

THE PHILIPPINE LAND SHELLS OF THE GENUS SCHISTOLOMA.

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In 1902 Dr. Wilhelm Kobelt, in his great work on the Cyclophoridae¹ substitutes the name *Schistoloma* for *Coptocheilus* Gould, which is preoccupied by *Coptochilus* Amyot and Serville, 1843, a genus of Hemiptera.

Dr. Augustus A. Gould described the genus *Coptocheilus*² in 1862, defining it as follows:

Shell chrysallidiform, acute, normally umbilicated, chestnut colored; aperture almost disjunct from the spire; peristome more or less double, with the internal lamina incised posteriorly. Operculum (*C. altum*) corneous, multispiral, circular, and flat. Type: *C. altum* Sowerby.

There is a character in the operculum which Gould and Kobelt seem to have overlooked, namely, that the spirals of the multispiral operculum are fused only in the very center, the broad, expanded, exceedingly thin edges being free and simply tightly appressed to each other. See figures 5, 6, and 7 on plate 51.

The Philippine shells group themselves readily under two divisions, which we may designate as subgenera, with the following characters:

Shell with a narrow slit (breathing pore) near the junction of the inner lip and the parietal wall. *Schistoloma*, ss.
Shell without a slit in the peristome. *Hololoma*, new subgenus.

The subgenus *Schistoloma* is apparently confined to part of the central islands of the Philippines. It extends from Mindoro and the two little islands, Ilin and Semerara to the south of this, eastward to Tablas, Romblon, and Sibuyan, while to the south, after apparently jumping over Panay and Guimaras, it again occurs on Negros.

The members of the subgenus arrange themselves into two groups. The one possessing a large aperture and a broadly flaring, more or less

¹ Das Tierreich, König. Preuss. Akad. Wiss. Berlin, vol. 16, p. 278.

² Proc. Bost. Soc. Nat. Hist., vol. 8, p. 282, 1862.

twisted peristome, extends over northern Mindoro, Romblon, Sibuyan, and Negros, while the other, which has a smaller, more circular aperture, with flatly expanded and much thickened peristome, is restricted to southern Mindoro, Ilin, Semerara, and Tablas Islands. These two groups may be considered as species—the first, *Schistoloma* (*Schistoloma*) *alta* Sowerby, and the other *Schistolma* (*Schistolma*) *mcgregori* Bartsch.

While the members of these two species present characters on the various islands that distinguish them from those of other islands, these characters represent degrees of modification rather than kind, and it is possible in some instances to find some specimens on different islands which appear absolutely identical, in spite of the fact that the average of any one set of characters, or all the characters, of a large series of specimens will give different nodes when the material from different islands is compared. This expression of different averages in the various island races demands some recognition, and I believe that this is best met by the use of trinomial names.

It is interesting to note that two of the islands harbor two forms. Mindoro has on its northeastern coast *Schistoloma alta mindoroensis* and *Schistoloma mcgregori webbi* on the south end, while Romblon has a large race of *Schistoloma alta romblonensis* and *Schistoloma alta pygmaea*, a dwarf race. These may be geographically separated, but no definite locality beyond "Romblon" appears on the label with the specimens.

It is equally interesting to find that in one instance inhabitants of two islands are so closely allied that they may be considered identical. These are *Schistoloma mcgregori webbi*, which occurs on southern Mindoro, and on the little island of Ilin, which is separated from Mindoro by a narrow strait.

The subgenus *Hololoma* seems confined to the Calamianes group, and there, as far as known, to the islands of Busuanga and Coron.

KEY TO THE SPECIES AND SUBSPECIES OF SCHISTOLOMA.

Lip with slit (*Schistoloma* s. s.).

Aperture large with the peristome broadly flaring and irregularly reflected.

Inner peristome very thick *alta*.

Inner peristome not thick.

Inner peristome flowing over and fusing with the outer peristome.

Shell large, altitude more than 22.5 mm.

Reflected lip chocolate brown. *mindoroensis*.

Reflected lip not chocolate brown.

Reflected lip flesh-colored to pale brown.

Average altitude 24.95 mm., diameter 11.31 mm. *romblonensis*.

Average altitude 23.05 mm., diameter 10.91 mm. *sibuyanensis*.

Shell small, altitude less than 20 mm *pygmaea*

Lip with slit—Continued.

Aperture smaller, with the peristome flatly expanded.

Peristome chocolate brown. *tablasensis*.

Peristome not chocolate brown.

Peristome flesh-colored to pale brown.

Shell small, average diameter 9.37 mm. *mcgregori*.Shell larger, average diameter 10.46 mm. *webbi*.

Lip without slit (Hololoma).

Average altitude 28.4 mm. *coronensis*.Average altitude 25.7 mm. *quadrasii*.

SCHISTOLOMA (SCHISTOLOMA) ALTA Sowerby.

Cyclostoma altum SOWERBY, Proc. Zool. Soc. London, p. 84, 1842.*Megalomastoma altum* PFEFFER, Zeitschr. f. Mal., p. 109, 1847.*Coptocheilus altum* GOULD, Proc. Boston Soc. Nat. Hist., vol. 8, p. 282, 1862.*Coptocheilus altum*, var. *protracta* KOBELT and MOLLENDORFF, Nachrbl. Deut. Malak. Ges., vol. 29, p. 141, 1897 (*nomen nudum*).*Schistoloma altum* KOBELT, Das Tierreich, vol. 16, p. 278, 1902.

Shell elongate conic, chocolate brown, with the peristome ranging from brown to flesh-colored. Nuclear whorls a little more than two, smooth, well rounded, polished, separated by a well-impressed suture. Postnuclear whorls well rounded, marked by decidedly retractive and strongly developed, closely spaced lines of growth. The spiral sculpture is variable, ranging from a few, irregularly scattered, incised lines to closely spaced, fine, spiral striations, which may cover the entire surface. Sutures somewhat constricted. Periphery of the last whorl well rounded. Base well rounded, narrowly umbilicated; a bounding fasciole to the umbilicus may be present or absent. Aperture large, irregularly oval; peristome complete, decidedly expanded, the flaring edge being irregularly curved, that is, not in one plane. There is an inner lip which may flow over and fuse with the outer lip anteriorly, being more distinct on the parietal side; this inner lip bears a notch at the junction of the columella and the parietal wall; parietal lip adnate to the body whorl.

The species breaks up into five subspecies, which are characterized chiefly by the measurements and coloration noted below.

SCHISTOLOMA (SCHISTOLOMA) ALTA ALTA Sowerby.

Plate 51, figs. 9 and 11.

Cyclostoma altum SOWERBY, Proc. Zool. Soc. London, p. 84, 1842.*Megalomastoma altum* PFEFFER, Zeitschr. f. Mal., p. 109, 1847.*Coptocheilus altum* GOULD, Proc. Boston Soc. Nat. Hist., vol. 8, p. 282, 1862.*Schistoloma altum* KOBELT, Das Tierreich, vol. 16, p. 278, 1902.

In this subspecies, which comes from the Island of Negros, the peristome is very thick. The lip is usually flesh-colored, though at times pale brown.

The eighteen specimens which we have seen give the following measurements:

- Cat. No. 104757, U.S.N.M.; altitude, 26.5 mm.; diameter, 11.2 mm. Negros. (Figured).
 Cat. No. 104757, U.S.N.M.; altitude, 25.0 mm.; diameter, 11.0 mm. Negros.
 Cat. No. 184576, U.S.N.M.; altitude, 25.8 mm.; diameter, 11.0 mm. Negros.
 Cat. No. 184756, U.S.N.M.; altitude, 23.7 mm.; diameter, 11.0 mm. Negros.
 Cat. No. 20158, U.S.N.M.; altitude, 24.0 mm.; diameter, 11.0 mm. Negros.
 Webb Collection; altitude, 27.8 mm.; diameter, 12.6 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 25.5 mm.; diameter, 11.2 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 25.0 mm.; diameter, 11.6 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 27.4 mm.; diameter, 12.5 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 25.5 mm.; diameter, 12.6 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 25.3 mm.; diameter, 12.0 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 26.5 mm.; diameter, 12.5 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 26.5 mm.; diameter, 11.9 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 24.5 mm.; diameter, 12.0 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 28.2 mm.; diameter, 12.6 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 26.5 mm.; diameter, 12.4 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 27.7 mm.; diameter, 11.7 mm. Bay of Cala Cala, Negros.
 Webb Collection; altitude, 27.8 mm.; diameter, 11.7 mm. Negros.
 Average, altitude, 26.07 mm.; diameter, 11.81 mm.
 Greatest, altitude, 28.2 mm.; diameter, 12.6 mm.
 Least, altitude, 23.7 mm.; diameter, 11.0 mm.

SCHISTOLOMA (SCHISTOLOMA) ALTA MINDOROENSIS, new subspecies.

Plate 51, figs. 1 and 3.

In this subspecies, which comes from northeastern Mindoro, the peristome is always chocolate brown.

The seventeen specimens below give the following measurements:

- Cat. No. 195736, U.S.N.M.; altitude, 25.4 mm.; diameter, 11.8 mm. Mindoro (figured type).
 Cat. No. 195736, U.S.N.M.; altitude, 24.6 mm.; diameter, 11.3 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.5 mm.; diameter, 11.5 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.6 mm.; diameter, 11.4 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.0 mm.; diameter, 11.4 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.0 mm.; diameter, 11.0 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.7 mm.; diameter, 11.0 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 25.3 mm.; diameter, 11.3 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 26.0 mm.; diameter, 11.1 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.4 mm.; diameter, 11.4 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 23.3 mm.; diameter, 11.3 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 24.4 mm.; diameter, 11.2 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 23.5 mm.; diameter, 11.0 mm. Mindoro.
 Cat. No. 195736, U.S.N.M.; altitude, 23.8 mm.; diameter, 11.1 mm. Mindoro.
 Cat. No. 257515, U.S.N.M.; altitude, 27.5 mm.; diameter, 12.5 mm. Colapan, Mindoro.
 Cat. No. 257515, U.S.N.M.; altitude, 25.0 mm.; diameter, 11.1 mm. Colapan, Mindoro.
 Cat. No. 257515, U.S.N.M.; altitude, 24.8 mm.; diameter, 11.0 mm. Colapan, Mindoro.
 Average, altitude, 24.69 mm.; diameter, 11.32 mm.
 Greatest, altitude, 27.5 mm.; diameter, 12.5 mm.
 Least, altitude, 23.3 mm.; diameter 11.0 mm.

SCHISTOLOMA (SCHISTOLOMA) ALTA ROMBLONENSIS, new subspecies.

In this subspecies, which comes from Romblon Island, the lip is flesh-colored to pale brown. The shell itself has a greenish tinge.

The six specimens which we have seen give the following measurements:

- Cat. No. 296609, U.S.N.M.; altitude, 24.9 mm.; diameter, 11.1 mm. Romblon.
 Webb collection; altitude, 25.2 mm.; diameter, 11.1 mm. Romblon.
 Webb collection; altitude, 24.5 mm.; diameter, 11.1 mm. Romblon.
 Webb collection; altitude, 26.6 mm.; diameter, 12.6 mm. Romblon.
 Webb collection; altitude, 26.0 mm.; diameter, 11.7 mm. Romblon.
 Webb collection; altitude, 22.5 mm.; diameter, 10.3 mm. Romblon.
 Average, altitude, 24.95 mm.; diameter, 11.31 mm.
 Greatest, altitude, 26.6 mm.; diameter, 12.6 mm.
 Least, altitude, 22.5 mm.; diameter, 10.3 mm.

SCHISTOLOMA (SCHISTOLOMA) ALTA SIBUYANENSIS, new subspecies.

In this subspecies, which comes from Sibuyan Island, the lip varies from dark chocolate brown to flesh-colored. The shell itself, in perfect condition, has a greenish tinge, while in the worn specimens the usual chestnut color prevails.

This may be what von Möllendorff listed as *Coptochilus altum protracta*, a *nomen nudum*.

Thirty specimens of this subspecies measure:

- Cat. No. 130873, U.S.N.M.; altitude, 23.7 mm.; diameter, 11.3 mm. Sibuyan.
 Cat. No. 130873, U.S.N.M.; altitude, 25.5 mm.; diameter, 11.5 mm. Sibuyan.
 Cat. No. 130873, U.S.N.M.; altitude, 25.4 mm.; diameter, 11.2 mm. Sibuyan.
 Cat. No. 130873, U.S.N.M.; altitude, 25.5 mm.; diameter, 10.5 mm. Sibuyan.
 Cat. No. 184581, U.S.N.M.; altitude, 24.3 mm.; diameter, 10.6 mm. Sibuyan.
 Cat. No. 184581, U.S.N.M.; altitude, 25.5 mm.; diameter, 11.2 mm. Sibuyan.
 Cat. No. 296613, U.S.N.M.; altitude, 24.2 mm.; diameter, 10.6 mm. Sibuyan.
 Cat. No. 296613, U.S.N.M.; altitude, 23.7 mm.; diameter, 11.1 mm. Sibuyan.
 Cat. No. 296612, U.S.N.M.; altitude, 24.0 mm.; diameter, 10.4 mm. San Fernando, Sibuyan.
 Cat. No. 296612, U.S.N.M.; altitude, 24.8 mm.; diameter, 12.3 mm. San Fernando, Sibuyan.
 Cat. No. 296612, U.S.N.M.; altitude, 26.9 mm.; diameter, 11.4 mm. San Fernando, Sibuyan.
 Cat. No. 296612, U.S.N.M.; altitude, 23.5 mm.; diameter, 11.6 mm. San Fernando, Sibuyan.
 Webb collection, 1689; altitude, 25.0 mm.; diameter, 11.2 mm. Sibuyan.
 Webb collection, 1689; altitude, 25.9 mm.; diameter, 11.1 mm. Sibuyan.
 Webb collection, 1689; altitude, 24.0 mm.; diameter, 11.0 mm. Sibuyan.
 Webb collection, 1689; altitude, 23.6 mm.; diameter, 11.2 mm. Sibuyan.
 Webb collection, 1689; altitude, 23.2 mm.; diameter, 11.0 mm. Sibuyan.
 Webb collection, 1689; altitude, 22.7 mm.; diameter, 11.0 mm. Sibuyan.
 Webb collection, 1689; altitude, 24.1 mm.; diameter, 11.4 mm. Sibuyan.
 Webb collection, 1689; altitude, 24.0 mm.; diameter, 11.7 mm. Sibuyan.
 Webb collection, 1689; altitude, 23.6 mm.; diameter, 11.3 mm. Sibuyan.

Webb collection, 1689; altitude, 22.7 mm.; diameter, 11.4 mm.	Sibuyan.
Webb collection, 1689; altitude, 24.0 mm.; diameter, 10.6 mm.	Sibuyan.
Webb collection, 1689; altitude, 25.6 mm.; diameter, 12.0 mm.	Sibuyan.
Webb collection, 1689; altitude, 25.5 mm.; diameter, 12.0 mm.	Sibuyan.
Webb collection, 1689; altitude, 23.5 mm.; diameter, 11.7 mm.	Sibuyan.
Webb collection, 1689; altitude, 24.5 mm.; diameter, 11.3 mm.	Sibuyan.
Webb collection, 1689; altitude, 24.0 mm.; diameter, 10.5 mm.	Sibuyan.
Webb collection, 1689; altitude, 21.7 mm.; diameter, 10.4 mm.	Sibuyan.
Webb collection, 1689; altitude, 21.9 mm.; diameter, 10.8 mm.	Sibuyan.
Average, altitude, 23.05 mm.; diameter, 10.91 mm.	
Greatest, altitude, 26.9 mm.; diameter, 12.3 mm.	
Least, altitude, 22.1 mm.; diameter, 10.2 mm.	

SCHISTOLOMA (SCHISTOLOMA) ALTA PYGMAEA, new subspecies.

This subspecies, of which we have only a single specimen, the type (Cat. No. 29660S, U.S.N.M.), comes from the Island of Romblon. It has a brown lip and is much smaller than any of the other subspecies so far noted, the measurements being: alt. 19.5 mm.; diam. 9 mm.

SCHISTOLOMA (SCHISTOLOMA) MCGREGORI Bartsch.

Coptocheilus mcgregori BARTSCH, Proc. U. S. Nat. Mus., vol. 37, pp. 298-299, pl. 29, fig. 15, 1909.

Shell elongate conic, chocolate brown, with the peristome ranging from flesh-colored to dark brown. Nuclear whorls a little more than two, well rounded, apparently smooth, scarcely differentiated from the succeeding turns; postnuclear whorls somewhat inflated, well rounded, marked by decidedly retractive, rather strong, closely spaced lines of growth and irregularly distributed, fine, spiral striations which are quite variable in strength. Sutures constricted; periphery of the last whorl rounded; base narrowly umbilicated, with or without a slender fasciole. Aperture almost circular, with a strong double peristome which is strongly reflected, very regular, and in one plane. The outer peristome is adnate to the base; the inner peristome bears a strong notch at the junction of the columella and parietal wall.

This species breaks up into three subspecies, as follows:

SCHISTOLOMA (SCHISTOLOMA) MCGREGORI MCGREGORI Bartsch.

Plate 51, figs. 2 and 4.

Coptocheilus mcgregori BARTSCH, Proc. U. S. Nat. Mus., vol. 37, pp. 298-299, pl. 29, fig. 15, 1909.

In this subspecies, which comes from Semarara Island, the peristome varies from flesh-colored to light brown.

Twenty-five specimens yield the following measurements:

Cat. No. 205181, U.S.N.M.; altitude, 20.5 mm.; diameter, 9.5 mm.	Semarara Id.
Cat. No. 205181, U.S.N.M.; altitude, 19.5 mm.; diameter, 9.0 mm.	Semarara Id.

Cat. No. 205181, U.S.N.M.; altitude, 20.0 mm.; diameter, 9.2 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 21.3 mm.; diameter, 9.4 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.5 mm.; diameter, 9.5 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.6 mm.; diameter, 9.2 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.7 mm.; diameter, 9.5 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.0 mm.; diameter, 9.4 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.0 mm.; diameter, 9.1 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.9 mm.; diameter, 9.3 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.7 mm.; diameter, 9.1 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 19.0 mm.; diameter, 9.4 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.5 mm.; diameter, 9.4 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.0 mm.; diameter, 9.6 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.4 mm.; diameter, 9.4 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.3 mm.; diameter, 9.3 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 19.5 mm.; diameter, 9.0 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 21.4 mm.; diameter, 9.2 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.6 mm.; diameter, 9.5 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.2 mm.; diameter, 9.3 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.6 mm.; diameter, 9.9 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.2 mm.; diameter, 9.2 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 21.0 mm.; diameter, 9.0 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.8 mm.; diameter, 9.9 mm.	Semerara Id.
Cat. No. 205181, U.S.N.M.; altitude, 20.9 mm.; diameter, 9.1 mm.	Semerara Id.
Average, altitude, 20.40 mm.; diameter, 9.37 mm.	
Greatest, altitude, 21.4 mm.; diameter, 9.9 mm.	
Least, altitude, 19.0 mm.; diameter, 9.0 mm.	

SCHISTOLOMA (SCHISTOLOMA) MCGREGORI TABLASENSIS, new subspecies.

In this subspecies, which comes from Tablas Island, the reflected lip is chocolate brown.

The seventeen specimens examined give the following measurements:

Cat. No. 195733, U.S.N.M.; altitude, 23.2 mm.; diameter, 10.6 mm.	Tablas Id. (type)
Cat. No. 195733, U.S.N.M.; altitude, 22.0 mm.; diameter, 10.3 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 22.8 mm.; diameter, 10.2 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 23.2 mm.; diameter, 10.9 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 23.7 mm.; diameter, 10.5 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 23.7 mm.; diameter, 10.4 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 22.0 mm.; diameter, 10.3 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 22.8 mm.; diameter, 10.3 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 23.9 mm.; diameter, 10.5 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 22.3 mm.; diameter, 10.5 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 22.0 mm.; diameter, 10.2 mm.	Tablas Id.
Cat. No. 195733, U.S.N.M.; altitude, 22.1 mm.; diameter, 10.2 mm.	Tablas Id.
Webb collection, altitude, 23.0 mm.; diameter, 10.6 mm.	Badagoz, Tablas Id.
Webb collection, altitude, 23.0 mm.; diameter, 10.6 mm.	Badagoz, Tablas Id.
Webb collection, altitude, 22.3 mm.; diameter, 10.8 mm.	Badagoz, Tablas Id.
Webb collection, altitude, 23.0 mm.; diameter, 10.6 mm.	Badagoz, Tablas Id.
Webb collection, altitude, 22.2 mm.; diameter, 10.1 mm.	Badagoz, Tablas Id.
Average, altitude, 22.77 mm.; diameter, 10.44 mm.	
Greatest, altitude, 23.7 mm.; diameter, 10.9 mm.	
Least, altitude, 22.0 mm.; diameter, 10.1 mm.	

SCHISTOLOMA (SCHISTOLOMA) MCGREGORI WEBBI, new subspecies.

In this subspecies, which comes from southern Mindoro and Ilin Island, the peristome varies from flesh-colored to light brown.

Fifteen specimens from Mindoro give the following measurements:

- Cat. No. 296610, U.S.N.M.; altitude, 23.8 mm.; diameter, 11.8 mm. Caguray, Mindoro, (type).
 Phil. Bur. Science No. 37, altitude, 24.0 mm.; diameter, 10.4 mm. Caguray, Mindoro.
 Webb collection, altitude, 23.3 mm.; diameter, 10.3 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 21.1 mm.; diameter, 10.2 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 21.8 mm.; diameter, 10.1 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 22.5 mm.; diameter, 10.1 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 21.2 mm.; diameter, 10.1 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 23.0 mm.; diameter, 11.0 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 22.5 mm.; diameter, 10.2 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 22.8 mm.; diameter, 11.1 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 23.0 mm.; diameter, 10.5 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 22.5 mm.; diameter, 10.4 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 21.5 mm.; diameter, 10.1 mm. Mansalay Bay, Mindoro.
 Webb collection, altitude, 25.0 mm.; diameter, 10.3 mm. Mangarin, Mindoro.
 Webb collection, altitude, 22.3 mm.; diameter, 10.3 mm. Mangarin, Mindoro.
 Average, altitude, 22.68 mm.; diameter, 10.46 mm.
 Greatest, altitude, 25.0 mm.; diameter, 11.8 mm.
 Least, altitude, 21.1 mm.; diameter, 10.1 mm.

Nineteen specimens from Ilin Island yield the following measurements:

- Cat. No. 195734, U.S.N.M.; altitude, 25.4 mm.; diameter, 11.0 mm. Ilin Id.
 Cat. No. 195734, U.S.N.M.; altitude, 24.0 mm.; diameter, 10.3 mm. Ilin Id.
 Webb collection, altitude, 23.5 mm.; diameter, 11.0 mm. Ilin Id.
 Webb collection, altitude, 23.0 mm.; diameter, 11.3 mm. Ilin Id.
 Webb collection, altitude, 24.4 mm.; diameter, 11.2 mm. Ilin Id.
 Webb collection, altitude, 24.0 mm.; diameter, 10.3 mm. Ilin Id.
 Webb collection, altitude, 24.0 mm.; diameter, 10.3 mm. Ilin Id.
 Webb collection, altitude, 23.9 mm.; diameter, 10.1 mm. Ilin Id.
 Webb collection, altitude, 24.0 mm.; diameter, 10.9 mm. Ilin Id.
 Webb collection, altitude, 24.0 mm.; diameter, 10.1 mm. Ilin Id.
 Webb collection, altitude, 24.1 mm.; diameter, 10.1 mm. Ilin Id.
 Webb collection, altitude, 23.3 mm.; diameter, 10.3 mm. Ilin Id.
 Webb collection, altitude, 24.9 mm.; diameter, 10.8 mm. Ilin Id.
 Webb collection, altitude, 21.9 mm.; diameter, 10.4 mm. Ilin Id.
 Webb collection, altitude, 23.0 mm.; diameter, 10.0 mm. Ilin Id.
 Webb collection, altitude, 22.0 mm.; diameter, 10.0 mm. Ilin Id.
 Webb collection, altitude, 22.3 mm.; diameter, 10.0 mm. Ilin Id.
 Webb collection, altitude, 22.3 mm.; diameter, 10.2 mm. Ilin Id.
 Webb collection, altitude, 22.0 mm.; diameter, 10.2 mm. Ilin Id.
 Average, altitude, 23.47 mm.; diameter, 10.45 mm.
 Greatest, altitude, 25.4 mm.; diameter, 11.3 mm.
 Least, altitude, 21.9 mm.; diameter, 10.0 mm.

SCHISTOLOMA (HOLOLOMA) QUADRASI Hidalgo.

Megalomastoma quadrasi HIDALGO, Journ. Conchyl., vol. 37, p. 305, pl. 15, fig. 5, 1889.

Coptocheilus quadrasi KOBELT and MÖLLENDORFF, Nachrbl. Deut. Malak. Ges., vol. 29, p. 141, 1897.

Coptochilus quadrasi MÖLLENDORFF, Abh. Ges. Görlitz, vol. 22, p. 186, 1898.

Coptochilus quadrasi rhodochilus MÖLLENDORFF, Abh. Ges. Görlitz, vol. 22, p. 186, 1898 (*nomen nudum*).

Schistoloma quadrasi Das Tierreich, vol. 16, p. 280, 1902.

Shell stout, subcylindric, rapidly tapering at the summit, chestnut brown. Nuclear whorls not differentiated from the postnuclear turns, apparently very finely pitted. This pitting, however, may be due to erosion. Postnuclear whorls somewhat inflated, well rounded, appressed at the summit, marked by very fine, slightly retractive, closely spaced lines of growth and exceedingly fine, irregularly distributed, spiral striations. Sutures slightly impressed; periphery of the last whorl well rounded; base moderately long, narrowly umbilicated, bearing on its middle a strong, raised spiral cord. Aperture subcircular; peristome reflected, thick, white, adnate to the base posteriorly.

This species has been reported so far only from two islands, both belonging to the Calamianes group. They are Busuanga and Coron. There is a difference in the size of the specimens occurring on these two islands, so they may be considered as two distinct subspecies.

SCHISTOLOMA (HOLOLOMA) QUADRASI QUADRASI Hidalgo.

Plate 51, figs. 8 and 10.

Megalomastoma quadrasi HIDALGO, Journ. Conchyl., vol. 37, p. 305, pl. 15, fig. 5, 1889.

Coptocheilus quadrasi KOBELT and MÖLLENDORFF, Nachrbl. Deut. Malak. Ges., vol. 29, p. 141, 1897.

Coptochilus quadrasi MÖLLENDORFF, Abh. Ges. Görlitz, vol. 22, p. 186, 1898.

Schistoloma quadrasi Das Tierreich, vol. 16, p. 280, 1902.

We have seen 125 specimens from Busuanga. Twenty-five of these, taken at random, give the following measurements:

Cat. No. 184579, U.S.N.M.; altitude, 26.1 mm.; diameter, 13 mm. Busuanga Id. (figured).

Cat. No. 184579, U.S.N.M.; altitude, 25.5 mm.; diameter, 12.5 mm. Busuanga Id.

Cat. No. 195735, U.S.N.M.; altitude, 24.6 mm.; diameter, 11.3 mm. Busuanga Id.

Cat. No. 195735, U.S.N.M.; altitude, 26.8 mm.; diameter, 13.4 mm. Busuanga Id.

Cat. No. 195735, U.S.N.M.; altitude, 27.4 mm.; diameter, 12.9 mm. Busuanga Id.

Cat. No. 195735, U.S.N.M.; altitude, 26.0 mm.; diameter, 12.4 mm. Busuanga Id.

Cat. No. 195735, U.S.N.M.; altitude, 26.0 mm.; diameter, 12.8 mm. Busuanga Id.

Cat. No. 195735, U.S.N.M.; altitude, 26.3 mm.; diameter, 13.0 mm. Busuanga Id.

Webb collection; altitude, 25.4 mm.; diameter, 12.7 mm. Busuanga Id.

Webb collection; altitude, 27.2 mm.; diameter, 12.5 mm. Busuanga Id.

Webb collection; altitude, 26.0 mm.; diameter, 13.0 mm. Busuanga Id.

Webb collection; altitude, 26.0 mm.; diameter, 12.5 mm. Busuanga Id.

Webb collection; altitude, 25.5 mm.; diameter, 12.5 mm.	Busuanga Id.
Webb collection; altitude, 25.0 mm.; diameter, 12.5 mm.	Busuanga Id.
Webb collection; altitude, 26.2 mm.; diameter, 12.5 mm.	Busuanga Id.
Webb collection; altitude, 27.0 mm.; diameter, 13.0 mm.	Busuanga Id.
Webb collection; altitude, 24.7 mm.; diameter, 12.7 mm.	Busuanga Id.
Webb collection; altitude, 25.0 mm.; diameter, 13.0 mm.	Busuanga Id.
Webb collection; altitude, 26.0 mm.; diameter, 13.1 mm.	Busuanga Id.
Webb collection; altitude, 25.7 mm.; diameter, 12.6 mm.	Busuanga Id.
Webb collection; altitude, 25.3 mm.; diameter, 13.0 mm.	Busuanga Id.
Webb collection; altitude, 25.3 mm.; diameter, 12.6 mm.	Busuanga Id.
Webb collection; altitude, 25.3 mm.; diameter, 12.4 mm.	Busuanga Id.
Webb collection; altitude, 26.0 mm.; diameter, 13.0 mm.	Busuanga Id.
Webb collection; altitude, 24.5 mm.; diameter, 12.1 mm.	Busuanga Id.
Average, altitude, 25.71 mm.; diameter, 13.04 mm.	
Greatest, altitude, 27.4 mm.; diameter, 13.4 mm.	
Least, altitude, 24.5 mm.; diameter, 11.3 mm.	

SCHISTOLOMA (HOLOLOMA) QUADRASI CORONENSIS, new subspecies.

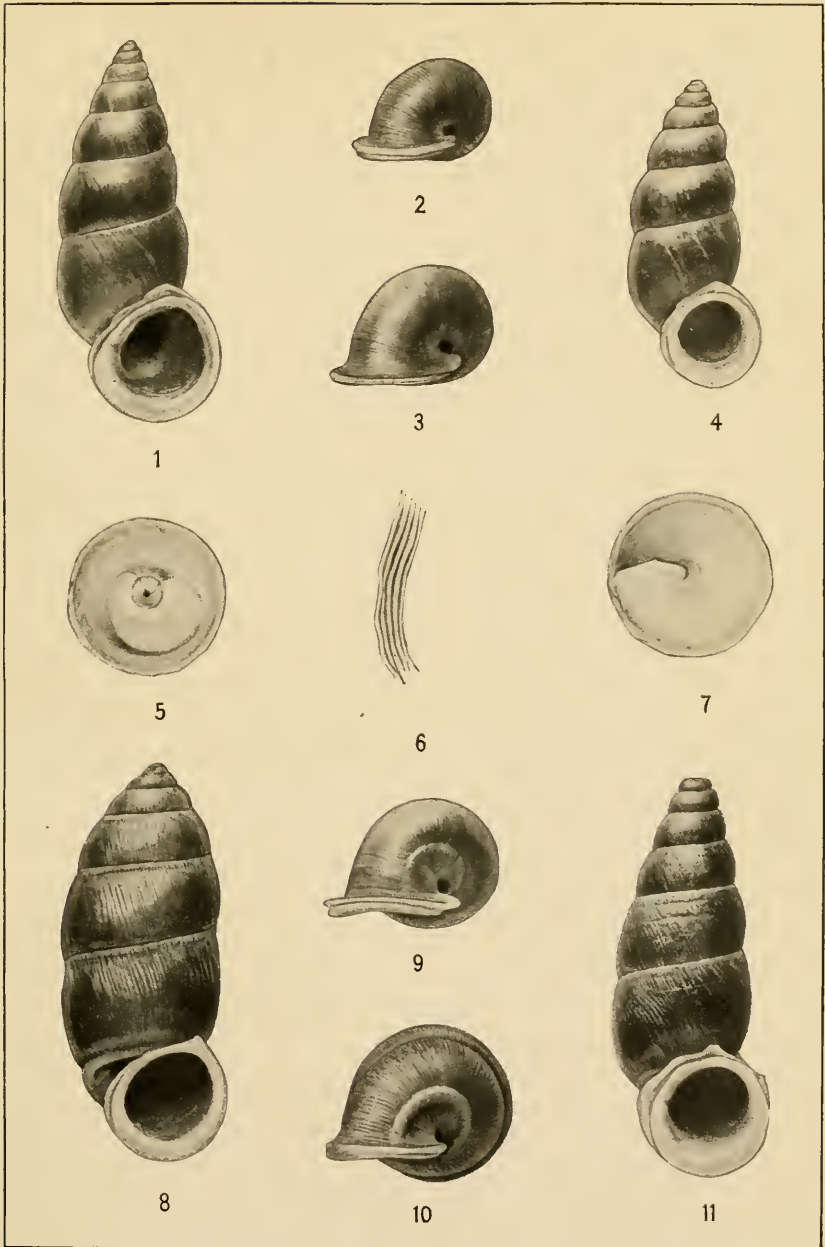
This subspecies is uniformly larger than *quadrasi*. We have seen thirteen specimens from the Island of Coron, which give the following measurements. This is probably what was listed as *Coptochilus quadrasi rhodochilus* by von Möllendorff, which is a *nomen nudum*.¹

Cat. No. 296611, U.S.N.M.; altitude, 28.4 mm.; diameter, 14.0 mm.	Coron Id. (type).
Webb collection; altitude, 28.3 mm.; diameter, 13.4 mm.	Coron Id.
Webb collection; altitude, 28.1 mm.; diameter, 13.3 mm.	Coron Id.
Webb collection; altitude, 27.5 mm.; diameter, 13.0 mm.	Coron Id.
Webb collection; altitude, 28.5 mm.; diameter, 13.8 mm.	Coron Id.
Webb collection; altitude, 29.0 mm.; diameter, 14.0 mm.	Coron Id.
Webb collection; altitude, 30.0 mm.; diameter, 13.2 mm.	Coron Id.
Webb collection; altitude, 28.0 mm.; diameter, 14.3 mm.	Coron Id.
Webb collection; altitude, 27.9 mm.; diameter, 14.5 mm.	Coron Id.
Webb collection; altitude, 27.0 mm.; diameter, 13.3 mm.	Coron Id.
Webb collection; altitude, 27.1 mm.; diameter, 13.0 mm.	Coron Id.
Webb collection; altitude, 27.0 mm.; diameter, 13.2 mm.	Coron Id.
Webb collection; altitude, 26.4 mm.; diameter, 13.3 mm.	Coron Id.
Average, altitude, 28.4 mm.; diameter, 13.56 mm.	
Greatest, altitude, 30.0 mm.; diameter, 14.5 mm.	
Least, altitude, 26.4 mm.; diameter, 13.0 mm.	

EXPLANATION OF PLATE 51.

1. *Schistoloma (Schistoloma) alta mindoroensis* Bartsch, profile (type).
2. *Schistoloma (Schistoloma) mcgregori mcgregori* Bartsch, basal view (type).
3. *Schistoloma (Schistoloma) alta mindoroensis* Bartsch, basal view (type).
4. *Schistoloma (Schistoloma) mcgregori mcgregori* Bartsch, profile (type).
5. Operculum of *Schistoloma*, inner view. The light area represents the muscular attachment; the central ring, the fusing of the various laminae.
6. Same as above, lateral view, to show the arrangement of the laminae.
7. Same as above, exterior view, showing the edge of the last lamina, the inner circle indicating the fusing points of all the laminae.
8. *Schistoloma (Hololoma) quadrasi quadrasi* Hidalgo, profile.
9. *Schistoloma (Schistoloma) alta alta* Sowerby, basal view.
10. *Schistoloma (Hololoma) quadrasi quadrasi* Hidalgo, basal view.
11. *Schistoloma (Schistoloma) alta alta* Sowerby, profile.

¹ Abh. Ges. Görlitz, vol. 22, p. 186, 1898.



PHILIPPINE LAND SHELLS OF THE GENUS SCHISTOLOMA.

FOR EXPLANATION OF PLATE SEE PAGE 208.

