

VIC. BR. BULL. NO. 293

JUNE/JULY 2018

## NOTICE OF MEETING

The next meeting of the Branch will be held on the 16<sup>th</sup> April at the Melbourne Camera Club Building, cnr. Dorcas & Ferrars Sts South Melbourne at 8pm. Topic will be 5 favourite self-collected shells.

The next meeting will be held on June 18<sup>th</sup>. Bring and talk on10 shells from your favorite family.

## Meetings for the remainder of 2018

It has been decided to reduce the number of meetings of the Victorian Branch of the Malacological Society of Australasia from 9 per year to 6.

Dates for 2018 are: Date Topic

June 18<sup>th</sup> – 10 Shells from your favourite family

August 20th – Bring in examples of 'variations within species'

October 15<sup>th</sup> – Angus Hawke will speak on fossils

November 19th - Christmas meeting "Mega" buy/swap/sell

Each meeting will also be an opportunity to trade or sell any shells or books – so come along, you never know what you might find and the more people who attend the better!

Currently Branch Bulletin issues from VBB169- 288 can be accessed via the Society's website which includes an index 1-276 . <u>http://www.malsocaus.org/?page\_id=91</u> Bulletins mentioned in this issue prior to 169 can be obtained from the editors in PDF form on request.

Victorian Branch Bulletin No.1 was produced in August 1968. The next bulletin VBB 294 will be the 50<sup>th</sup> anniversary issue . Articles for this special bulletin welcome.

### Two recently-described micro-gastropods from Western Port Bay (genus Scalaronoba).

Last year we described the ultra-minute gastropods *Scalaronoba kryptopleurakia* and *Scalaronoba arenula*, based on dead, beach-collected shells from Western Port Bay (Stephens & Vafiadis, 2017). The descriptions used scanning electron microscope (SEM) images, but the opportunity is taken here to present some colour images (including the holotypes) for reference purposes (Figs. 1-5).

These shells are generally 0.70-0.75 mm in length and amongst the tiniest gastropods known from Victoria. Studying shells of such exceptionally small size presents some interesting challenges in specimen handling, especially for SEM work. In order to image shells by SEM, they are first mounted on circular black discs known as carbon tabs. These are extremely sticky when new, but, before placement of the shells, they are best brushed down with 100% ethanol to reduce their adhesiveness. This facilitates shell removal after imaging, and minimises risk of carbon contamination to the specimens.

The riskiest step during the SEM process involves the removal of the shells from the carbon tabs. With tiny shells, even gentle attempts to brush them off the tab can fling them off at high speed, perhaps a metre away, never to be seen again. To minimise this risk, one technique (used by PV) is, with the stub in its holder, to place a drop of ethanol onto the specimen, use a needle to detach it from the stub and lift it off with a brush, all under microscopic vision. Another technique (used by LS) is to hold the SEM stub inside the open end of a clip-seal bag, insert a fine ethanol-soaked brush through a small hole in the face of the bag and then nudge the shell off (Fig. 6). In this way, regardless of how the shell separates from the tab, it is captured by the bag. However, on one occasion, even this latter technique seemed to fail. The separated shell was neither in the bag nor was it trapped within the sparse bristles of the modified brush. After 5 minutes of perplexed staring at the bag, nearing the point of giving up hope and considering the shell lost, it was suddenly found, lodged in the margin of the thumbnail after having ricocheted there off the inside surface of the bag. Losing a shell under one's nail is not a risk encountered when studying cowries or volutes!

*Scalaronoba* shells are white in colour, but we know of one exception (Stephens & Vafiadis, 2017: 284). This is a specimen of *Scalaronoba kryptopleurakia* from Cat Bay, Phillip Island, which has a yellow-orange teleoconch. A photograph of this shell is shown in Figure 4, together with its SEM image (Fig. 5). It is uncertain whether the yellow-orange teleoconch was deposited in that colour, or whether the shell has undergone some sort of staining process after the animal has died. The latter seems unlikely, given that the protoconch remains completely white (although burial in ultra-fine clay with the tip exposed could be a hypothesis for this, it seems remote given the precision of the colour delineation). If the teleoconch was deposited yellow-orange, the question arises as to what might have influenced that process. In any case, this shell is a very interesting anomaly.

The family placement of *Scalaronoba* is uncertain - tentatively it resided in Aclididae. Interestingly, the latest thinking is that Aclididae is a synonym of Eulimidae, which is where *Scalaronoba* now provisionally rests (Bouchet, et al, 2017; Marshall, Bouchet, Rosenberg, 2018).



<u>Scalaronoba</u> shells. Figure 1. Scalaronoba arenula Stephens & Vafiadis, 2017. Holotype, Point Leo Surf Beach, Western Port Bay (collected L. Stephens between November 2005 and February 2006, shell length 756 μm, Australian Museum reference number AM C.487439). Figures 2-5: Scalaronoba *kryptopleurakia* Stephens & Vafiadis, 2017. Figure 2: Holotype, Point Leo Surf Beach, Western Port Bay (collected L. Stephens 12 March 2011, shell length 746 μm, Australian Museum reference number AM C.487436); Figure 3: Paratype, Honeysuckle Point, Western Port Bay (collected L. Stephens 9 May 2014, shell length 754μm, Museums Victoria reference number NMV F.230799). Figures 4-5: Cat Bay, Phillip Island, Western Port Bay (collected P. Vafiadis 18 October 2000, shell length 724 μm, Australian Museum reference number AM C.487443.005).



Figure 6:

#### **References:**

Bouchet P, Rocroi JP, Hausdorf B, Kaim A, Kano Y, Nützel A, Parkhaev P, Schrödl M, Strong EE. (2017). Revised classification, nomenclator and typification of gastropod and monoplacophoran families. *Malacologia* 61(1-2): 1-526.

Marshall B, Bouchet P, Rosenberg G. (2018). *Scalaronoba* Powell, 1927. In: MolluscaBase (2018). Accessed through: World Register of Marine Species at http://www.marinespecies.org/aphia.php?p=taxdetails&id=598139 on 2018-02-08

Stephens LD, Vafiadis P. (2017). First Australian records of *Scalaronoba* Powell, 1927 (Gastropoda: Aclididae?), with the description of two new species from Victoria. *Molluscan Research* 37(4): 282-288.

#### Platon Vafiadis and Lynton Stephens

#### Tambja dracomus Willan & Chang, 2017

Removing a specimen from the SEM stub.

Well-known to divers at localities in the south-eastern part of Port Phillip Bay since the early 1970s, *Tambja dracomus* Willan & Chang, 2017 has a name at last. Dark green in body colour with brown rhinophores and gills. This species is smaller (to 70mm in length) than the even better-known yellow and blue *Tambja verconis* (Basedow & Hedley,1905) (to 120mm length). Both species eat the erect bryozoan Vividentula *dentata*, formerly *Bugula dentata*. Both nudibranch species occur in south-eastern Australia (NSW, V, T, SA) and northern New Zealand.

Locally, I have subtidal records of *T. draconus* from San Remo, Cape Woolamai, Portsea Pier, Blairgowrie and Queenscliff marinas, Aireys Inlet and Port Campbell and one intertidal record form Point Danger, Torquay. Curiously, all my records of *T. verconis* are subtidal except for a single record from an intertidal rock-pool at Walkerville.

A third species, *Tambja* sp RB2 (Burn, 2015), evidently a visitor from warmer northern waters, occurs rarely in Victoria. It is small (to 25mm length), bright to greenish orange all over with purple tips to the tail, gills and rhinophores. This too has been found intertidally (Airely Inlet) and subtidally (southern Port Phillip). A similar species occurs in southern Queensland and northern central NSW (Nimbs, 2016). Species identification is still to be resolved. All three species are illustrated in '*Nudibranchs and related molluscs*' (Burn, 2015).

#### References

Burn, R. 2015. Nudibranchs and related molluscs. Museums Victoria, Melbourne.

Nimbs, M. 2016. Welcome strangers: Southern range extensions etc. *Regional Studies in Marine Science* 8:27-32.

Willan, R.C. & Chang, Y-W. 2017. Description of three new species of Tambja etc. Basteria 8 (1-3): 1-23

Robert Burn



*Tambja dracomus* Willan & Chang, 2017. Subtidal, 6 m, on sediment near the breakwater, Blairgowrie Marina, Blairgowrie, Port Phillip Bay, Victoria. Wednesday 18 November, 2009. Length 80 mm. Photograph: P. Vafiadis.



*Tambja verconis* (Basedow & Hedley, 1905). Subtidal, 4-5m, at base of pier pylon (on its bryozoan food source), Blairgowrie Marina, Blairgowrie, Port Phillip Bay, Victoria. Wednesday 18 November, 2009. Resting length 55 mm. Photograph: P. Vafiadis.



*Tambja* sp. RB2. Intertidal zone, Aireys Inlet, Victoria. Saturday 4 February, 2006. Not measured but length in the order of 15-20 mm. Photograph: P. Vafiadis.

April meeting report : tonight's meeting members were asked to bring along 5 favorite self-collected shells.

## **Michael Lyons**

Penion maxima from 31 metres in the De Entrecasteaux Channel, Tasmania Amoria exoptanda collected at night in South Australia Ericusa fulgetrum Collected at night in South Australia; when excavated from sand was found to be in the process of consuming a sea star, Pentagonaster duebeni Conus anemone; large white example from Port MacDonnell, South Australia Notochlamys hexactes; a brick red example from Portsea. Val Cram Dolichopus pilula from North West Island, Queensland July1978 Cymbiolacca pulchra from North West Island, Queensland July1978 Murex macgillivravi Collected on mud and rubble at East Arm Darwin Harbour 21/7/1982 Cypraea mauritiana collected under rocks at high tide at Panapagha Island, west Solomon Islands on 19/8/1989 Ericusa fulgetrum found by Val in a shallow pool at Point Sinclair, South Australia **Don Cram** Victaphanta compacta from Lavers Hill Victoria 26/4/1999 Notocypraea comptonii the first live specimens of Notocypraea collected at Flinders Victoria, 26/10/1969 4 shells) Conus anemone - singletoni form collected at Point Nepean 4/3/1978

Conus clarus dredged alive in Westernport Bay 27/11/1983

Crassatina rikae from Kevin Lamprell, named by him in 2003

**Platon Vafiadis** showed these five self-collected micromolluscs. As they were extremely difficult for members to see, Platon has produced these magnificent images of the specimens.

Michael Lyons



Figs. A-C. *Gabrielona nepeanensis* (Gatliff & Gabriel, 1908), PHASIANELLIDAE. Maximal specimen dimension 1.0 mm. San Remo, Victoria, Thursday 25 August, 2016. Figs. D-F. *Sinezona beddomei* (Petterd, 1884), SCISSURELLIDAE. Maximal specimen dimension 1.4 mm. San Remo, Victoria, Thursday 25 August, 2016. Figs. G-I. *Sinezona pacifica* (W.R.B. Oliver, 1915), SCISSURELLIDAE. Maximal specimen dimension 1.0 mm. Woolgoolga, New South Wales, Tuesday 11 July, 2017. Figs. J-K. *Sukashitrochus atkinsoni* (Tenison Woods, 1877) SCISSURELLIDAE. Maximal specimen dimension 1.5 mm (last whorl is unfortunately very broken). San Remo, Victoria, Thursday 25 August, 2016. Fig. L. *Rissopsetia maccoyi* (Tenison Woods, 1877). PYRAMIDELLIDAE. Shell length 1.8 mm. San Remo, Victoria, Thursday 25 August, 2016. (Photographs: P. Vafiadis, taken through a compound microscope and focus-stacked using the computer program Helicon Focus 6.8.0.)

#### More trochid name changes.

Further recent phylogenetics studies (Donald & Spencer, 2016) of temperate Australian trochids have resulted in several name changes among our common species.

The genus *Cantharidus* Montfort, 1810 is shown to be restricted to New Zealand and its offshore islands. Our *Cantharidus pulcherrimus* has been transferred to *Prothalotia* Thiele, 1930, where it is listed as *Prothalotia pulcherrima* (Wood, 1828). The type species of *Prothalotia* is *Trochus flindersi* Fischer, 1878, a species the writers were unable to study. The writers state that *P. pulcherrima*, *P. lehmanni* (Menke, 1843) and *P. ramburi* (Crosse, 1864) are phylogenetically very close, and may be in fact "one morphologically variable genetic species, *Prothalota pulcherrima*." Further research and more extensive sampling as they say is required. Shell morphology suggests that *P. lehmanni* and *P. ramburi*, both with angular shoulder just above the suture, could be parts of a cline, from which *P.pulcherrima*, which is more rounded on the whorls, is early separated.

Molecular study of the two species hitherto placed in *Cantharidella* Pilsbry, 1889, the type species *Gibbula picturata* A.Adams & Angas, 1864 and *Trochus tiberianus* Crosse, 1863, indicates such great divergence that the latter has been separated off as type species of a new genus *Cratidentium* Donald & Spencer, 2016. *Cantharidella* shells are clearly umbilicate when adult whereas *Cratidentium* shells are imperforate when adult. Thus we now have *Cratidentium tiberianum* (Crosse, 1863) on our Victorian gastropod list. None of the other four species assigned to *Cratidentium* by the writers – *balteata* (Philippi, 1849) *beachportensis* (Cotton & Godfrey, 1934), *ocellina* (Hedley, 1911) and *rottnestensis* (Verco, 1911) – have been reported from Victorian waters.

Reference

Donald, K.M. & Spencer. H.G., 2016. Phylogeographic patterns in New Zealand and temperate Australian cantharidines (Mollusca: Gastropoda: Trochidae: Cantharidinae): Trans-Tasman divergences are ancient. *Molecular Phylogenetics and Evolution* 100: 333-344.

# Robert Burn

## Victorian Turbininae

Eleven years ago, a major paper (Williams, 2007 reviewed the Indo-West pacific turban shells, reassessing their genera and relationships. Those Victorian species long referred to *Turbo*, *Astralium* and *Micrastraea* are now to be listed as follows.

Lunella (Subninella) undulata, 1786).(Lightfoot, 1786).

Lunella (Ninella) torquata (Gmelin, 1791) – subfossil only in Victoria and Tasmania.

Euninella gruneri (Philippi, 1846) – Genus listed as "Probably valid."

Bellastraea squamifera (Koch, 1844) – Earlier name for B.kesteveni Iredale, 1924.

Bellastraea aurea (Jonas, 1844) – Micrastraea Cotton, 1939 reduced to synonym of Bellastraea Iredale, 1924.

*Bellastraea tentoriiformis* (Jonas, 1845) – a Queensland-southern NSW species that may at times extend into eastern-most Victoria.

The South and southern Western Australian *Dinassovica jourdani* (Kiener, 1839) has now returned to its original genus *Turbo*. *Turbo exquisitus* Angas, 1877 from NSW is retained in that genus through lack of preserved material to test for subgeneric differentiation, (*T.exquisita* is the type species of *Carswellena* Iredale, 1931) and *Turbo (Astralium) rutidoloma* Tate, 1893 from South and southern Western Australia is placed in *Bellastraea*.

## <u>Reference</u>

Williams, S.T., 2007. Origins and diversification of Indo-West Pacific fauna: evolutionary history and biogeography of turban shells (Gastropoda, Turbinidae). *Biological Journal of the Linnean Society* 92:573-592.