ON SOME NEW TASMANIAN MARINE SHELLS.

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The following new and very interesting species were, for the most part, collected by the Rev. H. D. Atkinson, and, with few exceptions, at Circular Head. An accurate knowledge of that fauna has long been a desideratum, and science may be congratulated on having such an industrious and painstaking collector as Mr. Atkinson settled there. A few other species are from different collectors, as noted at the end of each diagnosis. The list shows the spread of the eastern Australian coast fauna into N. Tasmania; while in the new species the recognised Tasmanian molluscan facies is not materially departed from.

New Genus, Iosepha.

Shell bucciniform, variegated, covered with a periostraca, spire short, acute, last whorl large, ventricose, with a posterior depressed groove at the suture producing a contraction at the lip, columella with one conspicuous plait.

This shell is a Cominella with a plait. It is very rare, small, and has its station on shallow rocks about Bass' Straits and North Tasmania. I only know of one species.

Iosepha. nov. gen. Testa Cominellae similimae, sed plica una conspicua supra columellam insignita.

Iosepha tasmanica. n.s. I.t. ovato fusiformi, parva, solida, opaca, carnea et albida; anfr. nucleo inclus. 7 convexis, angulatis, regulariter costatis et coronatis, regulariter, concinne striatis, striis distantibus, sup. cost. transvers.; costis elevatis rotundatis, superno sulco conspicuo interruptis; nucleo (2 anfr.) lev. inflato; apertura ovata, postice attenuata, labro tenui, acuto; columella conspicue uniplicata, retro canaliculata; basi concava, spiraliter livata. Long. 10, lat. 4½, long. apert 5, lat. 2½ mil. Hab. N. Tasmania. W. Petterd, Loutit Bay, W. Kershaw, King's Island, T. D. Smith, Kent's Group, ditto.

Shell ovately fusiform, small, solid, opaque, flesh color and white, whorls, including the nucleus, 7, convex, angular, regularly ribbed and coronate, regularly and neatly striate, striae distant, and passing over the ribs, which are raised, rounded, and interrupted above by a conspicuous groove; nucleus of two whorls, smooth, inflated; aperture ovate, attenuate posteriorly; labrum thin, acute, columella conspi-
cuously uniplicate, canalicate behind; base concave, spirally lirate.


Shell fusiform, rough, dirty yellow, obliquely plicate (plaits in last whorl 8), conspicuously spirally lirate, scaly or squa-mose all over, scales very close and foliate upon the ribs or plaits, but distant elsewhere, passing over the lira in longi-tudinal lines, whorls 5, angular above and keeled, suture deeply impressed, nucleus of two whorls striate, aperture narrowly ovate, labrum thin, canal rather long, open, and sloping, columella flattened, white, smooth.

Very distinct from any known form. The foliation on the plaits are very like varices, and connect the genus closely with *Murex* proper.

**Cominella albo-lirata.** *n. s.* *C. t. ovato fusiformi, soli-diuscule, apice acuta, lamellose scabra, olivacea, liris albis, rotundatis, distantibus, eleganter spiraliter zonata*; anfr. 6½, supere angulatis, crebre longituid. lamellose striatis et indistincte costatis, lamelae supra livas transseuntibus, ad suturam elevatis tortuosis, sutura linea alba lata conspicua; apertura late ovata, fulvo-purpurea; labro crassiuscule, intus albo maculato, ad suturam, angustato sed vix canalicate; columella concava, planata, exacte definita, encausta, subtus, subumbilicate; canali brevi, subrecurvo. Long. 20, lat. 10, spira. 10 mil. Flinders' Island. Aug. Simson and Edward D. Atkinson.

Shell ovately fusiform, rather solid, apex acute, lamellosely scabrous, olive, and elegantly spirally zoned with distant rounded white lira (5 to 6 in last whorl, one on each whorl of the spine exclusive of the white band on the suture), whorls 6½, angular above, thickly lamellosely striate lengthwise, and indistinctly ribbed; lamelae passing over the lira, more raised and twisted over the suture, suture conspicuously marked with a broad white line; aperture broadly ovate, deep brown purple; labrum rather thick, spotted white within under the lira, narrowed but scarcely canalicate at the suture, columella concave, flattened, exactly defined, ena-melled, subumbilicate; canal short, subrecurved.

This is certainly one of the most beautiful of our smaller coast shells. The brilliant white raised lira on an olive
ground give it a very elegant appearance. It is quite distinguished from every other Australian species by the close raised lamellæ which overlap and are curiously twisted at the suture.

**Triforis fasciata.** *n. s. T. t. parva, anguste pyramidata, polita, nitente, alba, una fascia fulva ad suturas late spiraliter cincta; anfr. 11, 3—5 carinis granulatis conspicue cincitis; carinis supra et infra majoribus, moniliformis, reliquis angustis vic granulatis; sutura lira conspicua insignita, apice levii, decollato; aperture subquadrate; labro tenui; labio reflexo, canali producto et everso; ultimo anfr. carinis valde diversis et maculatis. Long. 6, lat. 1½ mil.

Shell small, narrowly pyramidal, polished, shining, white, but with one chestnut band which occupies about half of each whorl; whorls 11, conspicuously zoned with from 3 to 5 granular keels; keels larger above and below, making a kind of beaded margin to the whorls, the rest narrow and varying in thickness, with obsolete granules; suture marked with a raised line; apex smooth, decollate, aperture subquadrate, labrum thin, lip reflexed, canal produced and everted, last whorl with the keels of very different shape and spotted, the upper and lower ones thickened and nongranular, leaving a broad central area which is ribbed.

This shell differs from *Triforis tasmanica* nobis, in its color, shape, and curious granular keels. *T. tasmanica* is saturated reddish brown with three granular uniform keels.

**Mitra Legrandi** nobis. (Vide Proc. Roy. Soc. Tas. 1875.) I find since I wrote the description of this shell that it is often found of a larger size than the dimensions originally given, commonly about 4 to 5 mil. long. The coloring is also different. The last whorl is a rich golden reddish brown, with a broad white band in the centre, in the middle of which there is a fine but very distinct brown line. In the spire the whorls show but little of the color except at the sutures, but there is in the whole of the shell a kind of semi-transparency which is like fire stone or opal. It has been found at Circular Head by the Rev. H. D. Atkinson.

**Mitra Teresli** nobis (loc. cit.). This shell has also been found at Circular Head by the Rev. H. D. Atkinson. It was double the size of the type specimens described by me. I believe that this shell will be found very close to an undescribed *Mitra* which was erroneously identified with Sowerby's *Mitra vinca*.

**Columbella dictua.** *n. s. C. i. parva, anguste ovata, spira acuta, nitente, fulva, lineolis pallide luteis acute angulosis confertissime reticulata; anfr. nucleo excluso, 7, planatis vel

This species may be readily distinguished by its peculiar close reticulation of brown and pale yellow sharply angular lines. They form very fine acute zigzag markings of equal width, and extremely close together. In form it is like a very small C. semiconvexa. The color is very constant, and there are no cloudings or spots of any kind.

Erato pellucida. n. s. E. t. levigata, nitens, pellucida, sublactea, elongato elliptica, utrinque obtusa, spira depressa, inconspicua; anfr. 3½, ultim. omnino superanti, labro crassinsculo, submarginato, cum anfractu ultimo partim juncto, medio autem producto et incurrto, intus minute, distanterque denticulato, apertura vix angusta, antice latior; columella conspicua triplicata, plicis postice decrescentibus, ad basim everso, et aperta, marginata et contorta, plica simulanti. Long. 6½, lat. 3 mil. Hab. Table Cape. Rev. H. D. Atkinson.

This beautiful little Erato is the only one known from Tasmania. It is highly polished and shining, and almost perfectly pellucid, with a slight milky clouding. The color, however, looks darker within, almost livid, but this, I am convinced, arises from the remains of the animal. There are three plaits on the columella which decrease posteriorly, and the base of the columella is twisted round so as to look like a fourth; the spire is only very slightly exerted, showing about 2½ whorls; the teeth on the outer lip are numerous, but very faint and inconspicuous.

Rissoa (ceratia) punctato-striata. n. s. R. t. parva, elongato turbinata, alba, subpellucida, nitente, ubique regulariter, equidistantier, profunde striata, striis minute concinne punctatis, punctis creberrimis; anfr. 6½, declivis, rotundatis, ultimo spira longe superanti (ut. 5½—3), apice obtuso; apertura late pyriformi; labro tenui, antice param everso, columella contorta et marginata. Long. 8½, lat. 3½; long. apert. 3½, lat. 2 mil. Table Cape. Rev. H. D. Atkinson.

This beautiful little species is mainly distinguished by its distinct and equal spiral grooves, which are very neatly dotted with close round pits like an extremely fine chain. The color is white but almost pellucid, and the shape is elongately turbinate. The mouth is quite entire and anteriorly exerted.

Bitium minimum. n. s. B. t. minuta, tumide pyramidata, nitente, pallide badio; anfr. 6—7; planatis, regulariter crebre plicatis, (13—15 ult. anfr.) et spiriliter 3 liratis, liris supra n
plicae nodosis, sutura vic impressa, apice obtuso; nucleo partim 
levi et partim semper decollato; apertura semilunari, canali 
brevi, recurvo, basi concava angustata, levii. Long. 2½; lat. 1 

Shell minute, tumidly pyramidal, shining, pale brown; 
whorls 6 to 7, flattened, regularly and closely plicate (13 to 
15 plaits on last whorl) and spirally 3-lirate, lirae very nodose 
on the plaits, suture scarcely impressed but visible, apex 
obtuse, nucleus smooth partly and always partly broken, 
aperture semilunar, canal short, recurved, base concave, nar-
rowed, smooth; columella twisted.

In color and ornament like Bittium granarium, but more 
tumid, and completely distinguished by its very minute size.

Drillia teniata. n. s. D. t. elongato fusiformi, turrita, 
spira quam apertura longiori, fasciis latis, fulvis vel castaneis, 
zonata; fasciis eleganter lineis angustis albis margi nationis; anfr. 
7, superne angulatis et costulis coronatis, undique spir aliter 
striatis, lineis albis sepe liratis, super angulum sublevis, sed 
lineis curvatis (ab inerem. sinus provenientibus) insignitis; aperta-
tura lata, sinu lato et profundo; labro tenui, labio exacte de fi-
nito et evanesce, canali brevissimo, aperto. Long. 13, lat. 5; 
long. apert. 5 mil. Flinders' Island. Aug. Simson and E. 
D. Atkinson.

Shell elongately fusiform turretted, spire longer than the 
aperture, zoned with broad bands of brown or chestnut which 
are elegantly margined with narrow white lines, whorls 7, 
angular above and crowned with small ribs, spirally striate 
throughout, and with the white lines often lirate, nearly 
smooth above the angle, but marked with the curved lines 
of growth of the sinus; aperture broad, sinus broad and 
deep; labrum thin, lip exactly defined and enamelled, canal 
very short and open.

This Drillia is distinguished from the many described 
Australian species by its bands of color, and short coronate 
ribs. The color bands are not very conspicuous, even though 
narrowly margined with white.

Drillia agnewi. n. s. D. t. elongato fusiforme, turrita, 
spira quam apertura longiore (10—16) crassa, sordide lutea, 
haud nitente (erosa?); anfr. 7½, oblique costatis (ult. anfr. 12), 
et spir aliter liratis; costis, latis, conspicuus, a sinu depressis et 
evandis; liris conspicuus, distantibus elevatis, supra cost. tran-
seuntibus, in spira 4, ult. anfr. 9—10; apice decollato, apertura 
anguste ovato, sinu lato, profundo, labro acuto, producto, labio 
crasso, reflexo, canali recto, brevi. Long. 26, lat 9; long aperta-

This species differs from D. Weldiana nobis in its dull
yellow uniform color, and in the absence of any callus on the posterior part of the columella. The ribs are fewer, larger, and more distant, and the same differences apply to the lirae, and the outer lip is not thickened. The size is about the same.

**Mangelia delicatula.** *n. s.* *M. t. parva, anguste fusiformi, turrita, sub diaphana, parum nitate, pallide lutea, lineis rufis, tenue et irregulariter zonata; anfr. (nucl. incl.) 8, declivis, superne obtuso angulatis, crebre concinne, declivo costatis, et conspicue spiraliter striatis; costis elevatis, ad suturam persistentibus, in ultimo anfr. 14; striis subdistantibus, supra costas transseuntibus, sutura bene impressa; nucleo (3 anfr.) levii, fulvo, polito; apice minute obtuso; apertura anguste ovata, sinu lato, labro tenui acute, labio exacte definito, canali lato brevi. Long. 9, lat. 21/2; long. apert. 4. spire 5. Long Bay, Hobart. W. Legrand.

Shell small, narrowly fusiform, turreted, subdiaphanous, shining, pale yellow, slenderly and irregularly zoned with red lines; whorls, including 3 nucleolar ones, 8, sloping, obtusely angular above, closely and neatly ribbed, and conspicuously spirally striate; ribs elevated continuous to the suture, sloping, 14 in last whorl; stria subdistant, passing over the ribs, suture well impressed; nucleus smooth, fulvous, polished, apex minutely obtuse, aperture narrowly ovate, sinus wide, labrum thin, acute, lip exactly defined, canal wide and short.

This may be distinguished from our many described *Mangelia* by the smallness and closeness of the ribs, by the distinct and distant spiral striae, and by the lines of color. Its smaller size permits its being mistaken for *M. Meredithie* nobis; that shell is pure white, or the bands of color are not often seen. The ribs are also distant and fewer. *M. delicatula* is somewhat like *Bela mitralis* (Adams), which, however, is a larger and stouter shell.

**Clathurella granulosissima.** *n. s.* *C. t. anguste fusiformi, turrita, spira quam apertura longiore, solida, badia saturata, hand nitate; anfr. 7, 2 apicalibus sub levibus, relicquis, conspicue costatis, et undique liratis; costis crassiis, rotundatis, elevatis, ultimo anfr. 8; liris crenellatis subtilissimeque granulatissimae, in spira 3—4 majoribus, equidistantibus, sup. cost. transseuntibus, relicquis minutis, sutura bene impressa; apertura lato ovata, sinu lato, inconspicuo; labro tenui, extus varie insignito, intus concavo; labio eneasto; canali lato, tenuiter recurvo. Long. 61/2, lat. 21/2. N. Tasmania. Rev. H. D. Atkinson.

This pretty species is somewhat like *C. sculptilis* Angas, but it differs from all other forms in having the fine spiral lirae
conspicuously granular, about every fourth one is larger than the others. The color is a uniform dull brown, and the longitudinal ribs are very conspicuous. The outer lip has a varix, but is hollow within. The sinus is very faint, and the canal a little produced and recurved.

**Clathurella sculptilior.** n. s. C. t. subminuta, alba, ovato fusiformi, conspic. clathrata, haud nitente, opaca; anfr. (nucleo inclusus) 44—63, rotundatis, crebre costatis, et crenellatis, costis angustis, sub elevatis, ultimo anfr. 16; liris conspicuus, parvis et magnis alternantibus, supra costas transvers tribus et ibi subnodosis, sutura impressa, lineis ab increment. sinus vis visibilibus; nucleo (1½ anfr.) concinne sedtenuissime striato; apertura late ovata; labro incrassato, intus dentato, sinus lato; columella leví, exacte definita, canali brevi, parum recurvo. Long. 5½, lat. 2; long. spire 3. Long Bay. Rev. H. D. Atkinson. Four fathoms.

This shell comes so close to Clathurella sculptilis Angas that I shall best define it by describing the differences. The ribs in our species are double the number; the sinus is not so deep, and consequently the lines that it leaves by growth near the suture are nearly straight, and they are not very visible. There is no smooth space below the sutures, and the lineæ are very close and alternating. (In C. sculptilis they are all of one size and distant.) The lines of growth are not very visible. The nucleus in both species is white and finely groved of 1½ whors to where the normal sculpture of the shell abruptly commences; but in this species the groves are finer, and there is no trace of transverse sculpture. In Mr. Angas's shell it is coarse, and there are signs of sculpture. Neither shells appear to be very uncommon.

I must add to the Tasmanian fauna:—

**Clathurella bicolor.** Angas.

**Clathurella sculptilis.** Angas.

Both of these shells have been hitherto found only in or near Port Jackson. The Rev. Mr. Atkinson has found the former at Circular Head and the latter at Long Bay, so we may conclude that they both have a wide range, and probably extend through Bass' Straits. They do not appear to be at all uncommon.

**Venus (Chione) Macleayana.** V. t. ovata, crassa, pallide fulva, radiatim regulariter costata; costis rotundatis, levibus, nitentibus, numerosis (30 circiter), antice latis, postice parvioribus et indistinctis; concentrice lamelloso, lamellis tenuibus, distantibus, parum elevatis, versus marginecrebris, crassis, irregularibus; natibus purpureis; ligamento conspicio, elongato, fossa lata, sat profunda, rugosa; intus alba et purpurea con-

Shell ovate thick, pale fulvous, radiately regularly ribbed, ribs rounded, smooth, shining, numerous (about 30), broad in front, smaller behind and indistinct; concentrically lamellar, lamellae thin, distant, slightly raised, close towards the margin, thick and irregular; umbones purple; ligament conspicuous, elongate; fossa broad, rather deep, rugose; shell conspicuously clouded white and purple within; margins broadly toothed posteriorly and crenulate behind.

This shell somewhat resembles some New Zealand forms, but it is distinct from any of them. The broad ribs and concentric lamellae are very different from V. australis and V. striatissima, of Bass' Straits. The ribs are broad and the lamellae very thin and distant, and the shell is much larger. It appears to be rare.

Bittium turboniloides. n. s. B. t. minuta, turrita, acicularis, clathrata, sordide albida, subnigente; anfr. 9—12, nucleo incluso, eleganter tricarinatis et crebre longitud. costatis; costis ult. anfr. 20—24, conspiciuis, carinis superantibus, supra cas transposeundibus et ibi nodosis; sutura sat impressa; nucleo 3 anfract. levibus rotundatis; apertura semilunaris, basi levii, conspicue concava. Long. 5, lat 1 mil.

Shell minute, turreted, acicular, latticed, dull whitis, somewhat shining, whorls 9 to 12 including the nucleus, elegantly tricarinate, and thickly ribbed lengthwise; ribs in the last whorl 20 to 24, conspicuous, wider than the carinæ, passing over them and nodose at the junction, suture well impressed; nucleus of three rounded whorls; aperture semilunar, base smooth and conspicuously concave.

But for the Bittium aperture and columella this beautiful little species is very like a Turbonilla. It is very elegantly sculptured, the ornamentation being exceedingly close and fine, even proportionately for so small a shell. It was found at Circular Head by the Rev. H. D. Atkinson.

Mangelia alternata. n. s. M. t. parva, fusiformi, subnitente, alba, et (in ult. anfr. tant.) maculis fulvis pallide lineata; anfr. 6, declivibus, superfine angulatis, regulariter costatis, spirala liter crebre liratis, liris supra costas transscundibus, haud nodosis, parcei et magnis alternatibus; sutura bene impressa, apice obtuso, nucleo lavi, 1 1/2 anfr., haud inflato, apertura spira paulo superantii, anguste elliptica, labro tenui, columella inconspicua vir gencasta, sinu leviter curvato, per flexionem costulorum supra angulum anfractuum tantum insignito. Long. 11, lat. 4; long. apert 6 mil.

Shell small, fusiform, somewhat shining, white, and in the
last whorl only marked with pale brown spots or lines, whorls 6, sloping, angular above, regularly ribbed, thickly spirally lirate; lines passing over the ribs, but not nodose, and alternating large and small, suture well impressed, apex obtuse, nucleus smooth, of 1½ whorls, but not inflated; aperture slightly longer than the spire, narrowly elliptical, labrum thin, columella inconspicuous, scarcely enamelled; sinus shallow and broad, distinguished only by a bending of the little ribs at the angles of the whorls. Common. Circular Head. Rev. H. D. Atkinson.

**Eulima marginata.** n. s. *E. t. parva, tumide pyramidata, nitente, omnino laevi, subpellucida, lactea; anfr. 8½, parum convexis, superne conspicue marginitis, sutura haud impressa; apertura anguste pyriformi; labro tenui, acute, antice producto; labio exacte definito; columella contorta, postice recta et reflexa; apice sub obtuso.** Long: 9, lat. 4, long. apert. 3½, lat. ½ millim. Circular Head. Rev. H. D. Atkinson.

Shell small, tumidly pyramidal, shining, completely smooth, subpellucid, milky white, whorls 8½, slightly convex, conspicuously margined above, suture not impressed, aperture narrowly pyriform, labrum thin, acute, produced anteriorly, lip exactly defined but not reflected, columella twisted, straight at the base, and a little reflected at the margin, apex sub-obtuse.

**Eulima apheles.** n. s. *E. t. elongata, pyramidata, laevi, nitente, opaca, alba, solida; anfr. 10, omnino planatis, politissimis, lineis incrementi tantum tenuissime rugosis; sutura angusta, haud impressa; apertura pyriformi, labro acuto, antice producto; labio reflexo, angusto, encausto, conspicuo; apice acuto, basi lineis tenuibus aequidistantibus spiraliter insignita.** Long: 14, lat. 4½; long. apert 4, lat. 2 millim. Circular Head. Rev. H. D. Atkinson.

Shell elongate, pyramidal, smooth, shining, opaque, white, solid; whorls 10, quite flat, highly polished, only slightly uneven from the lines of growth; suture narrow, not impressed, aperture pyriform, labrum acute, produced anteriorly, lip reflected, narrow, enamelled conspicuous; apex very sharp. base marked with three or four equidistant spiral lines.