



A note on the genus *Psammocola* Blainville, 1824 (Bivalvia, Psammobiidae) by determining the identity of its type species

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ABSTRACT

The two different usages of the genus *Psammocola* Blainville, 1824 in previous publications is confusing. The original type species is *Psammocola vespertinalis* Blainville, 1824 by monotypy, but the identity of this species is debated. It is here shown that this type species is a junior synonym of the species known as *Asaphis deflorata* (Linnaeus, 1758). Thus, *Psammocola* is a junior synonym of *Asaphis* Modeer, 1793.

Key words – Bivalvia, Psammobiidae, *Psammocola*, *Gobraeus*, *Asaphis*, synonymy

INTRODUCTION

In the 18th and 19th century the binomial nomenclature was still emerging after the early start of Linnaeus, 1758. The concept of designating type species for newly introduced genera and subgenera was not known to early authors, resulting subsequently in confusion about the newly introduced names. The different views of authors could be eliminated by subsequent designation of the type species for a genus. But apart from the name of the original or later designated type species, its identity also needs to be known to understand what the author had in mind when establishing the newly introduced genus or subgenus name. One case for a genus and species of Psammobiidae is detailed below.



TAXONOMY

Superfamily Tellinoidea Blainville, 1814
Family Psammobiidae J. Fleming, 1828

***Psammocola* Blainville, 1824**

Blainville (1824: 349-350) introduced the genus *Psammocola* as new, with three “sections” indicated by the letters A, B and C. For every section he mentioned one species as example.

Section A. Example: *Psammocola vespertinalis*, introduced as new species by Blainville (1824: 349) in the same work. He referred to a figure in the ‘Tableau encyclopédique et méthodique’ by Bruguière, 1797: pl. 231 fig. 3a-c. See below for a discussion about this species. Blainville used the French vernacular “Les Psammocola capsoïdes” for this section, based on the genus *Capsa*, heading of Bruguière’s plate 231.

Section B. Example: *Psammocola virgata*, originally described as *Psammobia virgata* Lamarck, 1818, and now known as *Gari (Gobreaeus) virgata* (Lamarck, 1818). Blainville referred to *Psammobia* Lamarck, 1818 (as French vernacular Psammobie Lamarck) for this section. Blainville (1824: 350) considered that this section contained the 18 species listed by Lamarck (1818: 512-516).

Section C. Example: *Psammocola violacea*, originally described as *Psammotaea violacea* Lamarck, 1818, and now considered to be *Gari (Psammotaena) elongata* (Lamarck, 1818). Blainville referred to *Psammotaea* Lamarck, 1818 (as French vernacular Psamotée Lamarck) for this section. Blainville (1824: 350) considered that this section contained the 8 species listed by Lamarck (1818: 517-518).

According to the ICZN (art. 10.4), sections should be interpreted as subgenera. So, the above more properly written is:

Section A = *Psammocola* (*Psammocola*)

Section B = *Psammocola* (*Psammobia*)

Section C = *Psammocola* (*Psammotaea*)

Type species. – Blainville (1824) did not select a type species for his new genus *Psammocola*, but he mentioned *Psammocola vespertinalis* as new species in his Section A [= *Psammocola* (*Psammocola*)], so this species is the type species of *Psammocola* by monotypy. Bucquoy, Dautzenberg, & Dollfus (1895: 485) correctly mentioned *Psammocola vespertinalis* as the type species. However, they treated this name as junior synonym of *Psammobia* (*Psammocola*) *depressa* (Pennant, 1777).

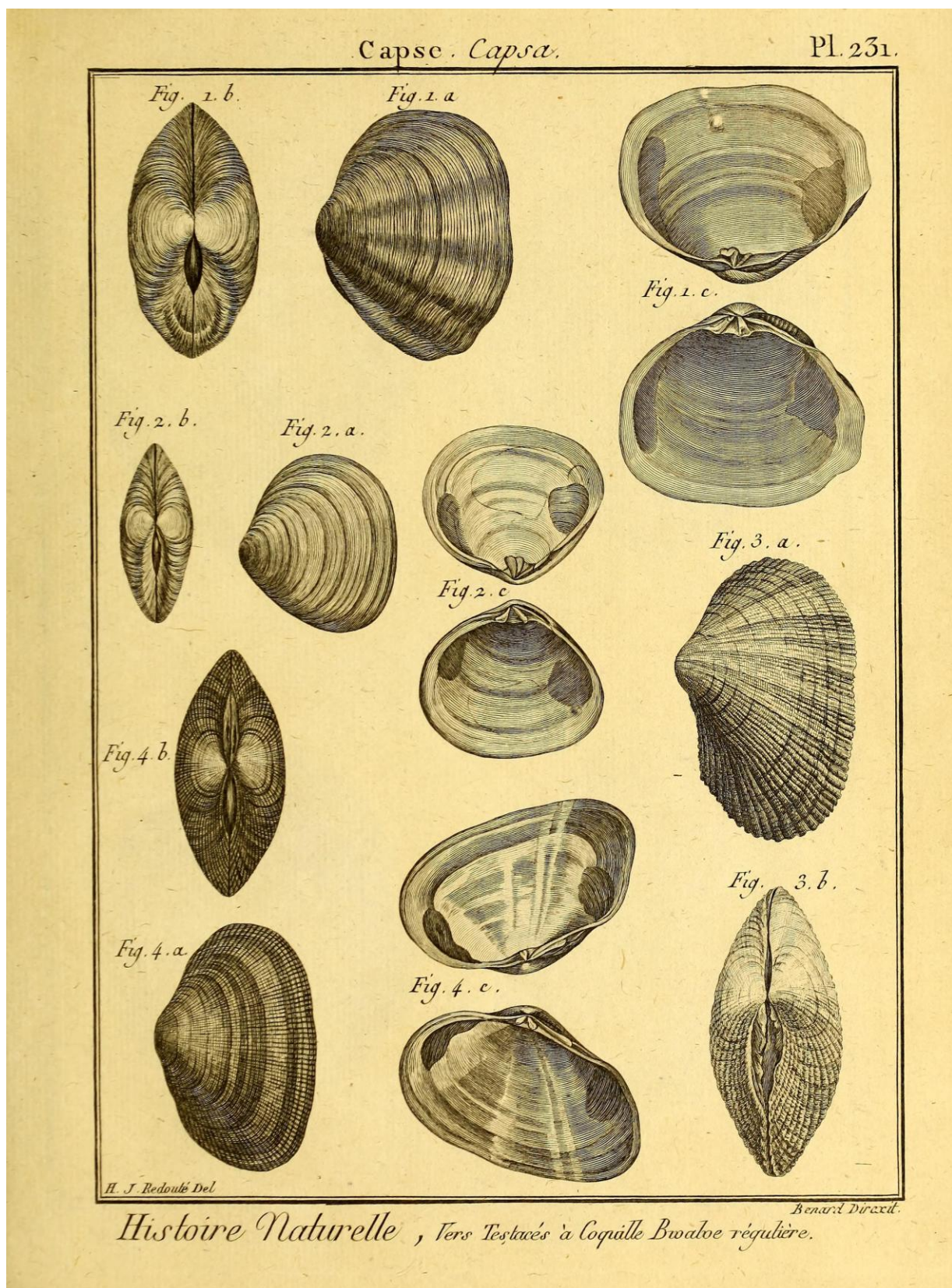


Fig. 1. Plate 231 from Bruguère, 1797 of his genus *Capsa*. Fig. 4a-c show the illustrations to which Blainville, 1824 referred when introducing his new species *Psammocola vespertinalis*. In fig. 3a-b *Asaphis violascens* (Forsskal in Niebuhr, 1775) is illustrated.



Psammocola vespertinalis Blainville, 1824

The identity of *Psammocola vespertinalis* Blainville, 1824 should be determined. Blainville (1824: 350) referred to a figure in the ‘Tableau encyclopédique et méthodique’ by Bruguière, 1797: pl. 231 fig. 3a, b, c. But fig. 3c does not exist, there is only fig. 3a, b (Fig. 1). However, there is fig. 4a, b, c on this plate, where fig. 4c shows the inside of the valves with hinge details (Fig. 1). Blainville (1824: 349) gives details about the hinge of his new species, translated from French as “with two inward, oblique, divergent teeth in each valve, but larger in the left”. This makes it likely that the actual illustration of his species *P. vespertinalis* is pl. 231 fig. 4a-c. This very good drawing represents the species now known as *Asaphis deflorata* (Linnaeus, 1758). Bruguière’s pl. 231 fig. 3a, b (Fig. 1) illustrates *Asaphis violascens* (Forsskål in Niebuhr, 1775).

The confusion about the identity of *Psammocola vespertinalis* Blainville, 1824 started with Blainville himself in 1825. In his ‘Manuel de malacologie et de conchyliologie’ he copied the text of his 1824 work, including the reference to Bruguière, 1797: pl. 231 fig. 3a, b, but newly added references to the plates in this work (to be published later in 1827). For the afore mentioned species he added a reference to his pl. 77 fig. 4 (Fig. 2). But this figure depicts *Gari depressa* (Pennant, 1777), not the expected *Asaphis* species. But this *Asaphis* species is figured on the same plate, pl. 77 fig. 6 (Fig. 2) as ‘Sanguinolaire rugueuse’. The genus ‘Sanguinolaire’ is mentioned in the text (1825: 568), but this species is not mentioned. It refers to *Sanguinolaria rugosa* Lamarck (1818: 511), for which Willan designated a lectotype (1993: 6, fig. 16). This figured lectotype is a fine radially ribbed shell that could represent *Asaphis violascens*, as Willan suggested, but more likely corresponds to *Asaphis deflorata*, the species to which Lamarck referred it. Finally, we can conclude that Blainville in his 1825 work should have referred to pl. 77 fig. 6 instead of pl. 77 fig. 4 for his *Psammocola vespertinalis*.

Probably early workers on mollusks would have the “Manuel” of Blainville, 1825 readily available, but not the many parts of the “Dictionnaire des sciences naturelles”, where the text on *Psammocola* appeared already in 1824. As there was not an indication in his 1825 work that it was copied from his 1824 work, many early workers would have taken his text of 1825 for the original text, which pointed to a different figured species for *Psammocola vespertinalis* than his original 1824 work.

One could think of finding the solution to the disorder in Blainville’s work itself. He treated the genus *Psammocola* in the 43rd part of the “Dictionnaire” in 1826 (pages 482-483). Here Blainville indicates that he introduced his new genus *Psammocola* to combine the Lamarckian genera *Psammobia* and *Psammotaea*, as the differences mentioned by Lamarck between those two genera are certainly insufficient to separate them properly. This statement is inconsistent with what he had actually written in 1824 and repeated in 1825! Instead of synonymizing both Lamarckian genera, he introduced a new genus and a new species. He continues with the remark [translated]: One could include *Sanguinolaria* without objection, and in doing so, one would obtain the genus *Capsa* as originally proposed by Bruguière.

Probably the publication of the Mollusca parts in the ‘Dictionnaire’ (1816-1845; 61 volumes) and the ‘Manuel’ (1825, 1827) was a great undertaking to accomplish for Blainville in his time. This could be the reason for the inaccuracies present in the 1824 text and copied in the



1825 text. 1, a reference to the wrong figure on the plate in the ‘Encyclopedie’, see above (pl. 231 fig. 3a, b, c, instead of pl. 231 fig. 4a, b, c). 2, reference is made to *Psammotaea* Lamarck, 1818, in French vernacular as Psamotée instead of Psammotée. 3, Blainville mentioned that the number of species which Lamarck (1818) listed for his first Section [A] was 18 and the second Section [B] was 8, but this should have been his second Section B and third Section C respectively.

Later authors were still confused about the status of *Psammocola* Blainville, 1824. Keen in the ‘Treatise’ treated it as incorrect synonym of *Gari* (*Gobreaeus*) T. Brown, 1844 (1969: N631), as “[=*Psammocola* de Blainville, 1825, Auctt. (*non* de Blainville, 1824) (obj.)]” and she regarded *Psammocola* a synonym of *Asaphis* Modeer, 1793 (1969: N633), although with mentioning incorrectly a subsequent type designation by Bucquoy, Dautzenberg, & Dollfus, 1895 instead of the monotypy. Here synonymy is correct.

Later, Willan (1993: 5) treated *Psammocola* (in part) as synonym of *Asaphis*, on page 60 he indicated it is a synonym of *Sanguinolaria* Lamarck. What he meant is *Sanguinolaria* Lamarck, 1799 sensu Deshayes (1835: 167-168), who regarded that only *Sanguinolaria rugosa* Lamarck, 1818 is a real *Sanguinolaria* species. As *S. rugosa* is a synonym of *Asaphis deflorata* (see above), Willan indicated in a difficult way here also that *Psammocola* is a synonym of *Asaphis*.

Huber (2010) in his ‘Compendium of bivalves’ treated *Psammocola* as synonym of *Asaphis* and *Psammocola vespertinalis* Blainville, 1824 as a synonym of *Gari* (*Gobreaeus*) *depressa* (T. Pennant 1777). This is very curious as *vespertinalis* is the type species of *Psammocola* and therefor should be a species of *Asaphis*, not of *Gari* Schumacher, 1817.

CONCLUSIONS

- Blainville’s original 1824 text is misleading about the nomenclatural status of the names he introduced. His later treatments were so significantly different, they exacerbated the confusion.
- The genus *Psammocola* Blainville, 1824 is a junior synonym of *Asaphis* Modeer, 1793.
- The type species of *Psammocola* is *Psammocola* (*Psammocola*) *vespertinalis* Blainville, 1824, by monotypy.
- The name *Psammocola* (*Psammocola*) *vespertinalis* Blainville, 1824 is a junior synonym of *Asaphis deflorata* (Linnaeus, 1758).

REMARKS

In literature (Huber, 2010), the genus *Asaphis* in the Indo- West-Pacific is regarded monospecific, with the species *Asaphis violascens* being widely distributed. Richard Willan (pers. comm. 21 July 2026) studied specimens from Polynesia that are conchologically identical to *A. deflorata* in having numerous, fine ridges. This would point that there might be a second (undescribed) species present in the Pacific, but genetics should solve this problem. A third *Asaphis* species does not alter the opinion of the status of *Psammocola* and its type species.



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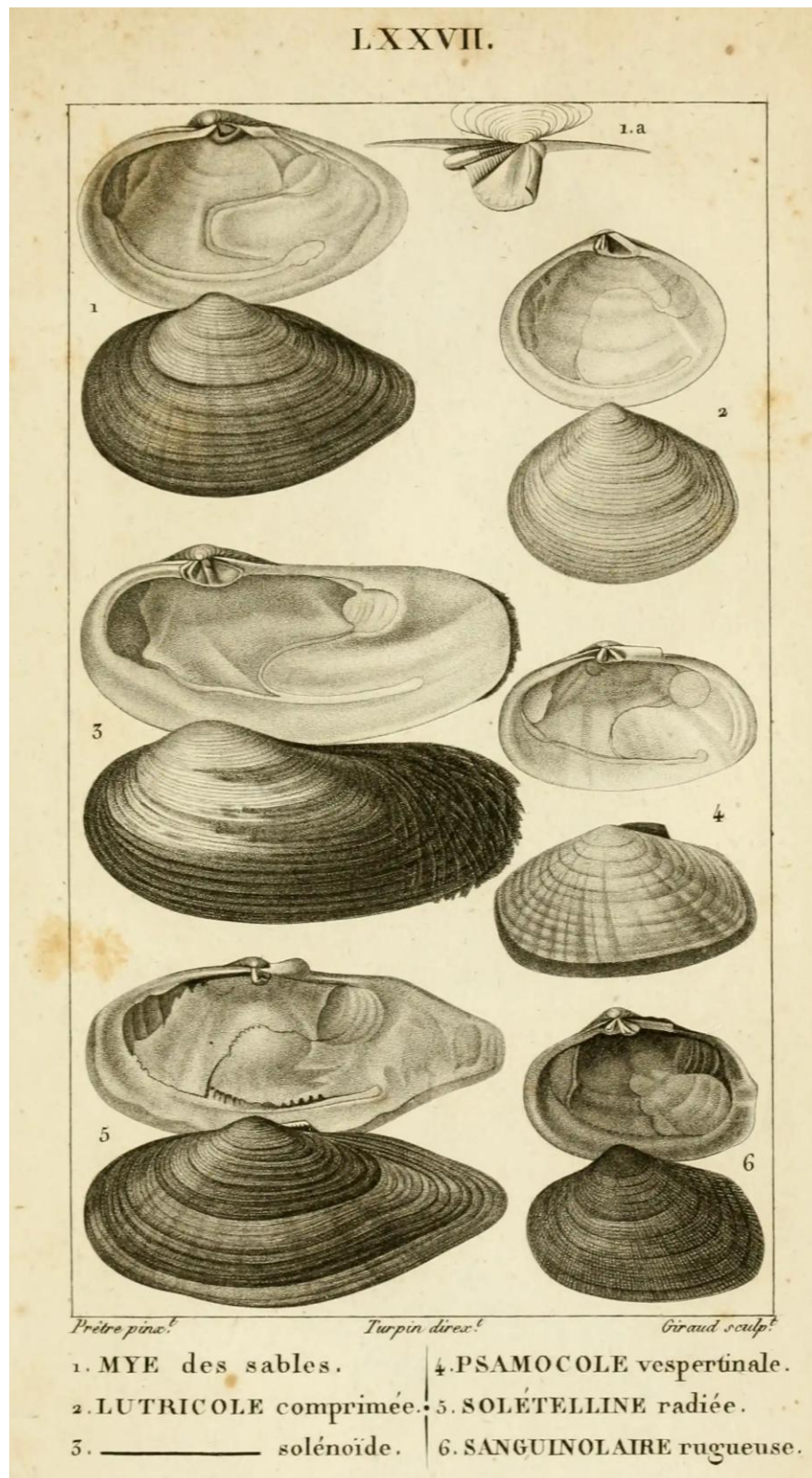


Fig. 2. Plate 77 from Blainville, 1827. Fig. 4 is the illustration to which Blainville (1825) referred when mentioning his species *Psammocola vespertinalis* Blainville, 1824. In fig. 6 *Sanguinolaria rugosa* Lamarck, 1818 is illustrated.