by Mr. Henry Dybas, Assistant in the Division of Insects, while in Army service in the Pacific. Other notes are the by-product of the revision of the collections still in progress. I am indebted to Mr. John Bayalis for photographs used for illustration and to Mrs. Peggy Collings Brown, Assistant in the Department of Zoology, for the drawings.

LATE PLEISTOCENE NON-MARINE MOLLUSKS FROM HONDURAS

In March, 1942, Dr. Paul O. McGrew, Curator in the Division of Paleontology, collected bones of mammals in the mud bog of a spring near the village of Yeroconte, about 3 km. north of Dolores, in the Department of Copan, Honduras. The mammalian fauna contained species of *Felis*, *Camelops*, *Equus*, *Megatherium* and *Glyptotherium*. These mammals are not sufficient to date definitely the deposits, which may be late Pleistocene or post-Pleistocene, but not earlier. Thus they may date from the last interglacial period, or may be recent, though prehistoric. The dried matrix in which these mammalian remnants were contained, when washed in the laboratory, yielded other organic remnants, such as parts of plants (fibers and seeds) and shells of mollusks and ostracods.

I was entrusted with the classification of the mollusks belonging to the four species of gastropods listed below. These few fossil or subfossil shells from Honduras indicate that important contributions toward the mollusk fauna may be expected from a more thorough survey of that country.

Physa (Alampetis) squalida Morelet

Five specimens.

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Gastrocopta (Gastrocopta) pellucida pellucida Pfeiffer

One specimen.

The specimen of *Gastrocopta pellucida* is not quite typical and appears very close to certain forms of its subspecies *hordeacella* Pilsbry. The subspecies *pellucida* proper has been recorded from Yucatan, central and west Guatemala by E. von Martens (1898, p. 328), but this record is not repeated by Pilsbry in his monograph of the Pupillidae in the Manual of Conchology (24, p. 75, 1918), nor is there any subspecies of *pellucida* recorded from Central American localities south of northeastern Mexico in that work. Martens' remark (loc. cit.), that the species was probably introduced into some places by commerce, may hold true for the Panamanian and Ecuadorian records, but certainly not for this Honduran one, which dates back to prehistoric times. The occurrence of a *pellucida*-form in Honduras makes it even more likely that the records from Yucatan and Guatemala refer to endemic populations and not to colonies caused by accidentally introduced foreign specimens.

Chanomphalus pilsbryi H. B. Baker

One specimen.

This recently described species was known exclusively from the original localities in southern Mexico.

Adelopoma (Adelopoma) stolli Martens

One specimen.

Adelopoma stolli Martens has apparently been known only from its original locality in northwestern Guatemala. Described by von Martens (1890, p. 20, pl. 1, fig. 19), mentioned again by Kobelt and Moellendorff (1898, p. 133), Kobelt (1902, p. 480), and Bartsch and Morrison (1942, p. 149, pl. 40, figs. 2-3), the species evidently was never found again. It is true that Hinkley (*Nautilus*, 21, p. 78, 1907) reports this species from Tampico, Mexico, where a single specimen was found among drift material; but Bartsch and Morrison, who have seen the specimen cited, are rather doubtful about its identity, and do not mention it in their references to *Adelopoma stolli*. The Honduran specimen is typical but shows on the columella a little nodule that the original description does not mention.

ON A PARATYPE OF CIRCE SUBTRIGONA CARPENTER

In 1857, Philip P. Carpenter (pp. 81, 82) described two minute shells from Mazatlan, Mexico, under the names of *Circe margarita*

and *subtrigona*, respectively; the further knowledge of these two supposed species of venerids rested on the original descriptions, until Dall (1902, p. 408), in his synopsis of the North American Veneridae, stated that the above-mentioned two Carpenterian species of *Circe* represent "nepionic shells, which are so juvenile in their characters as to be impossible of identification at present. We may assume it to be certain that they do not belong to the genus *Circe*." Dall had two good reasons for this conclusion; namely, that he had before him what may be called Carpenter's types of the two shells in question, and that the genus *Circe* has no known representative on the west coast of America.

Myra Keen (Minutes of the Conchological Club of Southern California, No. 39, pp. 17-18, September, 1944) states from her own study of the specimens in the National Museum in Washington, D.C., that she is inclined to classify *Circe margarita* Carpenter as a young *Amiantis callosa* Conrad, "or some such beast," while *Circe subtrigona* Carpenter is regarded as the young of *Petricola tellimyalis* Carpenter.

While revising the Museum shell collection, which contains the third series of Philip P. Carpenter's collection, acquired in 1895, I came across another paratype of *Circe subtrigona*, C.N.H.M. No. 6698. After a thorough cleaning and study of the tiny shell under the binocular microscope, I can make the following statements about it: Our paratype consists only of a right valve whose hinge characters prove that it is no venerid at all; thus far our specimen supports Dall's opinion. But, owing to a better state of preservation of the Chicago specimen, or its somewhat more advanced stage of growth, or the improvement in modern optical instruments, I conclude that our *Circe subtrigona* is actually a member of the family Semelidae and belongs to the genus *Semele* proper; for reasons of probability, I tentatively assign it to a common species of the Panama region, *Semele bicolor* C. B. Adams.

This result of the study of the Chicago paratype of *Circe subtrigona* is not sufficient, however, to reduce this species to a synonym of the *Semele* named above and to include it in its synonymy. From Miss Keen's study, the Washington specimen of *Circe subtrigona* appears to belong to the Petricolidae, while our shell is probably a semelid. From all we know, it is now evident that *Circe subtrigona* is not a *Circe* and not a venerid at all, as Dall had already suspected, and the same may be the truth about the other minute Mazatlan *Circe margarita*, which may likewise be both invalid and composite.

SOME PERUVIAN LAND AND FRESH-WATER MOLLUSKS

In the course of the Museum's Magellanic Expedition, 1939-41, Mr. Karl P. Schmidt, then Curator of Reptiles, and Mr. Colin C. Sanborn, Curator of Mammals, collected some non-marine shells which, though limited in number, afford considerable interest. I shall list them, indicating their respective localities, and shall then give some comment upon the more important species.

Helisoma (Taphius) andecola montanum Orbigny

Lake Junín, Department of Junín, 14,500 feet altitude; Karl P. Schmidt, October, 1939.

Creek tributary of Río Apurimac near Cailloma, Department of Arequipa, 14,500 feet altitude; Karl P. Schmidt, July-September, 1939.

Succinea andecola Crawford

Yura, Department of Arequipa, about 8,000 feet altitude; Karl P. Schmidt, August 7, 1939.

Deroceras reticulatum Müller

Same locality and data as the last-named species.

Deroceras laeve andecola Orbigny

Near Cuzco, Department of Cuzco, 11,400 feet altitude; Karl P. Schmidt, September 12, 1939.

Bulimulus (Bulimulus) nivalis Orbigny

Sumbay, Department of Arequipa, 13,400 feet altitude; Karl P. Schmidt, August, 1939.

Bulimulus (Scutalus) culmineus Orbigny

Hacienda Urco, near Calca, Department of Cuzco, 9,500 feet altitude; Karl P. Schmidt, September 21, 1939.

Bulimulus (Scutalus) proteus Broderip

Above Santa Eulalia, above Chosica, Department of Lima, about 3,500 feet altitude; Karl P. Schmidt, July 23, 1939.

Bulimulus (Scutalus) versicolor Broderip

Juliaca, Department of Puno, 12,500 feet altitude; Karl P. Schmidt, September 11, 1939.

Bulimulus (Scutalus) striatus King

Junín, Department of Junín, 14,500 feet altitude; Karl P. Schmidt, October, 1939.

Bulimulus (Lissoacme) virgultorum Morelet

Valle de Santa Ana, Department of Cuzco, about 12,000 feet altitude; Karl P. Schmidt, 1939.

Bulimulus (Lissoacme) modestus Broderip

Above Santa Eulalia, above Chosica, Department of Lima, about 3,500 feet altitude; Karl P. Schmidt, July 23, 1939.

Bulimulus (Peronaeus) anomphalus Pilsbry

Bostryx (Peronaeus) anomphalus Pilsbry, *Nautilus*, **57**, p. 123, pl. 11, fig. 7, 1944.

Same locality and data as the last-named species and therefore topotypes.

Bulimulus (Ataxiellus) spiculatus Morelet

Same locality and data as the last-named species.

Plecocheilus (Eurytus) lacrimosus Heimburg

Candamo, Department of Puno, junction of West and Huacoma-yo rivers, about 950 feet altitude; Colin C. Sanborn, October 26, 1941.

Epiphragmophora (Pilsbrya) clausomphalos Deville and Hupé

Hacienda Urco, near Calca, Department of Cuzco, 9,500 feet altitude; Karl P. Schmidt, September 21, 1939.

Epiphragmophora (Epiphragmophora) claromphalos Deville and Hupé

Cuzco, Department of Cuzco, 11,400 feet altitude; Colin C. Sanborn, December, 1939.

Helix (Cryptomphalus) aspersa Müller

Chosica, Department of Lima, 2,800 feet altitude, in irrigated pasture; Karl P. Schmidt, July 28, 1939.

Aperostoma (Aperostoma) fultoni Bartsch and Morrison

Oconoque, Department of Puno, 5,970 feet altitude; Colin C. Sanborn, October 4, 1941.

Ampullarius (Ampullarius) nubilus Reeve

Candamo, Department of Puno, junction of West and Huacoma-yo rivers, about 950 feet altitude; Colin C. Sanborn, October 26, 1941.

Sphaerium (Sphaerium) boliviense Sturany

Lake Junín, Department of Junín, 14,000 feet altitude; Karl P. Schmidt, October, 1939.

Pisidium wolfii Clessin

Creek tributary of Río Apurimac near Cailloma, Department of Arequipa, 14,500 feet altitude; Karl P. Schmidt, July–September, 1939.

Pisidium forbesii Philippi

Same locality and data as the last-named species.

Geographical distribution.—The shells that are listed above belong to three different geographical provinces. The localities of Chosica, Department of Lima, and Santa Eulalia above Chosica are situated west of the continental divide, and two of the five species found there apparently are restricted to that Pacific slope, namely, *Bulimulus (Lissoacme) modestus* Broderip and *Bulimulus (Scutalus) proteus* Broderip; one of the remaining three species, namely, *Bulimulus (Ataxiellus) spiculatus* Morelet has also been reported from the high sierras bordering the headwaters of the Amazon and its tributaries. *Bulimulus (Peronaeus) anomphalus* Pilsbry has just been described and its general distribution is not yet known. The last species, *Helix (Cryptomphalus) aspersa* Müller, is an introduced European species and has no bearing on South

American zoogeography; significantly enough, it is found, in this continent, only in and near cultivated or at least irrigated places.

The localities Oconoque and Candamo, both in the Department of Puno, on the other hand, are situated within the tropical jungle which enters the lower portions of the valleys of the Amazon and its tributaries. Oconoque is at only about 6,000 feet altitude, on a left tributary of the headwaters of Río Inambari. The only shell there found, *Aperostoma* (*Aperostoma*) *fultoni* Bartsch and Morrison, incidentally was described only three years ago (1942, p. 242, pl. 35, figs. 1-4) as coming from "Brazil." The Oconoque specimen agrees so well with the description and figures that I cannot hesitate to identify it with *fultoni*, whose real home thus has become evident. Candamo, at the junction of the rivers West and Huacomayo which belong to the headwaters of Río Inambari, is still lower, at only about 950 feet altitude, in a typically tropical environment. Of the two species there found, namely, *Ampullarius* (*Ampullarius*) *nubilus* Reeve and *Plecocheilus* (*Eurytus*) *lacrimosus* Heimbürg, the first had been known, so far, only from the Río Salomoens (Solimoes), whereas the second, apparently very rare, has scarcely ever been mentioned in literature, apart from the original descriptions (1884, p. 92; 1887, p. 1, pl. 1, fig. 1) and from Pilsbry's monograph of the Bulimulidae in the Manual of Conchology; Iquitos, on the upper Peruvian Amazon, had been its only known locality.

The molluscan fauna of the remaining nine localities, all of which are situated in the high sierras, does not need further consideration, since all but one of the species there collected are well known as to their specific features as well as to their geographical distribution; only the little bivalve received from Lake Junín, Department of Junín, at 14,000 feet altitude, offers a certain special interest. *Sphaerium* (*Sphaerium*) *boliviense* Sturany, the species to which I alluded, was described in 1900 (p. 57, pl. 1, figs. 1-7) under the name of *Pisidium boliviense* sp. nov.; the locality was given as a "little pond on the Puna near Machamac, between Chililaya and La Paz, Bolivia." Apparently never found again, it always was listed as a *Pisidium*, though even the original figures do not permit any doubt about its belonging to the genus *Sphaerium*. The Lake Junín specimens correspond in every respect to the description and figures so that I feel sure that they belong to *boliviense*; but on the other hand, close study reveals their *Sphaerium*-nature beyond any question. These Lake Junín specimens of *Sphaerium boliviense*, together with the snail *Helisoma* (*Taphius*) *andecola montanum* Orbigny found in their company, offer a certain additional interest on account of the

strange circumstances under which they were procured; they were found in the intestine of an apparently rather common giant frog, *Batrachophryne microphthalmus* Peters, which they filled completely, together with a few crustaceans, insect larvae, and oligochaetes.

It may cause some astonishment that such typical still-water shells as *Helisoma (Taphius) andecola montanum* Orbigny, *Pisidium wolffi* Clessin, and *Pisidium forbesii* Philippi are here recorded from a tributary of Río Apurimac at an altitude of 14,500 feet; but the there-expected torrential conditions are absent, and the winding creek with a muddy bottom flows through a flat-bottomed valley with moss and grass vegetation and offers, thus, the life conditions necessary to the establishment of the three named species.

THE SYSTEMATIC POSITION OF PLECTOPYLIS COARCTATA MOELLENDORFF

The minute land shell named *Plectopylis coarctata* by von Moellendorff in 1894 has never been figured and there are few references to it in the literature. It is here referred to a new genus, and the following list contains all the references that have come to my knowledge.

Coarctatio coarctata Moellendorff. Fig. 1.

Plectopylis coarctata Moellendorff, Nachr. Bl. Deutsch. Mal. Ges., **26**, p. 113, 1894—Panglao Island, Philippine Islands; Faustino, Philip. Journ. Sci., **42**, p. 116, 1930.

Plectopylis (Plectopylis) coarctata Pilsbry, Man. Conch., (2), **9**, p. 146, 1894.

Brazieria coarctata Moellendorff, Nachr. Bl. Deutsch. Mal. Ges., **27**, p. 159, 1895; Abh. Naturf. Ges. Görlitz, **22**, p. 123, 1898; Journ. Malac., **7**, p. 111, 1900.

Brazieria coarctata var. *majuscula* Quadras in Moellendorff, Nachr. Bl. Deutsch. Mal. Ges., **27**, p. 159, 1895—Masbate Island, Philippine Islands.

Helix (Brazieria) coarctata Hidalgo, Mem. Real. Acad. Cienc. Madrid, **14**, p. 167, 1901.

In quoting Hidalgo, I have omitted, in the above list, his statement that *Brazieria coarctata* was figured on plate 157, figs. 18 and 19, in the part of his publication that deals with the land and fresh-water Mollusca of the Philippine Islands. This statement is incorrect, for on none of the 170 plates accompanying Hidalgo's Part 1 of his *Obras Malacológicas* do we find a picture of the species in question. The species thus remains unfigured. The study of new material of *coarctata* and of the supposed var. *majuscula* Quadras (a nomen nudum) provides additional information about this species

and enables me to figure it. In an old private collection of shells bequeathed by Mrs. W. J. Ammen to Chicago Natural History Museum in 1925, two specimens of what was called *Brazieria coarctata* from Panglao Island (C.N.H.M. No. 17663) and one from Masbate Island supposed to be var. *majuscula* (C.N.H.M. No. 17664) were represented. Though the collector is not named, several indications make it very probable that the whole collection



FIG. 1. *Coarctatio coarctata* Moellendorff. C.N.H.M. No. 17663a: a, from beneath; $\times 25$. b, from beneath; $\times 50$. c, from side; $\times 25$. d, from above; $\times 25$. No. 17663b: e, aperture from within; $\times 25$.

was brought together by and received from J. F. Quadras, the well-known explorer of the Philippine shell fauna. The supposed var. *majuscula* proves to be identical with the typical *coarctata*, its dimensions (greatest diameter 1.6 mm., height 0.6 mm.) keeping within the range of dimensions of the so-called typical form (greatest diameter 1.5–1.7 mm., height 0.6–0.7 mm.); the varietal name can thus be dropped without scruple.

Some 40 specimens of this strange little shell were recently received from Mr. Walter F. Webb; they too had been collected by J. F. Quadras and they came from the little island of Landao off

Masbate (C.N.H.M. No. 17975); the lot had been classified by its collector as *Brazieria coarctata* var. *majuscula*.

The specimens at hand correspond fairly well with the original diagnosis of von Moellendorff, but some features found in these individuals were either not seen or not adequately appreciated by him. These characters contribute to a fuller understanding of the otherwise only incompletely known *coarctata*. The shell is very pellucid and glossy, with a greasy luster; its surface shows a sculpture of many crowded and regularly spaced, but shallow and somewhat wavy, spiral furrows crossed by less accentuated and much more irregularly placed transverse striae following the lines of growth (fig. 1, *a*). The decussation thus resulting is quite irregular and not very pronounced (fig. 1, *b*). The detached parietal lamella of the peristome contracts the otherwise rather wide aperture, converting it into a vertical slit only half as wide as the height of the last whorl (fig. 1, *b, c*). There are two lamellar protuberances on the parietal wall (fig. 1, *e*) of the aperture: the upper one is connected with the parietal lamella of the peristome, from which it projects vertically inward, narrow at its origin and swelling to about twice its width at a little distance and then, after an abrupt constriction, reassuming the original width. At the side of the narrow innermost portion of this lamella, but somewhat closer to the base of the shell, there is another lamella, about as long and as wide as the thickened middle part of the upper one, but entirely free from the lamella of the peristome.

Considering that there is a vast range of variation in the shape of the accessory teeth and lamellae of the shell aperture even in one species, the facts here stated may prove to be merely individual as to certain details.

Another characteristic feature of *C. coarctata* which I think worth mentioning is the extremely low growth rate of its whorls (fig. 1, *d*); in fact, the embryonic portion of one-half to three-quarter whorls is almost as wide as the last whorl, while the intermediate portions, starting a little bit narrower than the embryonic whorl, widen almost imperceptibly.

There can be no doubt that the minute *coarctata* is neither a *Plectopylis*, nor a *Brazieria*. Though somewhat similar in general shape to *Plectopylis*, the colorless, thin shell and the tiny size of *coarctata* are distinguishing features, and its assignment to that genus is no more justified than is that of the helicoid-shaped vallonias to some helicid genus. *Brazieria velata* Hombron and Jacquinot on the

other hand, the type species of *Brazieria*, has, it is true, a pronounced parietal lamella in its aperture (fig. 2), but the structure of this lamella is very different from that in *coarctata*, and the shell of *velata*, of a basically different shape, is lusterless, grayish and quite opaque. It thus becomes impossible to assign the species in question to *Plectopylis* or to *Brazieria*. *P. coarctata* can much better be compared to some systrophiid of the *Entodina*-group, *S. cheilostropha* Orbigny for instance; but no Old World species of Systrophiidae being known, and having to rely on shell characters only, such a relationship is purely hypothetical. *P. coarctata* might belong to the Entodontidae, but some shell features convince me that its place

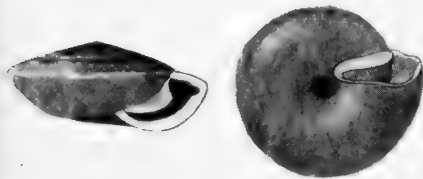


FIG. 2. *Brazieria velata brazieri* H. B. Baker. Left figure from side; $\times 4$. Right figure from below; $\times 4$. After Pilsbry.

is with the Streptaxidae. The greasy luster of its whitish shell is a very common streptaxid character, and the minute size and the shape of the shell, as well as the rather complicated mouth armature, are at least not uncommon in this family.

It thus becomes necessary to establish a new genus for *P. coarctata*, since its shell characters do not agree sufficiently with those of any other known genus of land shells. I therefore propose the generic name of *Coarctatio* for it, provisionally ranging *Coarctatio coarctata* Moellendorff in the family Streptaxidae.

A SECOND RECORD OF BRADYBAENA SIMILARIS FROM THE UNITED STATES

As Dr. Henry A. Pilsbry kindly informs me, the Asiatic fruticoid land shell *Bradybaena similis* Férussac has been reported from this country only once before, by Calvin Goodrich (1940), who received specimens from Orleans Parish, Louisiana. His specimens belonged to the banded phase of *similis* and were, therefore, listed as subsp. *hongkongensis* Deshayes. Quite recently, Chicago Natural History Museum received a lot of specimens of the same phase, collected by Henry S. Dybas, Assistant in the Division of Insects, now in the United States Army. He found it "in gardens within the city" of New Orleans, Louisiana, on September 18, 1944 (C.N.H.M. Coll. No. 20836). This new record seems to indicate

that *Bradybaena similaris* is now firmly established in the United States.

STROBILOPS AENEA PILSBRY FROM OAHU, HAWAIIAN ISLANDS

Among a lot of minute insects collected in the Waianae Range, about 1.5 miles north of Ekahanui Gulch, Oahu, Hawaiian Islands, by Mr. Dybas, there was one specimen of the North American land shell *Strobilops aenea*; with it were collected the Hawaiian land shells *Tornatellina (Tornatellina) baldwini* Ancey, and *T. (Laminella) cylindrica* Sykes.

Dr. Henry A. Pilsbry and Dr. Montagu C. Cooke, Jr., have both written to me that they did not know of any previous record of *Strobilops* in the Hawaiian Islands. Mr. Dybas did not use strainers for collecting his minutia, collecting by picking up every object individually, so that there is no possibility of introduction of the specimen by him. We must assume that *Strobilops aenea* is now established in the Hawaiian Islands.

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