

# MOLLUSCA OF SOUTH AFRICA.

## (PELECYPODA.)

BY

G. B. SOWERBY, F.L.S.

Among a large quantity of *Pelecypoda* submitted to me by Dr. J. D. F. Gilchrist, Government Biologist of the Cape Colony, are some species of special interest. Thirty-three I am describing as new to science, and noting a few others which have not hitherto been recorded as South African. Among the former I may specially mention a new species of *Poromya* Forbes, a very rare and remarkable genus, of which no species has hitherto been recorded from South African waters; 4 new species of *Cuspidaria*, *Sticta*, *Nassa*, Gray, of which genus only one species (*C. capensis* Swinhoe) had been noted as South African, five new species of *Chamaea*, *Lacuna*, and three of *Nuculana*, Link (*Lula*, Swinhoe).

Among the species already described, but not as South African, the most interesting is a new specimen *Cryptodon investigatoris*, Smith, obtained at deep water off Cape Point.

### Fam. Pectinidae.

\**CHLAMYS* GILCHRISTI, n. sp. (Plate VI., fig. 6). Shell nearly orbicular, equivalve, thin, semitransparent, compressed, pale pinkish yellow; auricles unequal, the posterior the smallest. Left valve very slightly convex, rayed with about nine very slightly raised ribs, about 70 slightly imbricated riblets or liræ, and numerous very close rough intervening striæ; anterior auricle rather broad, rectangular, with six narrow rather prominent ridges, crossed by foliated lamellæ, the interstices being peculiarly corrugated; posterior auricle smaller, more

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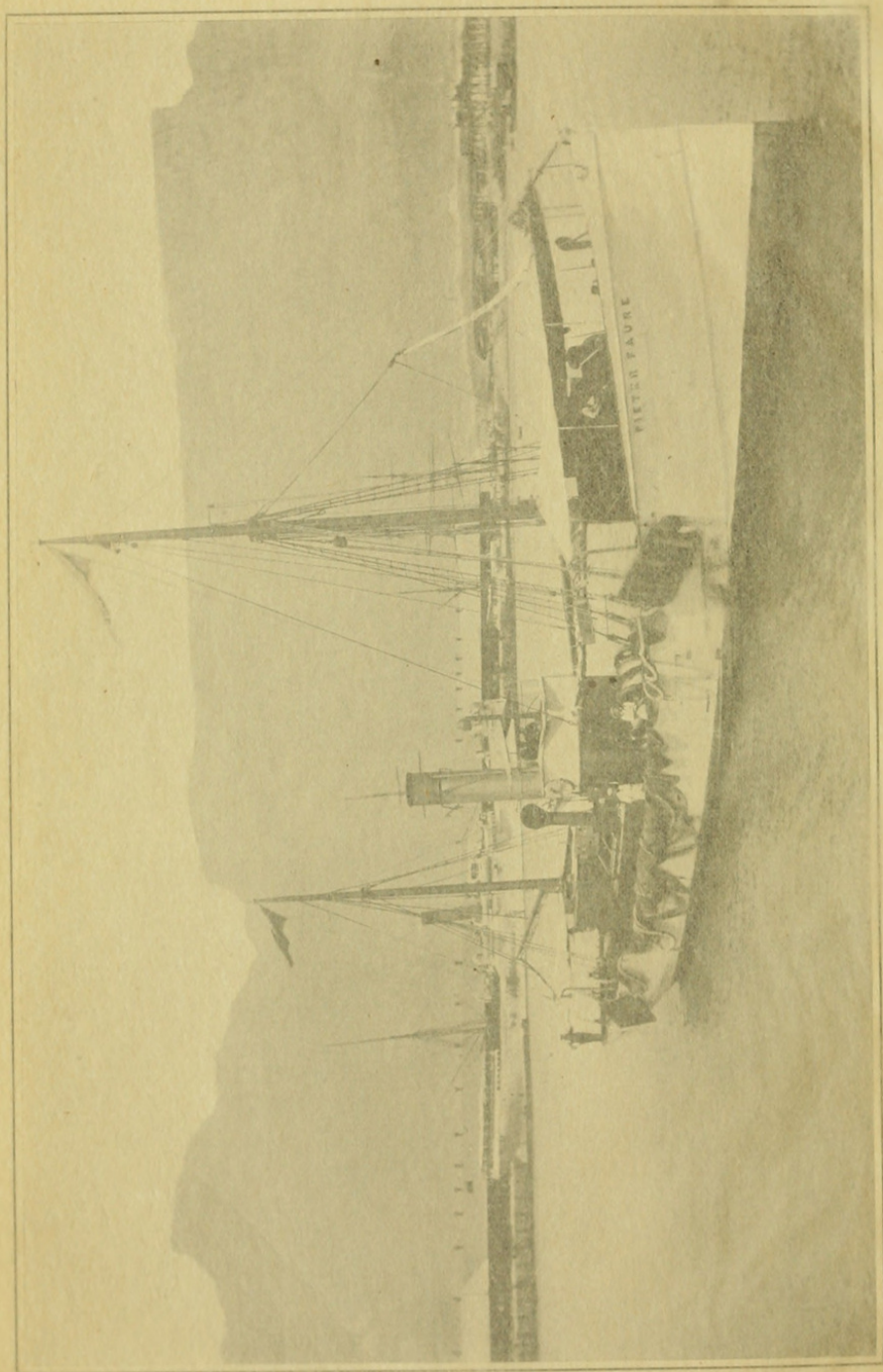
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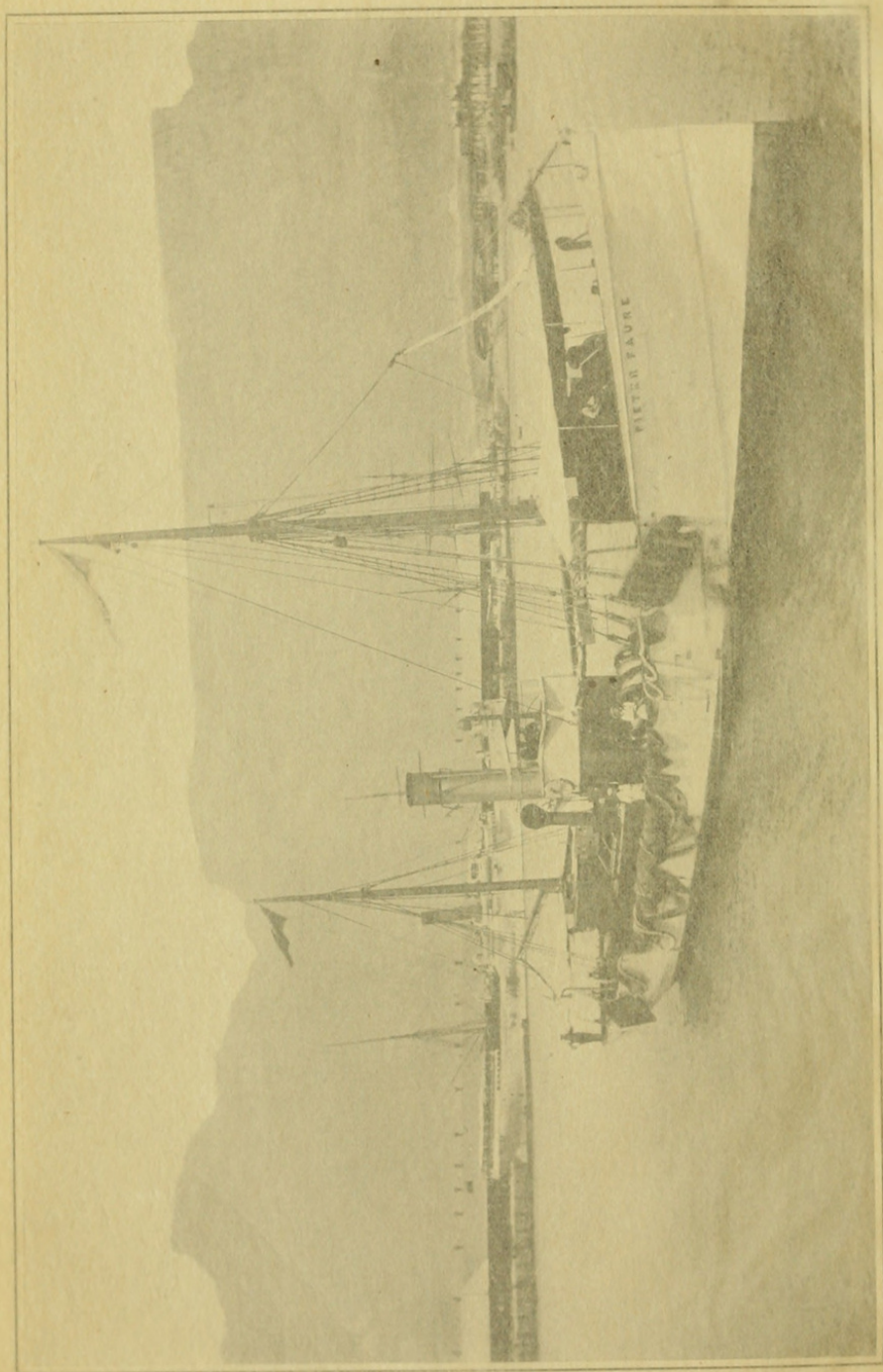
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THE CAPE GOVERNMENT TRAWLER IN TABLE BAY





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Among the species already described, but not as South African, the most interesting, is a fine specimen *Cryptodon investigatoris*, Smith, obtained in deep water off Cape Point.

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numerously and less prominently ridged, the decussating lamellæ imbricated, and the corrugation more definite and oblique; umbones acute. Right valve rather more convex, radiating ribs broader and flatter, and with concentric imbricated lamellæ becoming somewhat prominent towards the margin; anterior auricle strongly imbricated, the lamellæ being irregularly raised on the upper margin; posterior auricle with ridges closely armed with nodules or short blunt spines. Interior of the valves suffused with golden orange colour. Ligamentary pit small, triangular.

Height, 35; width, 35; depth, 8 millim.

Hab.:—Vasco da Gama, False Bay, N.  $71^{\circ}$  E,  $18\frac{1}{2}$  miles; depth, 230 fathoms; bottom, stones.

Of this beautiful species only one specimen has come to hand. The shell is of a very light, semitransparent substance, delicately tinted, having somewhat the general aspect of the *C. Septemradiatus* of the northern seas, but more numerous ribbed. The entire surface is roughened by close-set, imbricated ridges and fine striæ, and the auricles are elaborately sculptured, particularly the posterior of the left valve, which, in addition to the imbricated cross bars, shows a peculiar arrangement of oblique granose striæ.

*CHLAMYS FULTONI*, n. sp. (Plate VI., fig. 5). Shell nearly orbicular, rather thin, compressed, equivalve, dull purplish-brown, irregularly interrupted with white markings. Auricles rather large, slightly unequal, posterior rectangular, anterior slightly laterally produced above and sinuous below. Valves furnished with 17 rounded, rather elevated equidistant ribs, the interstices being about the same width as the ribs, and regularly concave, without radiating striæ; both ribs and interstices are traversed by thin lamellæ, which are squamosely raised on the ribs, particularly on the lateral ones. The right valve is somewhat smoother and lighter in colour, but otherwise presents the same character as the left. The anterior auricle of the right valve is strongly laminated, otherwise they are regularly costate.

Height, 33; width, 34; depth, 11 millim.

Hab.:—Amatikulu, Conical Hill, N.W.,  $7\frac{1}{2}$  miles; depth, 26 fathoms; bottom, mud.

The shells of this species vary considerably in pattern; while in the type the white markings are rather large and few, in some the white predominates. In general style the shell somewhat resembles *C. tranquebaricus*, Gmelin, but it is broader in form, and has less numerous ribs, with no signs of longitudinal striæ or riblets between them.



CHYLAMS HUMILIS, n. sp. (Plate VI., fig. 3). Shell rather higher than broad, equivalve, equilateral, thin, compressed, reddish orange colour, with four yellowish rays; radiating riblets about 30 in number (with here and there a small intervening ridge), slightly imbricated, the lateral ones more distinctly so, the interstices crossed by sharp lamellæ. Auricles very unequal; the anterior broad, with about eight prickly ridges, the posterior small, ridges almost obsolete. Left valve nearly flat; right rather convex; sculpture similar in both valves.

Height, 16; width, 15; depth, 5 millim.

Hab.:—Great Fish Point, N.W., 9 miles, depth 51 fathoms; bottom, sand and shells (one specimen only). Cape St. Blaize, N. by E.  $\frac{1}{4}$  E., 65 miles, depth 90 fathoms (a single specimen).

This little species appears to be very rare, only one specimen having been taken at each of the above stations. It presents no particularly striking characters, resembling somewhat in form and aspect the Mediterranean *C. Bruei*, Payr., the ribs being closer, more rounded, and not longitudinally lirate.

#### Fam. **Aviculidæ.**

PINNA SQUAMIFERA, Sowerby. I mention this species here although it has already been recorded as South African by Mr. E. A. Smith (Proc. Malac. Soc., Vol. V., p. 394), because the largest specimen exceeds considerably in size the largest he mentions. The shell taken in Mossel Bay measures  $14\frac{1}{2}$  inches in length.

#### Fam. **Mytilidæ.**

MODIOLA RHOMBOIDEA, Hanley (Reeve, Conch, Icon. Modiola, fig. 28).

South Head, Tugela River, N. by W.,  $4\frac{3}{4}$  miles, 25 fathoms; bottom, black mud.

CRENELLA STRIATISSIMA, n. sp. (Plate VI., fig. 1). Shell obliquely oval, thin, inflated, pale straw-colour; the whole surface of the valves longitudinally very densely striated, striæ minutely granulose, here and there slightly divaricating; umbones minute, incurved. Interior silvery, margin minutely crenulated. Hinge narrow; in place of the four cardinal teeth usual in the genus, only a very slight rounded projection; anterior crenulated. Ligament long, rather thin, horny.



Length, 10 ; width, 8 ; thickness, 6 millim.

Hab. :—Lat.  $34^{\circ} 7' S.$ , Long.  $25^{\circ} 42' 30'' E.$  ; depth, 56 fathoms ; bottom, rock (one complete shell).

Umhloti River Mouth, N.W.  $\frac{1}{2}$  W.,  $15\frac{1}{2}$  miles ; depth, 100 fathoms (one valve).

This species is allied to *C. glandula*, Totten, but the shell is of a thinner substance, and the striæ are much finer.

### Fam. **Arcidæ.**

ARCA (SCAPHARCA) AFRICANA, n. sp. (Plate VI., fig. 4). Shell transversely oblong, slightly inequivalve, whitish, covered with a light brown periostracum, which is here and there bristly between the ribs ; anterior margin angular above, then rounded and obliquely receding towards the ventral margin, posterior slightly auriculate above, and roundly produced at the end. Ribs 25 in number prominent, biangular, more than half of those on the right valve crenulated with oblong transverse nodules, only the posterior ones being nearly smooth, while on the left valve the majority are smooth, only the anterior ones being nodulous ; interstices smooth. Umbones prominent, rounded, incurved, separated by the ligamental area, and situated rather near the anterior end of the shell. Ligamental area rather broad, flattened, short and angular in front, elongately produced behind. Interior of the valves white, strongly denticulate at the margin. Hinge line long, nearly straight ; teeth numerous, anterior ones narrow close and oblique, posterior shorter and thicker.

Length 18 ; width 25 ; thickness 15 millim.

Hab. :—Tugela River mouth, N. by W., 18 miles ; depth, 46 to 55 fathoms. Bottom, mud.

The shell is rather like *A. ferruginea*, Reeve, from which it differs chiefly in form, and particularly in the obliquity of the anterior margin.

PECTUNCULUS CASTANEUS, *Lamarck* (Reeve, Couch. Icon. Pectunculus, fig. 32). Table Mountain N.  $79^{\circ} E.$ , 40 miles ; 250 fathoms (odd valves).

### Fam. **Nuculidæ.**

NUCULANA BELCHERI, *Hinds*\* (Plate VI., fig 7). Although it is not new as South African, I mention here this fine characteristic species. It has hitherto been practically unknown

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\* *Nucula Belcheri*, Hinds, Proc. Zool. Soc., 1843. *Nuculana*, Link, 1807=  
*Leda*, Schumacher, 1817.



in this country, excepting from the figures and descriptions given by Hinds, Sowerby, and Reeve, and a single valve in the British Museum. The figures in Thes. Couch., and Couch. Icon., represent a shell with four distinct posterior angles; the fourth angle running from the umbones to the posterior of the ventral margin is probably much exaggerated, as Hinds gives only three angles, the fourth being only very faintly indicated, as is the case with all the specimens now to hand. The specimens range from 19 to 37 millim. from end to end, and vary in width, most of them being narrower in proportion than that figured in Sowerby and Reeve from the Metcalfe collection. The following are the principal localities in which they have been dredged:—

Cape Point Lighthouse, S.W.  $\frac{3}{4}$  W.,  $2\frac{1}{2}$  miles; depth, 42 fathoms. (One of the largest specimens taken here).

Cape Point, W. by S.  $\frac{1}{2}$  S.,  $3\frac{1}{4}$  miles; depth, 34 fathoms. (One of the largest specimens taken here.)

Cape St. Francis, N.E.  $\frac{1}{4}$  N., 26 miles; depth, 75 fathoms (smaller specimens).

Lat.  $34^{\circ} 27' S.$ , Long.  $25^{\circ} 42' 45'' E.$ ; depth, 256 fathoms (medium sized and small specimens).

Cape Natal, N. by E., 24 miles; depth, 440 fathoms. One small specimen.

*NUCULANA LAMELLATA*, n. sp. (Plate VI., fig. 8). Shell elongately oblong, inæquilateral, rather solid, compressed, white, shining; concentrically rather closely ridged; ridges on the anterior surface flattened (leaving narrow shallow grooves) gradually becoming sharper and more distinct towards the posterior end, where they are raised into sharp thin lamellæ; near the middle of the valves the ridges are somewhat broken and divided, with an oblique tendency. Umbones small, slightly incurved, situated nearer to the anterior end than to the posterior. Cardinal area long, depressed, rather concave, with an extremely thin ligament on the inner edge. Anterior dorsal margin rather short, obliquely sloping; posterior longer, nearly straight, slightly sloping. Posterior side triangular, with three angular ribs from the umbones to the margin, with two concave spaces between, and traversed by the before-mentioned lamellæ. Interior of the valves slightly iridescent, with small somewhat indistinct anterior and posterior muscular scars, and a clearly defined pallial line rather near the margin, with a broad posterior sinus. Hinge slightly sloping on each side, and furnished with very numerous erect teeth; cartilage pit, small, obliquely triangular.



Measurement :—From anterior to posterior, 19; from umbones to ventral margin,  $9\frac{1}{2}$ ; umbones to posterior margin, 11; thickness (valves united)  $5\frac{1}{2}$  millim.

Hab. :—Cape Natal, W. by N.,  $6\frac{1}{2}$  miles; depth, 54 fathoms. Bottom, fine sand and algæ.

Cape Natal, W. by N.,  $12\frac{1}{2}$  miles; depth, 85 fathoms. Bottom, sand and shells.

The shell closely resembles *N. Belcheri*, but may readily be distinguished from it by the beautiful lamellæ at the posterior end. The specimens vary but little in size and proportions, and none of them approach the dimensions of the full-sized *N. Belcheri*.

*NUCULANA GEMMULATA*, n. sp. (Plate VI., fig. 9). Shell resembling *N. lamellata*, but with four posterior ribs, surmounted by gem-like scales, the interstices being smooth, excepting for the growth-lines; the ridges traversing the surface of the shell are more regular and equal. For the rest of the characters the description of *N. lamellata* will suffice.

Measurement :—From anterior to posterior, 20; from umbones to ventral margin, 9 millim.

Hab. :—Tugela River mouth, N.W. 20 miles; depth, 37 fathoms. Umvoti River mouth N. by W.  $\frac{1}{2}$  W.,  $4\frac{1}{2}$  miles; depth, 27 fathoms. Bottom, sand and shells.

*NUCULANA COMPTA*, n. sp. (Plate VI., fig. 10). Shell of a moderately solid substance; outer surface very pale straw colour, white towards the umbones, concentrically very closely and finely ridged; ridges rounded or slightly flattened, becoming finer on the anterior side, and obsolete on the posterior. Posterior dorsal margin nearly straight, or very slightly arcuate, terminating abruptly and forming almost a right angle with the posterior margin of the shell; anterior moderately sloping, very slightly convex, rounded at the extremity; ventral margin strongly arcuate. Cardinal area narrow, concave, with a narrow ligament on each side of the umbones. Umbones rounded, closely approximating, situated nearer to the anterior than to the posterior. Hinge with numerous erect sharp teeth; cartilage pit extremely small, transversely oblong. Interior silvery white, abductor scars, and pallial line indistinct.

Measurement :—From anterior to posterior,  $8\frac{1}{4}$ ; umbones to ventral margin,  $5\frac{1}{2}$ ; thickness (valves united),  $4\frac{1}{2}$  millim.

Hab. :—Cape Natal, N. by E., 24 miles; 440 fathoms. Two specimens only.

Unlike most of the species of *Nuculana*, this shell is not rostrate, but rather square on the posterior side.



*NUCULA IRREGULARIS*, n. sp. (Plate VI., fig. 12). Shell obliquely triangular, of a moderately solid substance; outer surface light brown, traversed by numerous somewhat oblique slightly waved ridges, which are irregularly divided and diverging on the posterior side; numerous very thin radiating liræ may also be seen by the aid of a lens. Posterior dorsal margin obliquely sloping; anterior nearly vertical, forming a slightly acute angle with the umbones. Posterior cardinal area narrow, slightly concave; anterior broad, forming a slightly concave lunule, bordered by a narrow rounded rib, which is roughened by the crossing liræ. Umbones small, acute, obliquely raised. Interior silvery white, margin sharply crenulated; abductor scars of moderate size, broadly oval; pallial line simple. Hinge with 17 erect teeth on the posterior side, and seven on the anterior; cartilage pit oblique, oblong.

Measurement:—Anterior to posterior, 8; umbones to posterior end of ventral margin, 8; thickness (valves united), 4 millim.

Hab.:—Struis Point, N.W., 15 miles; depth, 48 fathoms. A sculptured shell, more oblique than *N. nucleus*.

*NUCULA SCULPTURATA*, n. sp. (Plate VI., fig. 11). Shell obliquely sub-ovate, rather thin, pale; outer surface concentrically rather closely ridged; ridges slopingly flattened on the under side, rather sharp above, traversed throughout by close distinct radiating sculpture; posterior side divided by a slightly angular depression, from which the ridges run obliquely to the margin; anterior with a rather broad scarcely depressed lunule, which is roughened by fine granular diverging ridges. Posterior dorsal margin convexly sloping; anterior concavely truncate; ventral arcuate. Umbones rather small, incurved, and anteriorly inclined. Interior and hinge, same as in *N. irregularis*.

Measurement:—Anterior to posterior, 9; umbones to ventral margin, 7; thickness (valves united), 5 millim.

Hab.:—Lat.  $33^{\circ} 3' S.$ , Long.  $27^{\circ} 57' E.$ ; depth, 34 fathoms.

An elaborately sculptured species resembling *N. nucleus* in form. The sharply divaricating ridges on the posterior side are remarkable.

### Fam. *Carditidæ*.

*CARDITA PULCHERRIMA*, n. sp. (Plate VI., fig. 2). Shell roundly sub-ovate, of a rather thin substance, white variegated with light brown; ribs 19 in number, rather thick, high, ornamented



by numerous conspicuous close-set bead-like nodules; interstices somewhat wider than the ribs, concave, crossed by irregular concentric striæ or growth lines. Umbones situated on the anterior side, sharp at the apex, and incurved. Posterior dorsal margin convex slightly sloping; anterior truncate; ventral and lateral margins rounded. Posterior cardinal area narrow and concave; ligament rather short; anterior lunule rather narrow, very slightly depressed. Interior white, faintly radiately grooved; margin denticulated; posterior abductor scar irregular, subtriangular, striated; anterior oblong-ovate; pallial line distinct, simple. Hinge rather thick, right valve furnished with two cardinal teeth, the posterior one thick and obliquely triangular, the anterior very small and diverging; left valve with one solid rounded tooth; in each valve the posterior cardinal lamina is rather long, terminating in a slightly raised rounded lateral tooth; anterior lamina shorter, with a slight thickening at the end scarcely to be called a tooth.

Measurement:—Umbones to ventral margin, 10; anterior to posterior,  $9\frac{3}{4}$ ; thickness (valves united), 7 millim.

Hab.:—Cape Natal, W. by N.,  $6\frac{1}{2}$  miles; depth, 54 fathoms.

A very pretty little shell, in which the numerous prominent ribs have the appearance of chains of beads. In form it resembles *C. cardioides*, Reeve.

### Fam. Crassatellidæ.

CRASSATELLA GILCHRISTI, n. sp. (Plate VI., fig. 14). Shell transversely oblong, rather solid, somewhat compressed, very obtusely angled posteriorly; surface very finely decussated throughout with concentric and radiating striæ; concentrically ridged with rather broad, slightly-raised liræ, about equal in width to the interstices, becoming obsolete at each end; covered with a thin brown periostracum. Posterior dorsal margin rather straight, sloping, terminating in a very obtuse, rounded angle; anterior truncated, rather convex; posterior lateral margin sloping, very slightly convex, anterior rounded; ventral margin rather straight, obliquely rounded at the anterior end, and roundly angled at the posterior. Umbones minute, scarcely curved; posterior cardinal area rather short, impressed, slightly concave; anterior lunule rather long and narrow. Interior white, margin serrated; anterior abductor scar rather large, irregularly oblong-oval; posterior short, angular in front, rounded behind; anterior pedal retractor small, sunken; pallial line simple. Hinge



rather broad, with two anterior serrated cardinal teeth in each valve, a narrow diverging posterior one, and a rather broad, deep cartilage pit between; lateral teeth narrow and but little raised.

Measurement:—Anterior to posterior, 29; umbones to ventral margin,  $21\frac{1}{2}$ ; thickness (valves united), 14 millim.

Hab.:—Martha Point (South Coast),  $N\frac{3}{4}W.$ ,  $9\frac{1}{2}$  miles; depth, 42 fathoms; bottom, green mud (one specimen only).

*CRASSATELLA ANGULATA*, n. sp. (Plate VI., fig. 16). Shell transversely oblong, angular behind, rounded in front, whitish, covered with a light yellowish brown periostracum, very finely, concentrically striated, roughly and irregularly plicated with growth lines; posterior side rather concave, with an obtuse rounded, somewhat-incurved angle from the umbones to the lower extremity. Posterior dorsal margin long, rather straight, very slightly sloping, terminating in an obtuse angle; anterior short, sloping; posterior lateral margin nearly straight, rather oblique, anterior rounded, ventral slightly convex. Umbones minute, very slightly incurved, posterior cardinal area rather short, flattened, rather deep, rather broad in the middle and pointed at each end; anterior lunule rather long, with a narrow heart-shaped cartilage orifice. Interior white, smooth, minutely crenulated within the margin; abductor scars raised; pallial line simple. Hinge as in *C. Gilchristi*, but with lateral teeth shorter.

Measurement:—Anterior to posterior, 28; umbones to ventral margin, 18; thickness (valves united), 13 millim.

Hab.:—Umhlangakulu River Mouth, N.W. by N.,  $7\frac{1}{2}$  miles; depth, 50 fathoms; bottom, sand and shells (one specimen only).

*CRASSATELLA AFRICANA*, n. sp. (Plate VI., fig. 13). Shell sub-ovate, compressed, rather thick, with a faint posterior angle; surface concentrically closely lirated, liræ raised and regular near the umbones, becoming irregular and less distinct towards the ventral margin, everywhere decussated by extremely fine concentric and radiating striae, covered by a thin light brown periostracum. Dorsal margin sloping on both sides, posterior long, anterior rather short; anterior lateral margin rounded, posterior convexly truncate; ventral margin convex. Umbones minute, scarcely incurved; cardinal area rather long on each side, depressed, slightly concave, anterior narrow, posterior broader. Interior white, smooth, with a minutely crenulated margin; abductor scars, pallial line, and hinge as in *C. Gilchristi*.



Measurement :—Anterior to posterior, 30 ; umbones to ventral margin, 23 ; thickness (valves united), 14 millim.

Hab. :—Cape Infanta, N.E. by N.  $\frac{1}{2}$  N., 13 $\frac{1}{2}$  miles ; 43 fathoms. Bottom, coarse sand, etc. (one specimen).

CRASSATELLA ABRUPTA, n. sp. (Plate VI., fig. 15). Shell short, subquadrate, somewhat inflated, very densely sculptured with fine raised granular radiating striæ, and concentric regular liræ ; liræ somewhat flattened, rather narrower than the interstices, becoming obsolete on the posterior side. Posterior dorsal margin rather convexly sloping, anterior rather concavely truncate ; posterior lateral margin nearly vertical, slightly convex, anterior rather prominent in the middle ; ventral margin roundly arcuate. Umbones small, slightly incurved anteriorly inclined ; cardinal area on both sides concave, posterior rather narrow, anterior rather broad. Interior whitish, posterior area suffused with pink, minutely crenulated within the margin ; abductor scars and pallial line as in the preceding species. Hinge with two oblong anterior cardinal teeth, which are strongly crenulated at the sides, and a long very narrow posterior one ; anterior lateral with three long thin laminae, the inner one forming a very slightly prominent tooth ; posterior laminae nearly straight and smooth.

Measurement.—Anterior to posterior, 16 ; umbones to ventral margin, 14 ; thickness (valves united), 10 millim.

Hab. :—Umhloti River Mouth, N.W.  $\frac{1}{2}$  W., 15 $\frac{1}{2}$  miles ; depth, 100 fathoms. Bottom, hard ground.

This shell has very much the external appearance of an *Astarte*.

CRASSATELLA TENUIS, n. sp. (Plate VI., fig. 17). Shell transversely oblong, thin, compressed, pallid, angular behind, rounded in front ; surface sculptured with fine radiating thread-like striæ, and very close exceedingly fine concentric striæ ; concentric liræ thin, erect, rather distant ; posterior dorsal margin straight, nearly horizontal, obtusely angled ; anterior obliquely sloping, very slightly concave ; posterior lateral margin nearly straight, slightly oblique ; anterior rounded ; ventral margin long, rather straightly convex. Umbones minute, very slightly incurved ; cardinal area impressed, long, moderately wide, anterior rather deep.

Measurement :—Anterior to posterior, 26 ; umbones to ventral margin, 18 ; thickness (valves united), 8 $\frac{1}{2}$  millim.

Hab. :—Cape St. Blaize, N. by E.  $\frac{1}{4}$  E., 65 miles ; depth, 90 fathoms (one specimen only).

A very light compressed shell, somewhat resembling *C. subquadrata*, Sowerby.



Fam. **Cardiidæ.**

**CARDIUM GILCHRISTI**, n. sp. (Plate VII., fig. 1). Shell broadly sub-ovate, thin, inflated, white; surface elaborately sculptured; anterior side (rather less than half), very closely latticed with radiating and transversely undulated ridges, the interstices having the appearance of numerous minute pits; this portion of the surface is separated from the rest by a vertical line reaching from the umbones to the ventral margin. The remaining part has about 18 narrow prickly ribs, with two or three closely punctured grooves between each. Dorsal margin short, convexly sloping on each side; posterior lateral margin rather straightly convex, anterior and ventral rounded. Umbones broad, rounded; cardinal area small; ligament narrow and thin; lunule very small. Interior white, smooth, with serrated margin; abductor scars of moderate size situated rather high up, and very near the lateral margins; pallial line simple. Hinge rather narrow, with two unequal cardinal teeth in each valve, and rather prominent lateral teeth.

Measurement:—Posterior to anterior, 12; umbones to ventral margin, 13; thickness (valves united), 11 millim.

Hab.:—Algoa Bay, 15 fathoms.

A beautifully and curiously sculptured little shell, in two distinct patterns, each finishing abruptly in a subcentral vertical line. The sculpture of the posterior portion somewhat resembles that of *C. exasperatum*, Sowerby.

Fam. **Veneridæ.**

**VENUS (ANAITIS) INTERSCULPTA**, n. sp. (Plate VII., fig. 2). Shell transversely oval, rather compressed, yellowish white tinged with pink; concentric lamellæ high, reflexed, thin, corrugated; interstices decussated by numerous close radiating riblets which are here and there bifurcated, and fine concentric striæ. Posterior dorsal margin long, slightly arched; anterior short, concave; ventral margin roundly arcuate, obtusely angled at the end. Posterior cardinal area narrow, slightly impressed, roughly striated; lunule rather small and narrow, brown. Umbones acute, anteriorly inclined.

Measurement:—Anterior to posterior,  $14\frac{1}{2}$ ; umbones to ventral margin, 11; thickness,  $6\frac{1}{4}$  millim.

Hab.:—Between Bird Island (Algoa Bay) and the mainland, 10–16 fathoms.

The shell somewhat resembles *V. tiara*, Diller., but besides being of a more oblong form, it is distinguished by the peculiarly plicate character of the lamellæ and interstices.



Fam. **Ungulinidæ.**

CRYPTODON INVESTIGATORIS, Smith, Annals and Mag. of Nat. Hist., 1895.

Hab.:—Cape Point, N.E.  $\frac{3}{4}$  E., 40 miles, 800 fathoms. One specimen only, less oblong than the Brit. Mus. specimen.

Fam. **Tellinidæ.**

TELLINA GILCHRISTI, n. sp. (Plate VII., fig. 3). Shell transversely oblong, thin, compressed, nearly equilateral, pale straw-colour, rayed with light pink, with a few narrow concentric bands of red, concentrically very closely and somewhat irregularly grooved, without radiating sculpture; dorsal margin almost straightly sloping on each side; posterior lateral margin very short, biangular; anterior rounded; ventral margin slightly convex. Umbones small, nearly central, somewhat posteriorly inclined. Ligament rather large. Interior rayed with pale pink; hinge line narrow; right valve with two unequal cardinal teeth, anterior lateral tooth short and somewhat elevated, posterior obtusely angled and distant from the umbo; left valve the same, but with three cardinal teeth.

Measurement:—Anterior to posterior, 24; umbones to ventral margin, 15; thickness, 6 millim.

Hab.:—Off Cape Point Lighthouse, N.W. by W.,  $11\frac{3}{4}$  miles; 45 fathoms. Bottom, rough.

W. by N.  $\frac{1}{2}$  N.,  $10\frac{1}{2}$  miles; 42 fathoms. N.W. by W.  $\frac{1}{2}$  W.,  $7\frac{3}{4}$  miles; 45 fathoms. S.W.  $\frac{1}{2}$  S.,  $2\frac{1}{2}$  miles; 30 fathoms. N.W.  $\frac{1}{2}$  W., 4 miles; 50 fathoms.

The shell somewhat resembles a very small *T. virgata*, with which species, however, it will not bear any close comparison. The specimens, which are numerous, vary but little in size, and are apparently adult.

TELLINA ANALOGICA, n. sp. (Plate VII., fig. 4). Shell transversely oblong, inequilateral, compressed, very thin and fragile, dull white, with pellucid concentric bands, very closely and irregularly concentrically grooved and ridged, obtusely biangular on the posterior side. Posterior dorsal margin sloping, slightly concave; anterior longer, less sloping, slightly convex; ventral margin slightly arcuate; cardinal area scarcely impressed, plicated. Ligament rather short. Umbones small, elevated, situated nearer the posterior than the anterior end of the shell. Interior smooth, white, with hinge same as in *T. Gilchristi*.



Measurement :—Anterior to posterior,  $21\frac{1}{2}$ ; umbones to ventral margin, 14; thickness (valves united),  $5\frac{1}{4}$  millim.

Hab. :—Constable Hill (Saldanha Bay), S.E. by E., 10 miles; depth, 55 fathoms. Bottom, mud.

Compared with *T. Gilchristi* this shell is of a thinner substance, white without rays of colour, more oval in form, and the umbones are situated nearer to the posterior end.

TELLINA VIDAENSIS, n. sp. (Plate VII., fig. 5). Shell transversely oblong, slightly compressed, convex towards the umbones, very inequilateral, salmon colour, concentrically, very finely, closely and somewhat irregularly grooved; anterior dorsal margin long, convex, slightly oblique; posterior short, obliquely sloping; anterior lateral margin rounded, posterior angular; ventral margin obliquely convex. Umbones small, closely approximating, slightly posteriorly inclined, situated near the posterior end of the shell. Ligament rather short. Interior light rose pink, smooth; hinge and muscular scars normal.

Measurement :—Anterior to posterior,  $15\frac{1}{2}$ ; umbones to ventral margin,  $8\frac{1}{2}$ ; thickness,  $4\frac{1}{4}$  millim.

Hab. :—Cape Vidal, N.E. by N., 9 miles; depth, 13 fathoms. Bottom, sand and shells (two specimens).

A donax-shaped shell, of an obliquely oblong form and pink colour, with very faint indication of rays. It does not seem to bear a close resemblance to any known species.

TELLINA (MACOMA) LEVIOR, n. sp. (Plate VII., fig. 6). Shell rounded, convex, nearly equilateral, thin and light, iridescent, concentrically very finely striated, and ridged with nearly obsolete growth lines; posterior obtusely angled and slightly flexuose; dorsal margin slopingly convex on each side; anterior lateral margin rounded, posterior obtusely angled; ventral margin slightly oblique towards the posterior end, then roundly convex. Umbones small, rather prominent, close together. Cardinal area impressed, with a rather narrow ligament occupying half the length. Interior white, smooth; abductor scars and pallial line normal, but somewhat indistinct; hinge line narrow, with three diverging cardinal teeth in each valve, and thin laminae in place of lateral teeth.

Measurement :—Anterior to posterior, 16; umbones to ventral margin, 14; thickness (valves united), 8 millim.

Hab. :—Amatikulu River Mouth, N.W.,  $7\frac{1}{2}$  miles; depth, 26 fathoms. Bottom, mud. South Head, Tugela River, N. by W.  $4\frac{3}{4}$  miles; 25 fathoms.



This shell somewhat resembles *T. balthica* in form, but is distinguished by the thinness of its substance, and narrowness of the hinge line, as well as by the delicate texture and iridescence of its surface. The specimens are destitute of colour bands, but have mostly the remains of a light brown epidermis about the margin.

TELLINA (MACOMA) ORDINARIA, n. sp. (Plate VII., fig. 7). Shell obliquely oval, inequilateral, compressed, thin, sordid white, with a thin greenish periostracum, concentrically very finely striated, posterior side obscurely angled. Posterior dorsal margin short, convexly sloping; anterior longer, oblique, slightly convex; lateral and ventral margins rounded. Umbones small, rather acute, scarcely incurved, situated rather posteriorly; cardinal area very narrow and indistinct, with a thin ligament. Interior smooth, suffused with yellow; hinge line very narrow, with two small cardinal teeth in each valve, and no lateral teeth.

Measurement:—Anterior to posterior, 16; umbones to ventral margin, 13; thickness (valves united),  $6\frac{1}{2}$  millim.

Hab.:—Saldanha Bay, 10 fathoms.

A shell of ordinary appearance, very thin in substance, with a yellow interior.

TELLINA (MACOMA) AFRICANA, n. sp. (Plate VII., fig. 8). Shell oblong-oval, oblique, very inequilateral, compressed, white, very thin in substance, nearly smooth, concentrically very obscurely striated, with impressed growth lines towards the margin; posterior side obscurely angled, truncated; anterior somewhat produced. Posterior dorsal margin short, rather straight, sloping, obtusely angled; anterior long, oblique, very slightly convex; posterior lateral margin short, nearly vertical, obtusely angled above and below; anterior rounded; ventral margin arcuate. Umbones small, rather acute, erect, situated rather near the posterior end of the shell. Interior smooth, but showing growth lines, white, faintly tinged with light buff; hinge line very narrow, with small cardinal teeth, no laterals.

Measurement:—Anterior to posterior,  $17\frac{1}{2}$ ; umbones to ventral margin, 12; thickness (valves united), 6 millim.

Hab.:—Algoa Bay, 16 fathoms.

TELLINA (MACOMA) INCLINATA, n. sp. (Plate VII., fig. 9). Shell transversely oblong, slightly oblique, inequilateral, compressed, of a rather thin substance, dull white, with a very thin light brown periostracum, concentrically irregularly striated, and marked with growth lines; posterior side rather



acuminated, and slightly flexuose. Posterior dorsal margin almost straightly sloping, slightly concave near the umbones; anterior longer, rather convex; posterior lateral margin nearly vertical, obtusely angled above and below; anterior rounded; ventral margin longer, rather oblique, very slightly convex. Umbones small, slightly inclined towards the posterior side; cardinal area very narrow; ligament short. Interior white; hinge line very narrow, with small cardinal teeth; no lateral teeth, but in the left valve the narrow posterior lamina terminating abruptly gives almost the appearance of one.

Measurement:—Anterior to posterior,  $32\frac{1}{2}$ ; umbones to ventral margin, 20; thickness, 10 millim.

Hab.:—Tugela River Mouth, N. by W., 27 fathoms.

*ERVILIA PURPUREA*? (DESHAYES).

Buffalo River (two miles above the jetty).

I name this with some doubt, the shells being more fragile than the typical form from the Red Sea. It may prove to be a distinct species.

### Fam. Anatinidæ.

*POROMYA GILCHRISTI*, n. sp. (Plate VII., fig. 10). Shell transversely oval, nearly equilateral, rather inflated, whitish, of a thin nacrous substance, with a very thin light yellowish-brown slightly scabrous epidermis about the margin; surface minutely punctured throughout, concentrically very finely and inconspicuously striated, and with very slight radiating ridges towards the posterior side. Dorsal margin slightly sloping on both sides, posterior very obtusely angled, anterior convex, rounded; ventral margin somewhat obliquely arched. Umbones prominent, approximating, incurved, slightly inclined anteriorly, nearly central; cardinal area slightly impressed, rather long and narrow, with a small subulate ligament. Interior silvery white; abductor scars irregular in form, rugose; pallial line rather broad, without sinus. Hinge with one somewhat prominent, mucronate cardinal tooth in the right valve, and two narrow diverging teeth in the left.

Measurement:—Anterior to posterior,  $25\frac{1}{2}$ ; umbones to ventral margin,  $18\frac{1}{2}$ ; thickness (valves united), 13 millim.

Hab.:—Umtwalumi River Mouth, N. by W., seven miles; 50 fathoms.

Only one specimen of this fine species has been found. All the species of this genus appear to be extremely rare, and this applies to all those described in this paper, as well as those previously known. *P. Gilchristi* somewhat resembles at first



sight *P. hyalina*, Sowerby, which has been found in the China Sea, but it differs considerably both in form and sculpture from that species.

*POROMYA STRIATA*, n. sp. (Plate VII., fig. 11). Shell transversely sub-ovate, inequilateral, rather inflated, of a thin nacrous substance, covered by a thin light buff scabrous epidermis; posterior side obtusely biangular, anterior rounded; surface very finely and closely granular, rayed with numerous very thin thread-like ridges. Posterior dorsal margin rather short, obtusely angled, nearly straight, slightly sloping; anterior slopingly convex; posterior lateral margin nearly vertical, anterior rounded; ventral margin arcuate. Umbones prominent, approximating, incurved, inclined anteriorly, situated rather nearer the posterior than the anterior side of the shell. Ligament small, immersed, very narrowly produced posteriorly. Interior silvery white. Hinge of moderate thickness; right valve with one prominent cardinal tooth, with a slightly curved cusp at the top, and a blunt point on each side; left valve with two small parallel teeth.

Measurement:—Anterior to posterior, 22; umbones to ventral margin,  $16\frac{1}{2}$ ; thickness (valves united),  $11\frac{1}{2}$  millim.

Hab.:—Vasco de Gama Pk. (False Bay), S.  $75^{\circ}$  E.,  $13\frac{1}{2}$  miles; 166 fathoms.

This shell differs from *P. Gilchristi*, in being less regularly oval in form, rather more compressed, and in the character of the surface, which is covered with thin raised radiating striæ.

*POROMYA GRANOSISSIMA*, n. sp. (Plate VII., fig. 12). Shell nearly equilateral, rather short, angularly acuminate above, rounded in front and below, posterior truncated with an obtuse but distinct angle from the umbones to the margin; surface very profusely and distinctly granular all over; granules minute, rounded, very close together, arranged so as to form fine close radiating ridges, where removed the surface of the shell is smooth. Posterior dorsal margin almost straightly sloping; anterior convex, much sloping; posterior lateral margin convexly vertical, obtusely biangular; anterior and ventral margins rounded. The area behind the posterior angle is flattened, or very slightly concave. Umbones prominent, nearly central, approximating, incurved, with a very slight anterior tendency at the apices. Cardinal area narrow, rather concave, bordered by an angular ridge on the right valve, and an extremely thin long and narrow ligament on the inner edge of the left. Interior silvery white; hinge of moderate thickness, with a thick prominent cardinal tooth in the right valve, and an oblique pit bearing a short rather



thick ligament under the posterior side of the umbo, while the left valve has two small diverging cardinal teeth, and a small supplementary ridge; no lateral teeth.

Measurement:—Anterior to posterior, 9; umbones to margin, 8; thickness (valves united),  $5\frac{1}{4}$  millim.

Hab.:—Cape Natal, 54 fathoms.

This shell has much the form of the European *P. granulata*, Nyst, but it is much more closely and conspicuously granulated.

*POROMYA CURTA*, n. sp. (Plate VII., fig. 13). Shell thin, ventricose, nearly equilateral, slightly inequivalve, raised at the umbones, rounded in front and below, posterior very slightly produced and truncated, obtusely angled; surface iridescent, covered with very minute somewhat distant granules which are more crowded in front of the posterior angle, forming radiating ridges towards the posterior dorsal margin, while concentric grooves or growth lines may be seen with a lens. Posterior dorsal margin sloping, slightly incurved, anterior much sloping, convex; posterior lateral margin obtusely biangular, anterior rounded. Umbones nearly central, tumid, anteriorly incurved at the apices; ligament external, narrow. Hinge narrow; cardinal teeth small, two in the left valve and one in the right. Interior silvery white, rayed with faint irregular striae.

Measurement:—Anterior to posterior,  $9\frac{1}{2}$ ; umbones to ventral margin,  $8\frac{1}{2}$ ; thickness (valves united), 7 millim.

Hab.:—Cape Natal, N. by E., 24 miles; 440 fathoms.

The shell is unusually short, high and ventricose, otherwise it somewhat resembles the European *P. granulata*.

### Fam. *Cuspidariidæ*.

*CUSPIDARIA OPTIMA*, n. sp. (Plate VII., fig. 16). Shell equivalve, inequilateral, thin, white, rounded in front, acuminate and shortly rostrate behind; surface obliquely ridged, ridges narrow and not very close, excepting near the margin, where they become more crowded and concentric. Umbones rather depressed, approximating, situated nearer the anterior than the posterior end of the shell. Posterior dorsal margin strongly incurved, with a concavely depressed area; anterior convexly sloping; ventral margin arcuate, slightly sinuated posteriorly; rostrum rather short, convexly rounded, obtusely angular at the sides. Interior silvery white, radiately striated; posterior abductor scar triangular, clearly defined, anterior indistinct; hinge normal, the process bearing the ligament being of moderate size.



Measurement:—Anterior to posterior,  $32\frac{1}{4}$ ; umbones to ventral margin,  $20\frac{1}{2}$ ; thickness (valves united), 14 millim.

Hab.:—Umtwalumi River Mouth, N. by W., 7 miles, 50 fathoms.

A fine large species somewhat resembling the Australian *C. latisulcata*, Ten-Woods, but much more finely, closely and obliquely ridged.

CUSPIDARIA NASUTA, n. sp. (Plate VII., fig. 14). Shell elongately pyriform, rather compressed, thin, whitish, rounded in front, attenuately produced behind; surface somewhat rugose with irregular growth lines, a concave depression defining the rostrum. Posterior dorsal margin concave near the umbones, then horizontal and nearly straight; anterior convex, slightly sloping; ventral margin rather long, slightly arcuate; rostrum long, rather narrow; dorsal area concavely depressed, long and rather narrow; umbones rounded almost touching one another. Interior smooth, muscular scars indistinct; pallial line simple, with a very slight sinus on the posterior side; cartilage pit very small.

Measurement:—Anterior to posterior, 21; umbones to ventral margin, 10; thickness,  $7\frac{1}{2}$  millim.

Hab.:—Cape Point Lighthouse, 85 fathoms.

Compared with *C. rostrata*, the body of the shell is more oblong.

CUSPIDARIA (CARDIOMYA) GILCHRISTI, n. sp. (Plate VII., fig. 17). Shell irregularly pyriform, moderately inflated, thin, whitish, closely radiately ribbed throughout; ribs regular, equidistant, rounded, rather broader than the interstices, becoming irregular on the posterior side, and almost obsolete on the rostrum. Umbones approximating, inclined towards the posterior side, and situated rather nearer the posterior than the anterior; posterior dorsal margin deeply incurved; anterior arcuate; rostrum rather short.

Measurement:—Anterior to posterior, 14; umbones to dorsal margin, 9; thickness, 7 millim.

Hab.:—Cape Natal, W.  $\frac{3}{4}$  N.,  $12\frac{1}{2}$  miles; 85 fathoms.

CUSPIDARIA (CARDIOMYA) FORTICOSTATA, n. sp. (Plate VII., fig. 15). Shell sub-pyriform, rather compressed, whitish, radiately ribbed; ribs very unequal, on the anterior side (about one-third of the entire surface), they are about 30 in number, rather close together, narrow, rounded, and but little raised, then from the central area inclining towards the posterior side are three much more elevated, narrow and diverging, with broad flatly depressed interstices, from thence to the



end of the rostrum, eight moderately raised, with interstices of intermediate width; concentric growth lines distinct, rather irregular, here and there slightly lamellose, especially on the posterior side. Posterior dorsal margin very slightly incurved; anterior short, obtusely angled, truncated; anterior lateral margin rather convex; ventral rounded, then obliquely raised towards the posterior side; rostrum rather short, wedge shaped; umbones rounded, closely approximating, situated nearer to the anterior than to the posterior side of the shell; dorsal area scarcely defined.

Measurement:—Anterior to posterior, 13; umbones to ventral margin, 8; thickness,  $6\frac{1}{4}$  millim.

Hab.:—Cape Natal, N. by E., 24 miles; 440 fathoms.

The species is somewhat similar to *C. Alcocki*, Smith, but it has a shorter rostrum, and differs from it in other respects.

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#### *Erratum.*

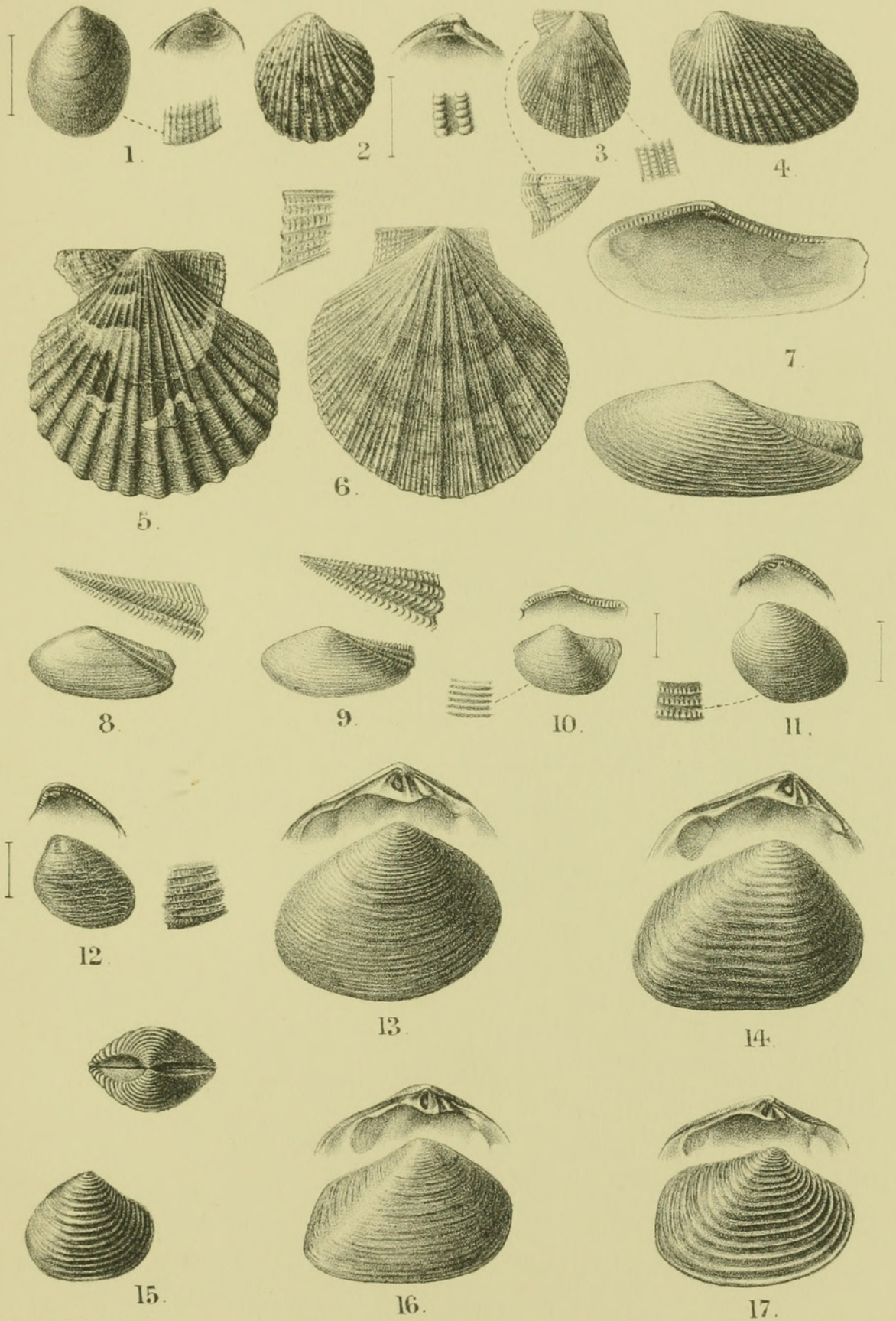
Mollusca Vol. II., page 224; delete line 2, and put a comma at the end of line 1 (after the word "above").

The line to be deleted forms part of the description of the second species on page 222, and has unaccountably been repeated as above.









J. Green del. et lith.

Mintern Bros imp

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|---------------------------|------------------------|---------------------------|
| 1. CRENELLA STRIATISSIMA. | 6. CHLAMYS GILCHRISTI. | 11. NUCULA SCULPTURATA.   |
| 2. CARDITA PULCHERRIMA.   | 7. NUCULANA BELCHERI.  | 12. " IRREGULARIS.        |
| 3. CHLAMYS HUMILIS.       | 8. " LAMELLATA.        | 13. CRASSATELLA AFRICANA. |
| 4. ARCA AFRICANA.         | 9. " GEMMULATA.        | 14. " GILCHRISTI.         |
| 5. CHLAMYS FULTONI.       | 10. " COMPTA.          | 15. " ABRUPTA.            |
| 16. C. ANGULATA.          | 17. C. TENUIS          |                           |





Sowerby, G. B. 1904. "Mollusca of South Africa (Pelecypoda)." *Marine investigations in South Africa* 4, 1–19. <https://doi.org/10.5962/p.366543>.

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