

THIRD CONTRIBUTION  
 TO THE  
 NATURAL HISTORY OF THE TERTIARY MARINE  
 BEDS OF TABLE CAPE,  
 WITH A  
 DESCRIPTION OF 30 NEW SPECIES OF  
 MOLLUSCA.

BY ROBERT M. JOHNSTON, F.L.S.

[*Read 8th April, 1879.*]

The following record contains a list of 30 new species of fossil shells now described for the first time, from the Table Cape beds, together with a notice of the appearance of two described species still living, but hitherto unrecorded as fossils.

It is with a feeling of diffidence that I submit these descriptions to the members of the Royal Society of Tasmania, for I am very conscious of the many disadvantages under which I am placed, arising as much from inexperience in this special branch of study, as from the want of many necessary works of reference. The classification is so far provisional, that it is my intention to have it submitted to the Rev. J. E. Tenison Woods on the earliest opportunity.

Personally, I would much prefer that they were described by Mr. Woods himself, but his absence from the colony—the danger of transmitting to a distance fragile, unique specimens, not to speak of the rapidly increasing chaos of new material on hand—constrained me to publish my own private descriptive notes.

That valuable and splendid work “A Catalogue of Australian Fossils, including Tasmania and the Island of Timor,” so carefully compiled from the scattered writings of various authors, by Robt. Etheridge, jun., F.G.S., has been of great service in enabling me to see what has hitherto been described elsewhere. Australian naturalists are under deep obligation to Mr. Etheridge for this most useful work, the result of years of patient labour. It adds another to the many valuable works so generously adopted by the syndics of the Cambridge University Press.

The following table may be of interest, as it shows at a glance how much has been done in the field of Australian Palæontology :—

SUMMARY OF CLASSIFIED GENERA AND SPECIES,

*Roughly Abstracted from*

CAT. OF AUSTRAL. FOSSILS. BY ROBT. ETHERIDGE, JUN., F.G.S.

	LOWER SILURIAN.		DEVONIAN AND CARBONIFEROUS.		MESOZOIC.		TERTIARY.		POST TERTIARY.		DOUBTFUL.		TOTAL.			
	Gen	Sp.	Gen	Sp.	Gen	Sp.	Gen	Sp.	Gen	Sp.	Gen	Sp.	Gen	Sp.		
<b>KINGDOM.</b>																
Plantæ .....	2	2	14	10	18	41	26	35					1	1	61	98
<b>CLASS.</b>																
Rhizopoda .....	2	3	2	2	6	9	25	45	—	—	—	—	—	—	35	59
Hydrozoa .....	12	35	—	—	—	—	—	—	—	—	—	—	—	—	12	35
Actinozoa .....	20	32	22	50	—	—	17	40	—	—	1	1	60	123		
Echinodermata....	4	4	9	10	1	1	26	37	—	—	—	—	—	—	40	52
Annelida .....	—	—	—	—	1	1	1	1	—	—	—	—	—	—	2	2
Crustacea .....	17	28	7	10	—	—	4	4	—	—	1	1	29	43		
Polyzoa .....	2	2	8	24	1	1	20	61	—	—	—	—	—	—	31	88
Brachiopoda .....	12	26	19	89	5	8	5	15	1	1	0	0	42	139		
Pelecypoda .....	6	24	29	115	32	83	27	48	1	3	—	—	95	273		
Gasteropoda.....	11	18	13	52	18	12	54	112	7	7	—	—	93	201		
Pteropoda.....	2	5	2	6	—	—	—	—	—	—	—	—	—	—	4	11
Cephalopoda.....	2	6	6	11	7	19	2	3	—	—	—	—	—	—	17	39
Pisces.....	—	—	2	2	4	4	4	9	—	—	—	—	—	—	10	15
Reptilia .....	—	—	—	—	2	3	—	—	2	2	1	1	5	6		
Mammalia .....	—	—	—	—	—	—	6	6	23	86	2	2	36	94		
Aves.....	—	—	—	—	—	—	—	—	1	2	—	—	1	2		
<b>TOTAL .....</b>	<b>92</b>	<b>185</b>	<b>133</b>	<b>390</b>	<b>85</b>	<b>182</b>	<b>217</b>	<b>416</b>	<b>40</b>	<b>101</b>	<b>6</b>	<b>6</b>	<b>573</b>	<b>1280</b>		

ADDITIONAL CONTAINED IN FOLLOWING PAPER.

Pelecypoda .....	—	—	—	—	—	—	4	6	—	—	—	—	—	—	4	6
Gasteropoda.....	—	—	—	—	—	—	10	26	—	—	—	—	—	—	10	26
<b>TOTAL DESCRIBED .....</b>														<b>587</b>	<b>1312</b>	

There are, according to the foregoing abstract, about 573 genera and 1280 species properly classified in Mr. Etheridge's catalogue, of which 217 genera and 416 species belong to the Tertiary period. The following list will raise the number to 236 genera, and 448 species.

The described Brachiopoda and Mollusca proper, of the Tertiary period alone, represent 100 genera and 207 species. In my own collection there are specimens or remains of at least 50 species still undescribed, making in all, say, 260 species, as far as I know.

The following fossils have living representatives, viz. :—

1. *Corbula sulcata*, Lamarck.
2. *Limatula subauriculata*, Montagu.
3. *Cucullea concamerata*, Reeve.
4. *Limopsis Belcheri*, Adams and Reeve.
5. *Do. aurita*, Brocchi.
6. *Pectunculus laticostatus*, Quoy and Gaimard.
7. *Cylichna arachis*, Quoy and Gaimard.
8. *Eulima subulata*, Donovan.
9. *Natica polita*, Tenison Woods.
10. *Crossea labiata*, Do.
11. *Trivia Europea*, Montagu.

Those having living representatives, according to this account, scarcely represent  $2\frac{1}{2}$  per cent of the fossil species included under the heading Tertiary period. In the foraminifera and lower forms of life, of course, evolutionists will expect to find a very much larger percentage, as the conditions for their existence are not liable to such marked changes as that to which the higher forms are subjected.

Our raised beaches have not yet been touched in Australia, so far as the classifier is concerned. On a future occasion I will prepare a list of those forms obtained by me from Badger and Barren Islands. I have already discovered one or two new forms which appear to have no living representatives.

I am indebted for the material from which many new Tertiary species were obtained to Mr. T. R. Atkinson, who has worked most enthusiastically in the investigation of the fossil remains at Table Cape. I am also under deep obligation to Mr. Petterd, who has placed at my disposal many undescribed new species recently dredged, for reference purpose.

The following are the new species referred to in the above introduction :—

**MUREX LEGRANDI, n.s.**

Shell small, fusiform, turreted, elongate, with numerous squamose spiny varices, of which there are upon penult, 9; on last whorl, 5; whorls angulate, showing 2 angulate carinæ on upper whorls, and 9 more or less angulate on body whorl; interspaces between varices and carinæ regularly cancellated by longitudinal and transverse liræ, which become slightly granular at points of intersection; the uppermost carina in each whorl is sharply produced into a crown of squamose spines where intersected by the varices; the spines are curved slightly upwards; aperture entire; anterior canal produced into a long open arched and recurved canal; outer lip denticulate interiorly. Long. 18, lat. 8, long. apert. 8 mil. Rare, Table Cape.

I have named this shell in honour of Mr. Legrand, who may be well termed the father of Tasmanian conchologists. The shell is easily known by its elongate appearance, and from the fact that the upper carina in each whorl is alone spinose.

**MUREX MINUTUS, n.s.**

Shell minute, white, shining, sub-fusiform, angulate; whorls (including smooth nucleus of  $1\frac{1}{2}$  turn), 6; lower whorls sharply angled at the crown by a row of bluntly angulate obsolete squamose varices, which are thin and rib-like, and terminate near summit of whorl in a crown of blunt squamose tubercles, 7 on last whorl and 11 on penult; interspaces rather widely cancellated by broad, flat, slightly raised liræ, last two rib interspaces having 2 transverse and 6 spiral; aperture entire, terminating in a moderately long arched and slightly recurved canal; inner lip not terminating in a foliaceous rib; outer lip thick, slightly reflexed, dentate interiorly. Long.  $8\frac{1}{2}$ , lat.  $4\frac{1}{2}$ , long. apert. 5, lat. 2. Rare (2 specimens) Table Cape. This is a very distinct species, both in size and in ornamentation.

**FUSUS VITREOIDES, n.s.**

Shell broadly fusiform, of six smooth whorls; whorls sub-angulate near the middle, and ornamented with about 17 obsolete ribs, which disappear near aperture, and also in the upper part of each whorl, which latter is slightly concave spirally; apical angle aperture ovate-acuminate, narrowed into shortly produced anterior canal; outer lip thin, simple. Long. 42 mil., lat. 20 mil., long. body whorl 28 mil. Rare, Table Cape. This shell is easily known by its size and the absence of liræ.

**CANCELLARIA ETHERIDGEI, n.s.**

Shell small, with produced spire and exerted nucleus; not umbilicated; whorls 5, convex, distinctly ribbed on upper whorls;

ribs absent on body whorl; all of them crossed by rather coarse rounded liræ, which become obsolete at points of intersection with ribs; aperture narrowly ovate, with a slight anterior canal; columella abbreviate, distinctly biplicate; inside of outer lip distinctly denticulate. Long. 7mil., lat. 3 mil., long. aperture  $2\frac{1}{2}$ mil. Rare, Table Cape.

*ADEORBIS LÆVIS*, *n.s.*

Shell white, minute, discoid, umbilicate of 3 smooth shining rapidly increasing whorls; aperture round; peristome simple, not reflected; umbilicus twisted, narrow. Dia. mag. 2mil., min.  $1\frac{1}{2}$ mil., depth 1mil. Rare, Table Cape.

*RISSOA DUBIA*, *n.s.*

Shell simple, very minute, turbinate, perforate, of 4 round lax rapidly increasing whorls; suture deeply impressed; aperture sub-rotund, minutely umbilicate; peristome continuous; margin slightly reflexed. Long. 1mil., lat.  $\frac{1}{2}$ mil. Very rare, Table Cape.

*RICINULA PURPUROIDES*, *n.s.*

Shell solid, small, subfusiform, turreted; whorls 6, angulate, ornamented and irregularly latticed by angulate ribs and carinæ; spaces between ribs and carinæ finely cancellated by spiral and transverse liræ; longitudinal liræ of two kinds, fine and coarse alternately; transverse liræ obsolete; carinæ on upper whorls, 2 central, 6 on body whorl; ribs regular, oblique, 11 on penultimate whorl, last rib varix-like; carinæ nodose at points of intersection; aperture narrowly ovate; anterior canal narrow, slightly reflexed and produced; peristome continuous; inner lip reflexed with 1 distinct linear tooth near posterior and forming two distinctly concave channels; columella, with about 8 small irregular teeth-like callosities; the largest of these callosities is situated upon a slightly swollen projection near to anterior canal; inside of outer lip with 7 raised teeth; outer margin slightly crenulate. Long. 13mil., lat. 6mil., long. aperture 6mil. Four specimens from Table Cape. This shell somewhat resembles *Purpura exsculpta* Dujardin in having a distinct tooth at posterior canal, but the presence of minute teeth-like callosities on columella brings it within the genus *Ricinula*, Lamarck.

*TRITON TASMANICUS*, *n.s.*

Shell narrow, turreted, with elevated spire, and round blunt apex; whorls 8, cancellated and ornamented with about 24 fine riblets and 2 broad round distant varices on each whorl, which become slightly granulose at points where intersected by the more faintly raised regular carinæ, 6 of the latter visible on upper whorls; interspaces, varices,

carinae, and riblets finely transversely striate throughout; aperture entire, ending in short canal; outer lip denticulate interiorly. Long. about 22mil., lat. 8. Rare, Table Cape. This shell, though smaller, approaches very close to *T. tortuosum*, Reeve. I have, unfortunately, broken the aperture after it was partly described.

*MITRA ANTICORONATA*, *n.s.*

Shell small, narrowly ovate, rugose; whorls 7, sloping, slightly convex, spirally multirate (12 on last whorl); liræ, regularly sub-distant on upper portion of whorl, but become more and more distant as they approach base; liræ intersected by sharp liræ-like riblets (25 on last whorl), giving a cancellate appearance to the shell, and becoming slightly granulose at points of intersection; suture faintly impressed; aperture ovate, scarcely exceeding the spire; anterior canal pointed, narrow; columella quadriplicate, the two central folds being most prominent. Long. 13, lat. 5, long. apert. 7, lat. 2. Rare (one specimen), Table Cape. This unique shell approaches nearly to *M. coronata*, Lamarck. It is much smaller than the *Mitra granatina*, Woods and Swainson, which latter name must be altered, as a very similar shell has been described and so named by Lamarck, and is figured in *Chenus' Manual of Con.*

*PYRAMIDELLA POLITA*, *n.s.*

Shell minute, white, turreted, shining; whorls,  $6\frac{1}{2}$ , smooth, flattened; under 1-inch object glass, very fine longitudinal lines are visible, crossed with fine wavy liræ; base of last whorl somewhat truncate, with an indistinct sub-angular keel; nucleus exerted, sub-central; aperture auriform, rounded and slightly expanded anteriorly; inner lip twisted back plait-like over columella, and forming a deep regular spiral channel behind; outer lip continuous with the plait-like inner lip, simple. Length 4mil., breadth  $1\frac{1}{2}$ mil. Rare, Table Cape.

*RINGICULA LACTEA*, *n.s.*

Shell white, shining, minute, conical, sub-turreted, of about 6 rapidly-increasing whorls; whorls convex, ornamented by regular, distant, punctate, spiral sulci, about 12 on last whorl; under lens broad distant obsolete transverse liræ may be traced; suture deeply impressed; columella abbreviate, with two thick tortuous folds, the lower being the largest; aperture roundly notched posteriorly and anteriorly; outer margin thick and reflexed, forming a broad varix continuous with the last tortuous fold of columella. Long. 6mil., lat. 3mil. Rare, Table Cape.

PYRAMIDELLA SULCATA, *n.s.*

Shell minute, white, shining, ventricose, with short acute spire; whorls, 6 convex; body whorl half the length of shell; with the exception of a rather wide space under impressed suture, the whorls are ornamented with regular equi-distant spiral sulci, 11 on last whorl; aperture ovate, nearly equalling spire in length; columella abbreviate, with 2 thick oblique plaits; outer margin thin. Long. 4mil., lat. 2mil. Long aper. 2 lat. 1. Rare, Table Cape.

VOLUTA STEPHENSI, *n.s.*

Shell broadly fusiform, turreted; pullus moderately large, of about  $1\frac{1}{2}$  turns; apical angle,  $50^{\circ}$  to  $60^{\circ}$ ; spire conical of 5 whorls besides the pullus, each whorl ornamented with 14 to 18 angular sigmoid longitudinal ribs (14 on last whorl), extending from a point near the suture (from which they expand into a crown of more or less sharply angled tubercles) to the base, towards which the ribs tend to become obsolete; the tubercles on the last whorl expand almost at right angles to axis, and as they approach pullus they become less and less distinct; immediately under suture a second row of broad, almost obsolete, tubercles, surmount the larger row above the interspaces; the space between the rows varies, being slightly concave on the upper whorl, and almost deeply angular on the last; tubercular expansion on last whorl about 16mil.; nodes and interspaces finely striate with lines of growth; spiral lines indistinct or absent; mouth, with a slight posterior channel, oblong, narrowed in front; inner lip slightly curved, with 4 slender rather angular equidistant oblique plaits; spaces between plaits concave; outer lip thin, simple, not expanded into a wing. Length 110mil., breadth of body whorl 55mil., relative length of body whorl  $\frac{6.5}{100}$ , relative length of penultimate whorl  $\frac{1.5}{100}$ . This is a very distinct shell, and differs from *V. Hannafordi*, McCoy, to which it bears some resemblance, in the smaller pullus, the more angulate appearance, and the absence of spiral striæ and expanded wing. Rare, only 1 perfect specimen found at Table Cape.

VOLUTA ALLPORTI, *n.s.*

Shell large, ovately fusiform, of six regularly increasing whorls, besides a small pullus which is too imperfect in the various specimens for description; spire acute; apical angle  $45^{\circ}$ , slightly concave in outline; whorls slightly convex, and only ornamented with fine longitudinal lines of growth; aperture rather narrow, elliptical; lip not expanded into a wing, simple; columella curved, with 4 distinct slender oblique plaits; length, when perfect, about 8 inches, or

200mil., breadth 65mil., proportional length of body whorl about  $\frac{6.5}{100}$  of penultimate  $\frac{8}{100}$ . This is the largest Volute in Table Cape Beds, and has much the general appearance of *V. macroptera* (McCoy) in its young state, but has a smaller pullus, and differs materially in the size, number of whorls, and in the absence of an expanded wing. Named in honour of the late Mr. Morton Allport, whose place in the field of Tas. Nat. History can never again be so fitly occupied.

*VOLUTA PELLITA, n.s.*

Shell narrowly fusiform, of six gradually increasing whorls besides the pullus, which is absent in the only specimen obtained; apical angle  $45^\circ$ ; spire has a slightly convex outline; surface of whorls, of a shining leathery appearance, as if covered with raised, regularly sized microscopic glands; whorls also ornamented with slightly raised blue, undulating lines; aperture narrow, elliptical; lip simple; columella curved, with three distant distinct oblique plaits, the upper one being smallest and more transverse; length of shell without pullus 120mil., breadth 42mil., length of aperture 72mil., proportional length of body  $\frac{7.0}{100}$ , of penultimate  $\frac{1.6}{100}$ . This shell approaches the living *V. fusiformis* in shape and ornamentation.

*VOLUTA STOLIDA, n.s.*

Shell conoidal, ventricose, solid, mammillate; pullus smooth, of  $2\frac{3}{4}$  turns, forming obtuse apex to spire; spire of 3 whorls besides pullus; apical angle about  $80^\circ$ ; crown of each whorl with about 12 tubercles, sharp, angulate, and terminating distinct, somewhat distant, regular, angulate, sigmoid ribs, which become obsolete as they approach the base of body whorl; crown of tubercles projecting at right angles to axis, and slightly rounded off and forming a concave groove between suture and row of tubercles; whorls finely striate, longitudinally, with lines of growth; aperture narrow, contracted anteriorly; lip thickened, simple, emarginate above; columella somewhat curved, with 4 distinct oblique equi-distant plaits, and 2 irregular ones not so prominent; one above the first regular plait, and the other between the second and third. Length 55mil., breadth 30mil., proportional length of body whorl  $\frac{7.8}{100}$ , penult  $\frac{1.8}{100}$ , length of pullus 3mil. Shell resembles *V. Weldii*, Tenison Woods, but is very distinct, being fully twice as large; apical angle and pullus greater, and having invariably 12 tubercles on each of the three last whorls. It differs from McCoy's *V. strophodon* (largest size) in the two extra irregular plaits, and in the constancy of the number of tubercles. *V. Weldii* and *V.*



*stolida* occur together, and the former, though smaller, has one whorl more in the spire. The three shells are no doubt closely allied to each other. Rare, Table Cape.

*VOLUTA TATEANA, n.s.*

Shell slenderly fusiform, of 8 whorls, including the 2 turns of the smooth sharp pullus; spire very acute; apical angle about  $30^{\circ}$ ; whorls with regular sigmoid ribs, which become somewhat obsolete downwards towards base of body whorl, and upwards towards suture, but are raised into distinctly angled tubercles, which form a spiral row near to the crown of each whorl; space between suture and row of tubercles slightly concave, and indistinctly marked with fine spiral liræ; tubercles slope abruptly upwards, and, with the ribs, become obsolete near to the lip of aperture; lip simple emarginate above; columella slightly curved, with 4 prominent oblique plaits; length 77mil., breadth 25mil., length of aperture 42mil., proportional length of body whorl  $\frac{6.2}{100}$ , 8 of penultimate whorl  $\frac{1.3}{100}$ , prop. br. of penult whorl  $\frac{1.9}{100}$ ; shell finely striate longitudinally with lines of growth. This shell has the general character of the last, but is readily distinguished by its remarkably long slender appearance, its larger number of whorls, and sub-central apex. Rare, Table Cape.

*VOLUTA LIRATA, n.s.*

Shell ovately fusiform, shining, of 7 whorls, including the smooth small pullus of  $1\frac{1}{2}$  turns; whorls scarcely convex, and ornamented with fine slightly curved liræ, regular and distinct above, but becoming indistinct and irregular on body whorl; the interspaces are marked with very fine longitudinal lines of growth; spire, with a slightly convex outline, and forming an angle of about  $50^{\circ}$ ; aperture somewhat elliptical, longer than spire; lip simple, emarginate above; columella curved, with 4 equi-distant distinct oblique plaits; length of shell 48mil., breadth 21mil., length of aperture 30mil., proportional length of body whorl  $\frac{6.8}{100}$ , of penult, whorl  $\frac{1.6}{100}$ . This shell approaches closely to *V. McCoyi*, but is lirate, larger and more ventricose.

*VOLUTA AGNEWI, n.s.*

Shell very small, narrowly fusiform, of 6 regularly increasing whorls, including smooth pullus of  $1\frac{1}{2}$  turns, with pointed sub-central nucleus; spire very acute, with a somewhat blunt apex; apical angle  $30^{\circ}$  to  $35^{\circ}$ ; whorls ornamented with 9 or 10 ribs, which become raised near the centre with a row of blunt tubercles; ribs on body whorl become obsolete towards the base; surface of shell finely cancellated, the transverse spiral lines being most con-

spicuous; aperture narrow, elliptical; lip thin, simple; columella slightly raised, with 4 regular slender oblique plaits; length of shell 23mil., breadth 8mil., length of aperture 12mil., proportional length of body whorl  $\frac{6}{100}$ , of penultimate  $\frac{17}{100}$ . This shell is, from its minute size, easily distinguished. It is undoubtedly the smallest volute in the Table Cape beds. Rare.

*ZIZYPHINUS TASMANICUS*, *n.s.*

Shell trochiform, conical, bluish, of 8 regularly increasing whorls; whorls scarcely convex, and ornamented spirally with sharply angulate equi-distant moniliform carinæ, about 8 on last whorl, decreasing in number towards apex; interspaces shallow, concave; and carinæ spirally covered with microscopic liræ; the whorls are also raised transversely obliquely into gentle undulating ridges, which are more pronounced as they approach the sub-angled base, where they are developed into rounded nodes; aperture quadrate; columella abbreviate, curved; inner lip callous, reflected over umbilicus, which it nearly conceals; base scarcely convex, with 4 fine scarcely-raised equi-distant liræ, which, together with interspaces, are covered with microscopic spiral lines; apical angle  $70^{\circ}$ ; long. 30mil., lat. 24mil. Rare, Table Cape. This is by far the largest of the three fossil species described from Table Cape. There are fragments, however, of a very handsome species, too imperfect to be described, which must at least be  $2\frac{1}{2}$  times as large.

*ZIZYPHINUS ATOMUS*, *n.s.*

Shell thin, very minute, bluish, trochiform, conical, not umbilicated, of about  $4\frac{1}{2}$  flat whorls, each of which, with scarcely convex base, are ornamented with 4 to 5 fine regular equidistant spiral sulci; aperture angular subquadrate; columella abbreviate; outer lip thin; inner lip slightly reflexed; long. 2mil., lat. 1mil. Rare, Table Cape.

*EUCHELUS WOODSII*, *n.s.*

Shell small, elevated, conical; whorls rounded and rugosely latticed by sharply defined filiform carinæ, and fine transverse raised bars, equidistant, irregularly connecting the carinæ; interspaces between carinæ wider as they approach base of whorl; points of intersection raised into obsolete granular nodes; 8 carinæ on last whorl; suture well defined; aperture oval; two prominent teeth on columella, between which and equally prominent tooth on sinister side of the throat of anterior margin, a round well-marked channel is formed; outer lip crenulate; throat distinctly channelled; long. 9mil., lat. 4mil., length of aperture 4mil. Rare (2 specimens), Table Cape. This shell has the usual latticed appearance of

the genus. It approaches in some respects the character of the sub-genus *Perinnia*, created by H. and A. Adams.

*LIOTIA ROBLINI*, *n.s.*

Shell small, discoid, spire depressed; nucleus somewhat sunk and flattened; whorls 4, ornamented with 6 to 7 sharply prominent regular longitudinal carinæ, which are crossed by sharply angled transverse ribs at regular intervals, 14 on last whorl; at points of intersection the longitudinal carinæ are projected into sharply angulate squamose nodes; interstices and nodes marked by fine sharp wavy striæ; aperture round, reflexed, with thickened margin; umbilicus deep, narrow, nearly closed by the lamellose nodes. Dia. mag.  $6\frac{1}{2}$  mil., min. 5 mil. Rare, Table Cape. This shell may possibly be the *L. discoidea* which the Rev. J. E. Tenison Woods describes as occurring at Table Cape. I cannot trace a fossil *L. discoidea* in my type collection. As some of the specimens were imperfect when submitted by me to Mr. Woods, it is just possible that it might be mistaken for the existing *L. discoidea*, to which it is closely allied, but differs in size, number of carinæ and ribs. Otherwise it has a marked resemblance to *L. lamellosa*, Ten. Woods.

*PILEOPSIS NAVICELLOIDES*, *n.s.*

Shell minute, depressed, subrotund; nucleus scarcely lax, exerted, of about  $1\frac{1}{2}$  smooth turns, submarginal; disk with rough uneven surface, concentrically irregularly striate; aperture ovate, closed at posterior margin by a spiral concave shelf, terminating on either side by a downward reflexed curve in the muscular impressions, which are well defined; margin uneven, simple. Dia. mag.  $3\frac{1}{2}$ , min. 3, alt. 1. Rare, Table Cape, 1 specimen.

*PORTLANDIA ATKINSONI*, *n.s.*

Shell very minute, trigonal, subdeltoid, subnacreous interiorly, inequilateral; posterior slope truncated; surface of valves concentrically finely ridged, which increase in size and frequently anastomose towards centre and margin; ridges traversed by fine radial lines (visible also in the inner surface), which form a beautifully crenulated margin seen from the inner side of both valves; umbones sharply incurved; ligamental area inconspicuous; teeth, 6 on posterior slope, 10 on anterior, which increase in size towards middle of slope, the larger teeth slightly bent and lamellar; lunule shallow (scarcely defined), broadly lanceolate. Transverse long.  $3\frac{1}{4}$  mil., lat.  $3\frac{1}{4}$  mil., thickness of both valves  $1\frac{1}{2}$  mil. Rare, Table Cape.

*CUCULLEA MINUTA*, *n.s.*

Shell very minute, thin, obliquely oval; hinge line straight, narrow, with 3 or 4 teeth oblique at extreme corners; surface of valves ornamented with fine radial ridges, and crossed by lines of growth; towards the margin the ridges are lamellar, and are also imbricated where intersected by the concentric lines of growth; margin finely crenulate; long. 3mil., lat.  $2\frac{1}{4}$ mil; thickness at umbo of both valves  $1\frac{1}{2}$ mil. Rare, Table Cape. This shell is not unlike *Limatula subauriculata* in general appearance, being decidedly longer than broad. It differs materially from the young state of *C. Corioensis*, McCoy.

**MYODORA AUSTRALIS.** *n.s.*

Shell trigonal, oblong, rounded margin; angle between slopes  $118^{\circ}$ ; posterior slope considerably produced, almost horizontal, and abruptly truncately angled at outer margin of sinus area; sinus area distinctly angled flabellate; left valve ventricosely convex, with about 54 fine rounded concentric ridges; outer shell layer arranged in more or less regular radial rows, and composed of transverse linear-oblong microscopic cells, which become larger and less linear as they approach margin; right valve slightly convex, sharply and irregularly concentrically ridged, angled at distinctly marked sinus area; apical angle of sinus area  $28^{\circ}$ . Long. 14mil., lat.  $17\frac{1}{2}$ mil., thickness of both valves 6mil., margin of sinus area 6mil. Common, Table Cape. Var. *A.* more finely ridged, and a smaller shell; contained angle between slopes,  $110^{\circ}$ . A very common shell, variable in size, but generally within the limits of the above varieties.

**MYODORA ÆQUILATERALIS,** *n.s.*

Shell (right valve only) solid, trigonal, equilateral; anterior slope scarcely rounded; posterior slope almost straight, not abruptly angled at margin of sinus area; contained angle between slopes,  $90^{\circ}$ ; sinus area almost obsolete; valve slightly concave behind umbo becoming moderately convex towards the middle; ventral surface closely concentrically ridged or striated throughout; surface layer composed of fine microscopic cells, which are very minute, linear oblong near umbone, and are arranged in undulating concentric lines only. Cells round and granular towards margin. Long. 22mil., lat. 27mil., alt. right valve 3mil. Rare, Table Cape. Only one valve of this species found. It is very distinct from any other species known to me. It is readily distinguished by its size and its equilateral almost straight slopes.

**MYTILICARDIA PLATYCOSTATA,** *n.s.*

Shell oblong, ovate, inequilateral, ornamented with 12

broad slightly raised squamose radiating ribs, surmounted by a smaller ridge of distant lamellose spines; breadth of interspaces and rays equal; rays finer and closer together as they approach slope. Long. 50mil., lat. 35mil., alt. (both valves) 26mil. Rare, Table Cape.

*CROSSEA LABIATA*, *Ten. Woods.*

This shell has recently been discovered fossil in the Table Cape beds, by Mr. T. R. Atkinson. I have also discovered another specimen in a box of loose material which was brought from the cliffs at Table Cape by the same careful observer. The fossil species is larger than the living species.

*ARCA TRAPEZIA*, *Deshayes.*

This shell was also found fossil in the Table Cape bed by myself three years ago. The specimen was given to Mr. Woods, but he has omitted to refer to it. It is probably now in the Museum. I have fortunately taken a careful drawing of the specimen.

*PECTUNCULUS LATICOSTATUS*, *Quoy and Gaimard.*

Professor McCoy, in the "Second Decade Vic. O.R." has figured and described this shell, in which he states that it agrees in all respects with Quoy and Gaimard's original description of *P. laticostatus*. The surface of the Table Cape species differs, however, in having invariably 29 radial ribs—not 39, as in Professor McCoy's beautifully executed figure, and as stated in original description. A specimen obtained by me from Schnapper Point also shows 29 radial ribs. If there is no error in description (in p. 26, Decade II, Geol. Surv. of Vic.), and if the difference is a permanent and specific one, I would propose the name *Pectunculus McCoyi*, for the Table Cape variety. In all other respects it answers Quoy and Gaimard's description.

*AMUSIUM ATKINSONI*, *n.s.*

Shell very minute; equivale suborbicular; ears unequal; dorsal and ventral surface slightly convex, and composed of a distinct layer densely regularly concentrically striated, frequently detached partly from inner smooth layer; inside of both valves concave, shallow, shining, with 10 smooth raised radiating riblets, which terminate truncately near margin; riblets not raised on dorsal or ventral surface, although they may be traced by faint dark pellucid lines. Long. 4, lat. 4. Rare, Table Cape.