

Studies on Olividae. XX. The pre-Lamarckian names for *Oliva* species

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ABSTRACT. The nomenclatural status of each of the *Oliva* names introduced by Linnaeus (1758), Born, (1778), Schröter (1782), Lightfoot (1786), Abel (1787), Karsten (1789), Gmelin (1791), Röding (1798), Link (1807), Fischer (1807), Montfort (1808) and Perry (1811) has been re-examined. Of the 88 names proposed by these authors 14 have been retained as valid *Oliva* names. We have been compelled to replace two well known names: *Oliva vidua* (Röding, 1798) by *O. nigrita* (Karsten, 1789) and *O. tessellata* Lamarck, 1811 by *O. olivacea* (Karsten, 1789).

RESUME. Le statut nomenclatural des noms d' *Oliva* introduits par Linné (1758), Born, (1778), Schröter (1782), Lightfoot (1786), Abel (1787), Karsten (1789), Gmelin (1791), Röding (1798), Link (1807), Fischer (1807), Montfort (1808) and Perry (1811) a été réexaminé. Des 88 noms proposés par ces auteurs, 14 ont été retenus comme noms valides pour des *Oliva*. Nous avons été forcés de remplacer deux noms bien connus: *Oliva vidua* (Röding, 1798) par *O. nigrita* (Karsten, 1789) et *O. tessellata* Lamarck, 1811 par *O. olivacea* (Karsten, 1789).

KEYWORDS : Mollusca, Gastropoda, Olividae, *Oliva*, nomenclature.

INTRODUCTION

Is a review of the old *Oliva* names still necessary? It is true that nearly all the names analysed here are well known to recent authors and can be found in the indexes of popular publications. The problem is that many of the attributions are uncritical citations, mainly from the pioneering works of BURCH & BURCH (1960, 1967). This can be demonstrated for instance by the ubiquitous use of *aurata* (Röding, 1798), a very obvious *nomen nudum*, to designate a variety of the species known as *Oliva vidua* (Röding, 1798). There is simply no way of guessing what *aurata* might be and it is obvious that the original description has not been checked. Divergent attributions are also frequent, as will be seen hereunder. Both factors are major causes of the well-known nomenclatural confusion in the genus *Oliva*. A critical, *de novo* analysis of all the original

sources was thus deemed necessary. A chronological approach is clearly the simplest way of automatically detecting junior homonyms and synonyms. Some of the points discussed in this paper might appear to be insignificant details. For instance, is it really important to know if the name given to a "bad species" is a *nomen nudum* or a *nomen dubium*? The matter is actually of importance and does shape the subsequent nomenclature, because a *nomen nudum* remains available for future re-use.

The identification of the species described by the old masters is straightforward only when the type material has been preserved. For *Oliva*, this is the case only for LINNAEUS (studied by OLSSON & DANCE, 1966) and FISCHER von WALDHEIM (studied by IVANOV & KANTOR, 1991). For all the others, identification problems are the rule rather than the exception.

The descriptions of the pre-Lamarckian authors are frequently insufficient for positive identification. They are nearly always extremely short and often based upon characters (such as the colour pattern) that are known today to be highly variable in the genus *Oliva*. We doubt that even a single species could be unambiguously recognised by its description alone. Fortunately, the authors do mostly (but not constantly) refer to previously published illustrations, which then constitute "indications" in the sense of art. 12 b (7) of the Code. The principal sources of these illustrations (amounting to over 90% of the total) are ADANSON (1757), d'ARGENVILLE (1742), BONNANI (1681, 1709), GUALTIERI (1742), KLEIN (1753), KNORR (1760-73), LISTER (1682-1695), MARTINI (1769-1795), PETIVER (1767), RUMPHIUS (1705), SEBA (1734-65) and SCHRÖTER (1782, 1783). Some of these figures are of very high quality and can be interpreted without ambiguity. Many others (quite rightly qualified as "medieval cartoons" by irreverent young students) are entirely unidentifiable. In some cases one may even doubt that the figure depicts an actual specimen.

Problems of image identification are compounded by the fact that the concept of species of ancient authors was quite different from ours. This is evidenced by the very common use of conflicting illustrations in support of a given name and the use of the same illustration for different names by the same author. Let us cite BURCH & BURCH (1967): "*It is tragic that we are compelled to abandon such solid material (note: this refers to names supported by type material) and accept references to a series of poorly drawn old wood cuts. Typical of these are some of Röding in the notorious Museum Boltenianum in which for some, Röding lists as many as four references all to entirely different species, some of them unrecognizable, and the actual shell has been sold as a curio and lost. What the species may have been is known only to God*". The frequency of such contradictions would make sense only if the descriptive conventions of the 18th century were different from ours. It is our

feeling that many of the ancient authors cited previous illustrations to report resemblance rather than conspecificity in its present meaning.

In such conditions, reconciling the ancient species concepts with the rigid rules of the modern Code of Zoological Nomenclature (hereunder referred to as "the Code") necessarily entails some interpretation of the message the old masters might have wanted to convey. In doing so, our main concern has been nomenclatural stability. Changes to the presently accepted names have been made only when this was inevitable.

This paper deals only with recent species. For each author, only new names have been considered, previously utilised names being without nomenclatural interest (they are necessarily junior homonyms), the only exception being a previous *nomen nudum* (which remains available). Names that are obviously incompatible with *Oliva* species have not been considered. For each name, the original description has been reproduced *verbatim* in order to allow a verification of our conclusions. The only modification brought to the original texts is that for each author, species have been presented in alphabetical order (in their original spelling), for the facility of the reader. Divergent attributions in recent works frequently consulted by *Oliva* students are given in notes.

1. The *Oliva* of Linnaeus, 1758.

The species of *Oliva* described by Linnaeus in the tenth edition of the *Systema Naturae* were originally placed in *VOLUTA*, *Cylindroidae* f. *subcylindricae*. In citations of these species, the name of Linnaeus should thus be enclosed in parentheses (Code, art. 51 c).

The *Oliva* of Linnaeus pose no more problem, having been studied by HANLEY (1855) and adequately revised by OLSSON & DANCE (1966), who carefully examined the type material at the Linnean Society, London. No specimen of *Oliva* has been reported in the Linnean collection at Upsala (HOLM, 1957).

ispidula* (p.730, sp.351)*ORIGINAL DESCRIPTION:**

Ispidula. 351. V.testa cylindroide laevi, spira prominente margine unico.

Rumph.mus.t.39.f.6,7.

Pet.gaz.t.59.f.8.

Habitat . .

DISCUSSION. This name, cited here only because it has brought so much confusion in the *Oliva* literature, has already been discussed in great detail by OLSSON & DANCE (1966). The selected lectotype is not an *Oliva* but a fossil *Agaronia* (*Agaronia plicaria* Lam., 1811).

STATUS: not an *Oliva*.

Note: the name *ispidula* has not been rejected as a secondary homonym and remains available for an *Oliva* species not described under *Voluta*.

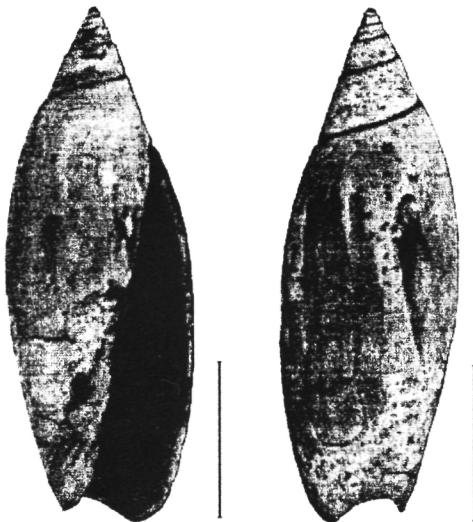


Fig. 1. "*Voluta*" *ispidula* L., 1758. Type specimen, Linnean Society of London. Scale bar: 1 cm.

oliva* (p.729, sp.350)*ORIGINAL DESCRIPTION:**

Oliva. 350. V.testa cylindroide laevi, spirae basi reflexa.

List.Conch.4.f.10.c.l.t.2.

Rumph.mus.t.39.f.2-5.

Gualt.test.t.23.f.B.

Argenv.conch.t.16.f.R. Litterata.

Kratzenst.Regenf. 2.t.1.f.2.

Habitat in M.Indico.

Varietates coloribus infinite ludentibus;

Litterata praefertur.

DISCUSSION. This name has already been discussed by Olsson & Dance (1966), who selected and illustrated a lectotype, preserved at the Linnean Society, London. Linnaeus very fittingly called attention to the extreme variability of this species and the name should be used with caution. The lectotype seems to correspond to one of the species of the "*Oliva oliva* complex", the taxonomic structure of which has been discussed by TURSCH, MISSA & BOUILLON (1992).

STATUS: valid name.

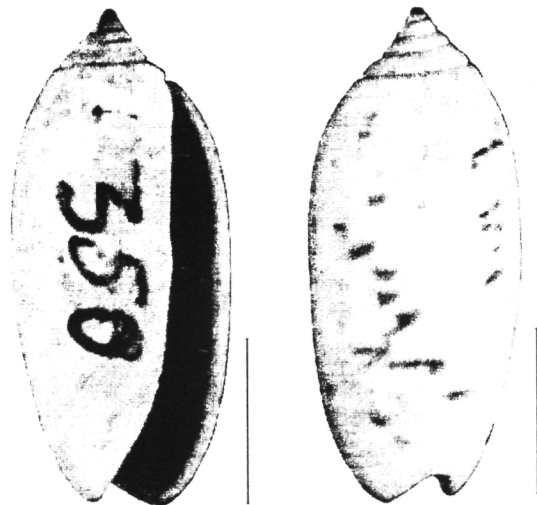


Fig. 2. *Oliva oliva* (L., 1758). Lectotype, Linnean Society of London. Scale bar: 1 cm.

porphyria* (p.729, sp.349)*ORIGINAL DESCRIPTION:**

porphyria 349. V.testa cylindroide laevi, spirae basi oblitterata, labro medio retuso.

List.Conch.t.727.

Rumph.mus.t.39.f.1.

Gualt.test.t.24.f.O.P.

Argenv.conch.t.16.f.K.

Kratzenst.Regenf.8.t.2.f.15.

Habitat . .

Affinitas tanta cum sequenti, ut potius varietas, quam distincta species, quamvis pretium eam nobilitaverit.

DISCUSSION: This name has already been discussed by OLSSON & DANCE (1966), who selected and illustrated a lectotype, preserved at the Linnean Society, London. The lectotype corresponds to the unanimous, traditional concept of this species.

STATUS: valid name.

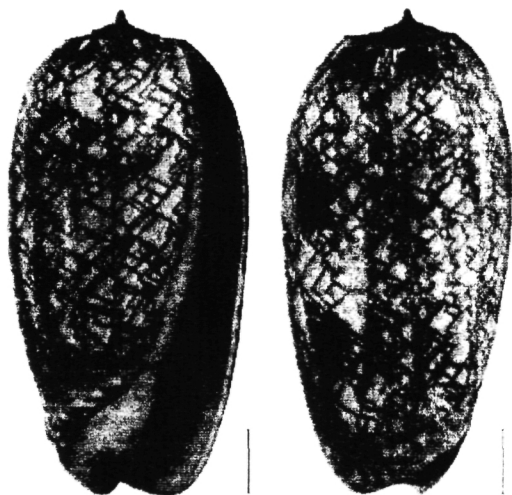


Fig. 3. *Oliva porphyria* (L., 1758).
Lectotype, Linnean Society of London.
Scale bar: 1 cm.

2. The *Oliva* of Born, 1778, 1780.

No new olive name was given by Born, but one should consider his *ispidula*, which name being still available for an *Oliva* since *ispidula* (L., 1758) has been shown not to belong to this genus).

ORIGINAL DESCRIPTION:

In the *Index* (dating from 1778 according to RUTSCH, 1956), Born started his description:

F.II.4. Voluta ispidula. Die Spizdattel. Linn. S.N. Sp. 400

Testa subcylindrica laeui, spira conica, suturis acutis, columella incrassata oblique plicata. Die einigermaßen walzenförmige glatte Schale hat

einen glatten kegelförmigen scharfrandigen Schnirkel, und eine dichte schief gespaltene Spindel.

Born then listed a number of colour varieties (from α up to χ) over the next two pages, starting with:

α albida, brunno maculata. Weisslich, mit braunen Flecken.

In the *Testacea* (1780), one finds the same varieties, with the same reference figures and a description:

Testa emarginata subcylindrica, laevis; spira conica, longior; Anfractuum suturae acutae; Columella incrassata, oblique plicata. Dignoscitur a. V. *Oliva*, cui multum est affinis, basi spirali tumida, neque reflexa; Colorum differentia varietates, quas adduximus distinguit. Long 2 poll 9 lin. lat. 1. poll Patriam ubi constitit, varietatum descriptioni addidimus.

DISCUSSION. This case presents obvious contradictions and it deserves careful consideration, as identical situations will occur for the same species treated by subsequent authors. On the one hand, there is an explicit reference to "Linn. S.N. Sp. 400" (*ispidula* in the 12th edition of the *Systema Naturae*). On the other hand, the description of colour varieties and the large size "2 poll 9 lin". (about 74.6 mm) are quite incompatible with the fossil French *Agaronia* of Linnaeus.

The many illustrations supporting the descriptions of the numerous varieties are very conflicting. Bearing in mind that the concept of species at the time was quite different from ours, it is safer by far to conclude that the reference to "Linn. S.N. Sp. 400" indicates that Born referred to the species already described by Linnaeus.

Note: this species is *flammulata* Lamarck, 1811 according to BURCH & BURCH (1960).

3. The *Oliva* of Schröter 1782, 1783.

No new olive name was given by Schröter, but (as in the case of Born) one should consider his *ispidula*, this name being still available for an *Oliva* since *ispidula* (L., 1758) has been shown not to belong to this genus).

The argument used in the case of Born also applies here and explicit references (both in the *Musei Gottwaldiana* and in the *Einleitung*) are taken to indicate that Schröter referred to the species already described by Linnaeus.

4. The *Oliva* of Lightfoot-Solander, 1786.

Lightfoot was the real author of the Portland Catalogue, as shown by DANCE (1962) and REHDER (1967) (see also IREDALE, 1916, DALL, 1921, KAY, 1965). Lightfoot utilised manuscript names given by Solander (his notes, formerly in the Banks collection, are now in the library of the British Museum, according to Rehder) and added a few names of his own invention.

Only one species of *Oliva* was published in the Portland Catalogue. It was described as *Voluta* and in citations of this species, the name of Lightfoot should thus be enclosed in parentheses (Code, art. 51 c).

One should note that Lightfoot did not describe species as such, but described lots of an auction. The same species can thus appear in two different lots. This is the case of:

incrassata (p. 13, # 264)

This shell appears in lots 264, 2315 and 3696.

ORIGINAL DESCRIPTION:

264. *Voluta incrassata*, S. Martyn, 499, 500 very rare.

2315. "A fine specimen of *Voluta incrassa*, S. Martyn, Vol. II - very rare, f. 499. 500."

3696. "A very fine pair of *Voluta Incrassata*, S. extremely scarce ...Martyn, vol. II. 499. 500."

DISCUSSION. Figures 499 and 500 of Martini (written "Martyn" by the author) clearly

correspond to the unanimous present concept of this species.

STATUS: valid name.

Rehder draws attention to "*incrassa*", which he considers to be a misspelling of the trivial name. DILLWYN (1817) refers to other manuscript *Oliva* names of Solander. These are:

aurora MSS.

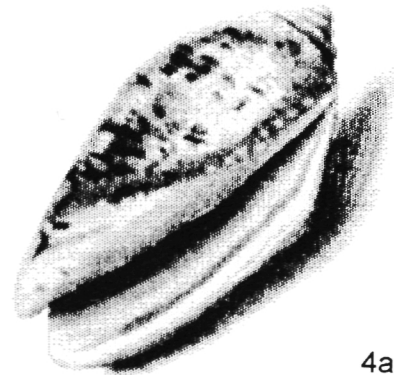
baltheata MSS.

cruenta MSS.

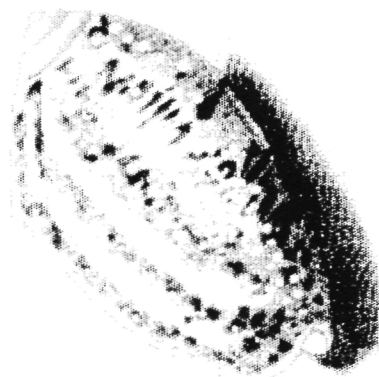
maculata MSS.

ventricosa MSS.

These names of Solander, being manuscript, have no nomenclatural standing. They are best referred to as (Solander) Dillwyn, 1817.



4a



4b

Fig. 4. *Oliva incrassata* (Lightfoot, 1786).
4a: Martini, fig. 499. 4b: Martini, fig. 500.
Scale 1:1.

Notes:

- *aurora* (Solander) Dillwyn, 1817 is *carneola* (Gmelin, 1791) for BURCH & BURCH (1960), a color form of the same for PETUCH & SARGENT (1986).

- *baltheata* (Solander) Dillwyn, 1817 is *annulata* (Gmelin, 1791) for BURCH & BURCH (1960), WAGNER & ABBOTT (1978).

- *cruenta* (Solander) Dillwyn, 1817 is *annulata* (Gmelin, 1791) for BURCH & BURCH (1960), WAGNER & ABBOTT (1978) and ZEIGLER & PORRECA (1969) and *emicator* Meuschen (non binominal) for DAUTZENBERG (1927).

- *maculata* (Solander) Dillwyn, 1817 is *tigrina* Lamarck, 1811 for BURCH & BURCH (1960) and WAGNER & ABBOTT (1978).

- *ventricosa* (Solander) Dillwyn, 1817 is *bulbosa* (Röding, 1798) for BURCH & BURCH (1960), WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

5. The *Oliva* of Abel, 1787.

Abel (1787) introduced new names such as *Voluta reticulata* and *Voluta porphyrea*. But there are good reasons to consider Abel as being not consistently binominal. In the *Voluta* section alone, one species has two names (p.66, n°1: *Voluta oliva* - *Vidua mauritana*). Others like *sepultura principis* (p. 67, n°9) and *vellus aureum* (p. 68, n° 13) bear no generic name. Many species were referred to only by a vernacular name, for instance "Die grosse Panamarolle" (p. 69, n° 21). In our opinion, these facts constitute sufficient grounds for rejecting all the names of Abel.

6. The *Oliva* of Karsten, 1789.

In the *Museum Leskeanum* - a work that appears to be consistently binominal (DUCHAMPS & TURSCH, 1994)- Karsten introduced two new names (*olivacea* and *nigrita*) on p. 216. Both names bear explicit reference to Martini but the work of that author has been officially rejected as non-binominal. Under the provisions of the Code, his names

remain available and have to be considered here. The *Oliva* of Karsten were described as *Voluta* and in citations of these species, the name of the author should thus be enclosed in parentheses (Code, art. 51 c).

olivacea (p.216, # 638)

ORIGINAL DESCRIPTION:

Voluta olivacea Mart.

638 V. oliv. testa albidā, punctis ex violaceo lutescentibus maculata, apertura atque columella omnino amethystinis.

Martini Konch. Kab. T.2.tab. 46. fig. 493. 94.

Long. 10 lin. lat 5 lin..

DISCUSSION: The original description and the colour figures of Martini undoubtedly represent the very characteristic shell now known as *tessellata* Lamarck. The figures were indeed cited by Lamarck himself for *tessellata*. The measurements given by Karsten (a precursor of biometry) indicate the shell is twice as high as wide. We have verified that this is nearly exactly the case for *tessellata*. With much reluctance we are compelled to conclude that *olivacea* Karsten is the earliest name for the well-known *tessellata* Lamarck (the type material of which has disappeared), which becomes an objective junior synonym as Lamarck referred to the same figures as Karsten.

STATUS: valid name.



5a



5b

Fig. 5. *Oliva olivacea* (Karsten, 1789). 5a: Martini, fig. 493. 5b: Martini, fig. 494. Scale 1:1.

nigrita (p. 216, # 639, 640, 641)

Under the name *nigrita* Karsten grouped his sections 639, 640 and 641. The note under 641 clearly indicates that the author considered these as varieties or forms of the same species.

ORIGINAL DESCRIPTION:

Voluta Nigrita Mart.

639 V.N. testa *ferruginea*, columella ex albescenti - sanguinea. 2.

Martini Konch. Kab. T.2.tab. 47.fig.501.

Long. 2 poll.1 lin. lat. 10 lin.

640 V.N. testa ex fusco nigra immaculata, apertura cum columella albida. Amboina, 2.

Martini loc. cit. tab. 45, fig. 472.73.

Long. 1 poll. 8 lin. lat. 10 lin.

641 V.N. testa ex fusco nigra, ad labri marginem externum luteo striata et characteribus obscurioribus scripta; apertura albida, columella rufescens. 2.

Long. 2 poll. 2 lin. lat.9 lin.

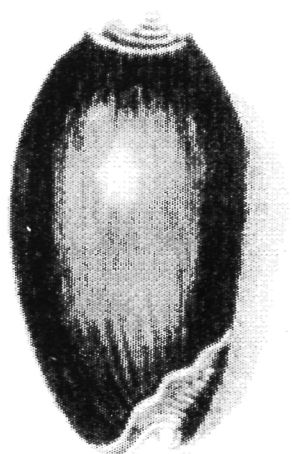
Note. Specimina 639-641 ad singularem speciem cum b. Martinio retuli propterea, quod columella in ipsis, postice duntaxat inprimis est striata, et magnitudine, hujus speciei omnes fere *V. Olivae* varietates Linn. superat.

DISCUSSION. Figures 501, 472, 473 of Martini undoubtedly refer to the shell known today as *vidua* Röding. With much reluctance we are compelled to conclude that *nigrita* Karsten is the earliest name for the well-known *vidua* Röding (of which there is no type material), which becomes an objective junior synonym as the same figs. 472 and 473 are the only illustrations cited by Röding, 1798 for *vidua*.

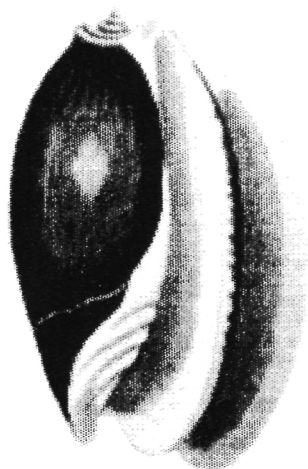
STATUS: valid name.

Note: This species is *oliva* (L., 1758) for DAUTZENBERG (1927), BURCH & BURCH (1960) and WAGNER & ABBOTT (1978) (who consider the work non binominal).

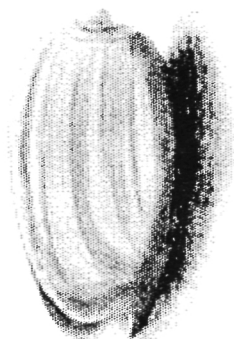
One should also consider Karsten's *ispidula*, as this name is still available for an *Oliva*, since *ispidula* (L, 1758) has been shown not to belong to this genus). The argument used in the case of Born also applies here and the explicit reference is taken to indicate that Karsten referred to the species already described by Linnaeus.



6a



6b



6c

Fig. 6. *Oliva nigrita* (Karsten, 1789). 6a: Martini, fig. 472. 6b: Martini, fig. 473. 6c: Martini, fig. 501. Scale 1:1.

7. The *Oliva* of Gmelin, 1791.

Two new names (*annulata* and *carneola*) were introduced by Gmelin in the 13th edition of the *Systema Naturae*. The *Oliva* of Gmelin were described as *Voluta* and in citations of these species, the name of the author should thus be enclosed in parentheses (Code, art. 51 c).

annulata (p. 3440, # 18)

ORIGINAL DESCRIPTION:

annulata. 18. V.testa laevi alba; dorsi annulo carinato.

List.Conch.t.717. f.1.

Martin. Conch. 2.t.51. f. 564.

β) Martin. neuest. Mannigfalt., l.p.446.t.2.f.21 ?

Habitat . . . β) rufescente undulata.

DISCUSSION. This case has been discussed in detail by TURSCH, GERMAIN & GREIFENEDER (1986) who concluded that it was a nomen dubium, used by subsequent authors to encompass both *O. amethystina* Röding and *O. mantichora* Duclos (demonstrated to be two distinct species).

The last reference of Martini will not be considered, as it was given with a question mark in the original description. The figure of Lister is very ambiguous. The "ring" alluded to by subsequent authors does not clearly show on the profile of the shell and the difference in shadowing of the body whorl could also be interpreted as indicating a difference in coloration. The figure could very well depict some other species. Fig. 564 of Martini is even more ambiguous as the details of the body whorl are suspiciously similar to those of Lister's figure. Here the shell is clearly ringed. WEINKAUFF (1878) correctly remarked "Die Martini'sche Figur kann aber ebensogut auf die gekielte und farblose Varietät der *O.peruviana* gedeutet werden". Although the shells of *O. mantichora* are frequently ringed and very occasionally occur in a white form, it would take quite a stretch of imagination to identify either *O. amethystina* Röding or *O. mantichora* Duclos with any of the above illustrations.

STATUS: nomen dubium.

Note: This is:

- valid for ZEIGLER & PORRECA (1969), PETUCH & SARGENT (1986).

- a form of *emicator* (Meuschen) (rejected work) for DAUTZENBERG (1927).

carneola (p 3443, # 24)

ORIGINAL DESCRIPTION:

Carneolus. 24. V.testa aurantia : fasciis caeruleis, spira complanata et apertura albis.

Martin Conch.2.t.46.f.495.

Habitat . . .

DISCUSSION. The small coloured illustration of Martini depicts a shell with white spire, white fasciole, orange body whorl decorated with several brown horizontal stripes and a blue square blot. Although the spire and the general shape are not correctly depicted, this figure is quite compatible with the present concept of *O. carneola* (a justified subsequent correction of the original spelling *carneolus* by LAMARCK, 1811, p. 321) a name which should be preserved in the interests of stability.

Subsequent descriptions of very similar species (such as *O. kwajalainensis* da Motta, 1985).and of numerous varieties (by Dautzenberg, 1927) might eventually require the designation of a neotype.

STATUS: valid name.



Fig. 7. *Oliva carneola* (Gmelin, 1791).
Martini, fig. 495. Scale 1:1.

crassa (p. 3421 # 108)

ORIGINAL DESCRIPTION:

C. testa crassa subflava : fasciis tribus albidis, ore caerulescente.

List. Conch. t. 664. f. 8.

Habitat . . . *carneolae affinis*, testa ultra 4 pollices longa.

DISCUSSION. This species was described in the section *Cypraea*. It is considered here only because Gmelin deemed it close to *carneola*. The figure of Lister unmistakably depicts a *Cypraea*.

STATUS: not an *Oliva*.

Note. This is:

- *Pseudoliva crassa* for BURCH & BURCH (1960).
- an indeterminate species for WAGNER & ABBOTT (1978).

One should also consider Gmelin's *ispidula*, this name being still available for an *Oliva* since *ispidula* (L, 1758) has been shown not to belong to this genus. The argument used in the case of Born also applies here and an explicit reference "*Mus.Lud.Ulr.*" (the *Museum Reginae Ludovicae Ulrica* of Linnaeus, 1764) indicates that Karsten refers to the species already described by Linnaeus.

"*O. leucophaea* Gmelin" is given by Mörch, 1850 and is sometimes cited in the subsequent literature. We have not found this species in Gmelin.

8. The *Oliva* of Röding, 1798.

The *Museum Boltenianum*, written by Peter Friedrich Röding, is an inventory of the rich collection of J.F. Bolten, a leading physician in Hamburg. The rediscovery of this work at the beginning of this century and its subsequent recognition as an available work (in the sense of the Code) caused a major upset in the nomenclature of molluscs.

Bolten is reported to have been a lifelong student of conchology, dissatisfied with the "crude method of Linnaeus". In contrast, we believe that his friend Röding simply intended to produce an inventory with no scientific pretensions. It can indeed be seen in the "descriptions" reported here below that he gives very accurate indications on the number (e.g. "15 St.") and the disposition of the specimens in the display cabinets (*Oliva* were in "Lade" 18 to 21) while presenting only very minimal information on the characteristics of the shells

themselves. It is not surprising that the interpretation of such an inventory as a scientific publication would lead to poor results. Only 6 (less than 20%) of the 46 Röding's *Oliva* names can be identified, possibly a sad world record.

For information on the *Museum Boltenianum* see DALL (1915) and REHDER (1945).

The *Oliva* of Röding are all grouped in the genus *Porphyria*. All descriptions start with two numbers, the first -in a separate column indicates the number for the species and the second -in the text- indicates the number in the section *Porphyria*. In citations of Röding's species, the name of the author should thus be enclosed in parentheses (Code, art. 51 c).

amethystina (p.35, # 440)

ORIGINAL DESCRIPTION:

440 | 34 P. *Amethystina*. Die amethystfarbene Dattel. Gmel.sp.23.V.ispidula. Martini 2 .t.46. f.491.492. Knorr Vergn. 2.t.10.f 6 7. 14St.

DISCUSSION. This name has already been treated in detail by TURSCH, GERMAIN and GREIFENEDER, 1986, who separated *O. amethystina* Röding, 1791 from *O. mantichora* Duclos, 1835 (so far mixed under the nomen dubium *O. annulata* Gmelin, 1791, q.v.).

The adjective "amethystfarbene" correctly applies to shells of the species *amethystina* many specimens of which have a deep violet colour pattern. This is very rarely (if ever) the case for shells of *mantichora*. Figures 6 and 7 of Knorr can be interpreted as depicting a specimen of *amethystina* with no markings on the suprafasciolar band. In the figures of Martini the body whorl is a rather dark yellow-beige and the interior of the aperture is deep orange. Figure 492 shows a suprafasciolar pattern compatible with the pattern characteristic of *amethystina*.

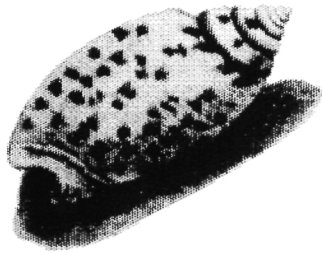
STATUS: valid name.

Note. This is:

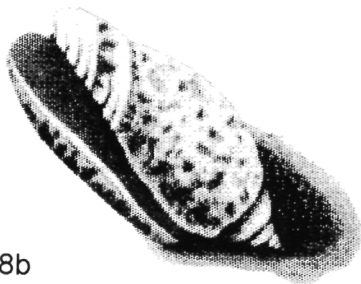
- *annulata* (Gmelin, 1798) for BURCH & BURCH (1960).

a form of *annulata* (Gmelin, 1798) for WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1978), PETUCH & SARGENT (1986).

- *emicator* Meuschen (non binominal) for DAUTZENBERG (1927).



8a



8b

Fig. 8. *Oliva amethystina* (Röding, 1798). 8a: Martini, fig. 491. 8b: Martini, fig. 492. Scale 1:1.

amoena (p.33, # 399)

ORIGINAL DESCRIPTION:

399|13 P. *Amoena*. Die hübsche Dattel. Gmelin. V.Oliva. sp. 17. 3St.

DISCUSSION. Gmelin's sp. 17 is *oliva*, preoccupied by *oliva* (L., 1758). This name is completely unidentifiable.

STATUS: **nomen nudum.**

arachnoidea (p.36, # 450)

ORIGINAL DESCRIPTION:

450|43 . P. *arachnoidea*. Die Spinnweben-Dattel. Gmel. V.Oliva α . sp. 17. Martini 2.t.48.f.509.10. 1St.

DISCUSSION. Martini's figures were both utilised by Röding himself for *spicata*. As

spicata is a name in very common use it should be preserved in the interests of stability.

STATUS: **objective synonym** of *spicata* (Röding, 1798).

aurata (p. 33, # 402)

ORIGINAL DESCRIPTION:

402|16 P. *aurata*. Die goldgelbe Dattel. Gmel. V.Oliva .sp. 17. 1St.

DISCUSSION. Gmelin's sp. 17 is *oliva*, preoccupied by *oliva* (L., 1758). This name is completely unidentifiable.

STATUS: **nomen nudum.**

Note. This is:

- a variety of *oliva* (L., 1758) for DAUTZENBERG (1927).

- *oliva* (L., 1758) according to BURCH & BURCH (1960).

- a colour form of *vidua* (Röding, 1798) for ZEIGLER & PORRECA (1969), WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

bulbosa (p. 37, # 459)



9a



9b

Fig. 9. *Oliva bulbosa* (Röding, 1798). 9a: Martini, fig. 507. 9b: Martini, fig. 508. Scale 1:1.

ORIGINAL DESCRIPTION:

459|50 P. *Bulbosa*. Die knolligte Dattel. Gmel.sp. 17. *Oliva* ζ. Martini 2.t.47 .f.507.508. 2St.

DISCUSSION. Martini's figures 507 and 508 were previously utilised by Gmelin for *oliva*, a name preoccupied by *oliva* (L., 1758). The two figures are quite compatible with the present concept of *O. bulbosa*, a name that should be preserved in the interests of stability. The drawing of the columella rather vaguely suggests the characteristic prominent columellar plications of the species and the adjective "knolligte" could be taken to refer to this peculiarity.

STATUS: valid name.

caerulea (p. 33, # 392)*ORIGINAL DESCRIPTION:*

392|7 P. *Caerulea*. Die himmelblaue Dattel. Gmel.V.*Oliva* sp. 17.α. Martini 2.t.48.f. 518. Rumph. t.39. f.5. 13 St.

DISCUSSION. This case has already been studied by KILBURN (1980). The figure of Martini was previously used for *oliva* var. of Gmelin. Gmelin's sp. 17 is *oliva*, preoccupied by *oliva* (L., 1758). The figure (designated as a type figure by KILBURN) shows a characteristic blue colour aperture and is quite compatible with the present concept of *O. caerulea*.

STATUS: valid name.



Fig. 10. *Oliva caerulea* (Röding, 1798). Martini, fig. 518. Scale 1:1.

Note. This is:

- *episcopalis* Lamarck, 1811 for DAUTZENBERG (1927), BURCH & BURCH (1960) and ZEIGLER & PORRECA (1969).

cornea (p. 36, # 448)*ORIGINAL DESCRIPTION:*

448|41. P. *cornea*. Die hornfarbene Dattel. 1 St.

DISCUSSION. This species is completely unidentifiable.

STATUS: nomen nudum.

cingulata (p. 34, # 415)*ORIGINAL DESCRIPTION:*

415|21 P. *Cingulata*. Die gegürtelte Dattel. Gmel.V.*Oliva* sp. 17. 1St.

DISCUSSION. Gmelin's sp. 17 is *oliva*, preoccupied by *oliva* L., 1758. This name is completely unidentifiable.

STATUS: nomen nudum.

Note. This is *annulata* (Gmelin, 1791) for WAGNER & ABBOTT (1978).

coffea (p. 37, # 462)*ORIGINAL DESCRIPTION:*

462|53 P. *Coffea*. Die Kaffeebohne. Gmel.sp.24. V.*carneolus*. Martini 2.t.46. f.495. 4St.

DISCUSSION. Martini's figure 495 was previously utilised by Gmelin for *carneola*, cited by Röding.

STATUS: objective junior synonym of carneola Gmelin, 1791.

Note. This is indeterminate, possibly *oliva* (L., 1758) for WAGNER & ABBOTT (1978).

conoidea (p. 35, # 430)*ORIGINAL DESCRIPTION:*

430|31 P. *Conoidea*. Die kegelförmige Dattel. 1St.

DISCUSSION. This name is completely unidentifiable.

STATUS: nomen nudum.

dealbata* (p. 35, # 427)*ORIGINAL DESCRIPTION:**

427 | 29 P. *Dealbata*. Die schneeweisse Dattel. Knorr 6. t. 34. f. 4 5. 6 St.

α 1 St.

DISCUSSION. Knorr's figures (on a black background) are compatible with an all-white specimen of the "*O. oliva* complex" shown to be composed of distinct, closely related species (TURSCH, MISSA & BOUILLON, 1992) well separated by multivariate analysis but impossible to segregate on the basis of approximate illustrations.

STATUS: **nomen dubium.**

Note. This is a white form of *oliva* (L., 1758) for WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

The name *fasciata* was used twice, for two different shells (sp. 387 and sp. 411).

fasciata* (p. 32, # 387)*ORIGINAL DESCRIPTION:**

387 | 2 P. *Fasciata*. Die gebandete Portobello-Dattel. Gmel. Voluta sp. 16 γ. 1 St.

DISCUSSION. Gmelin's sp. 16 is *porphyria*, preoccupied by *porphyria* (L., 1758). One should note that Röding also uses "Portobello-Dattel" for *porphyria* (species 386). The adjective "gebandete" indicates that Röding means a banded colour variation of this shell. There is no indication whatsoever that such a variant would deserve specific or subspecific status.

STATUS: **subjective junior synonym of *porphyria* (L., 1758).**

fasciata* (p. 34, # 411)*ORIGINAL DESCRIPTION:**

411 | 19 P. *Fasciata*. Die Band Dattel. Gmel. V. sp. 17. Knorr 3. t. 17. f. 3. 6 St.

DISCUSSION. Knorr's figure was previously utilised by Gmelin for *oliva*, preoccupied by *oliva* (L., 1758). The very fact that the name *fasciata* was used twice (apparently for very different shells) casts a serious doubt upon

Röding's nomenclatural concepts. The figure of Knorr is easily recognisable as the dark form of *nigrita* Karsten, 1789, also described as *vidua* by Röding.

STATUS: **junior homonym of *fasciata* (sp. 387 Röding, 1798) to which we give page precedence.**

Note. This is:

- *oliva* (L., 1758) for BURCH & BURCH (1960).
- *reticulata* (Röding, 1798) for WAGNER & ABBOTT (1978).

fenestrata* (p. 34, # 417)*ORIGINAL DESCRIPTION:**

417 | 22 P. *Fenestrata*. Die gegitterte Dattel. Gmel. V. *Oliva* sp. 17 β. Martini 2. t. 47. f. 502. 2 St.

DISCUSSION. Martini's figure was previously used by Gmelin for *oliva*, preoccupied by *oliva* (L., 1758). This colour figure (vaguely reminiscent of a golden form of *vidua* by the same author) presents a very strange cross-ruled pattern (never seen by us in an *Oliva*). It is not recognisable with any certainty.

STATUS: **nomen dubium.**

Note. This is a form of *vidua* (Röding, 1798) according to DAUTZENBERG (1927), ZEIGLER & PORRECA (1969), WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

fimbriata* (p. 34, # 410)*ORIGINAL DESCRIPTION:**

410 | 18 P. *Fimbriata*. Eine schöne rostfarbigte Dattel mit dem Saum. 1 St.

DISCUSSION. One should note that *fimbriata* was presented together with *oliva* under 410. This name is completely unidentifiable.

STATUS: **nomen nudum.**

fulgurator* (p. 36, # 453)*ORIGINAL DESCRIPTION:**

453 | 45 P. *Fulgurator*. Die Blitz-Dattel. Gmel. sp. 17. V. *oliva* α. Martini 2. t. 51. f. 562. 14 St.

DISCUSSION. Martini's figure 562 was previously utilised by Gmelin for *oliva* var., a name previously preoccupied by *oliva* (L., 1758). The figure is very recognisable and

depicts a specimen of *fulgurator* in the presently accepted sense of the name.

STATUS: valid name.

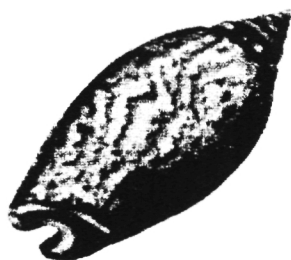


Fig. 11. *Oliva fulgurator* (Röding, 1798).
Martini, fig. 562. Scale 1:1.

griseola (p.35, # 424)

ORIGINAL DESCRIPTION:

424|26 *P. Griseola*. Die gräuliche Dattel. 3St.

DISCUSSION. This name is completely unidentifiable.

STATUS: *nomen nudum*.

hepatica (p.33, # 400)

ORIGINAL DESCRIPTION:

400|14 *P. Hepatica*. Die lichtgraue Dattel.
Gmel. V.Oliva. sp. 17. 2St.

DISCUSSION. Gmelin's sp. 17 is *oliva*, preoccupied by *oliva* Linnaeus, 1758. This name is completely unidentifiable.

STATUS: *nomen nudum*.

isabella (p.33, # 401)

ORIGINAL DESCRIPTION:

401|15 *P. Isabella*. Die isabellfarbene Dattel.
Gmel. V.Oliva. sp. 17. 3St.

DISCUSSION. Gmelin's sp. 17 is *oliva*, preoccupied by *oliva* (L., 1758). This name is completely unidentifiable.

STATUS: *nomen nudum*.

ispida (p.35, # 431)

ORIGINAL DESCRIPTION:

431|32 *P. Ispida* Die blaumündige Dattel.
Gmel Voluta sp.23. Martini 2.t.49. f.524.25.30.
Knorr 3.t.19.f.3. 21 St.

432| α Mart. 2. t.49. f.535. 3St.

433| β Martini 2.t.49. f.522.23. 5St.

434| γ 4 St.

435| δ 3 St.

DISCUSSION. Martini's figures 522, 523, 524 as well as Knorr's fig. 19/3 were previously utilised by Gmelin for *ispidula*, a name preoccupied by *ispidula* Linnaeus, 1758. Martini's figures 525, 530 and 535 were not previously utilised. All the figures are compatible with specimens of the "*Oliva oliva* complex" shown to be composed of distinct, closely related species (TURSCH, MISSA & BOUILLON, 1992) well separated by multivariate analysis but impossible to segregate on the basis of approximate illustrations.

STATUS: *nomen dubium*.

Note. This is:

- a *nomen nudum* according to BURCH & BURCH (1960).

- *oliva* (L., 1758) for ZEIGLER & PORRECA (1969), WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

labradoriensis (p.32, # 389)

ORIGINAL DESCRIPTION:

389|4 *P. Labradorensis*. De Schiller-Dattel.
Gmel. Voluta Oliva, sp. 17.. Lister 731. f.20. 2 St.

DISCUSSION. The figure of Lister was previously utilised by Gmelin in conjunction with *oliva*, a name preoccupied by *oliva* (L., 1758). It was later utilised by Lamarck for *mustelina*. The figure is not recognisable and possibly depicts an *Agaronia*.

STATUS: *nomen dubium*.

Note. This (misspelled "*labradorensis*") is:

a *nomen nudum* according to BURCH & BURCH (1960).

- possibly *funeralis* Lamarck, 1811 for PETUCH & SARGENT (1986).

litterata (p.36, # 452)

ORIGINAL DESCRIPTION:

452|44 P. *Litterata*. Die Buchstaben - Dattel. Gmel.sp. 17. V.oliva.γγ. Martini 2.t.46. f.488. 14 St.

DISCUSSION. Martini's figure 488 was previously utilised by Gmelin for *oliva* var., a name preoccupied by *oliva* (L., 1758). It is not recognisable and could amongst others represent either *spicata*, *reticularis* or *fulgurator*.

STATUS: **nomen dubium**.

Note. This is *spicata* (Röding, 1798) according to BURCH & BURCH (1960), WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1969), KEEN (1971) and PETUCH & SARGENT (1986).

mica (p.35, # 436)

ORIGINAL DESCRIPTION:

436|33 P. *Mica*. Die blaufleckte Dattel. Gmel. sp.23. V.ispidula. 23 St.

437| α Martini 2.t.49 f.527-529. 3 St.

438| β 10 St.

439| γ 3 St.

DISCUSSION. Martini's figures were never utilised before. These figures represent an unidentifiable Olive, with a very strange lip, possibly a freak.

STATUS: **nomen dubium**.

Note. This is *oliva* (L., 1758) according to WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

miniacea (p.33, # 391)

ORIGINAL DESCRIPTION:

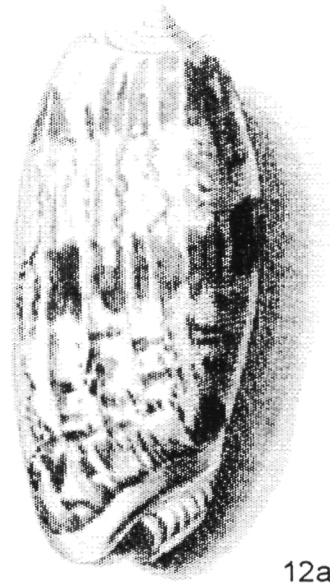
391|6 P. *Miniacea*. Das Morgenroth. Gmelin V. porphyria. sp.16 β. Martini 2.t.45. f.476,477. 9 St.

DISCUSSION. Both figures of Martini were previously used for *porphyria* Gmelin, a name preoccupied by *porphyria* (L., 1758). The figures are highly recognisable and depict the

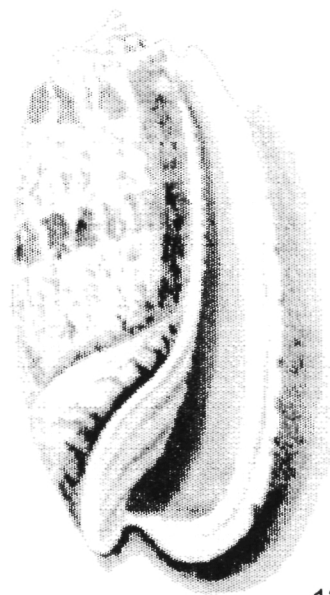
present, widely utilised concept of *miniacea*. The same figures were utilised later by Lamarck for *erythrostoma*.

STATUS: **valid name**.

Note. This is: *erythrostoma* Meuschen (rejected work) for DAUTZENBERG (1927).



12a



12b

Fig. 12. *Oliva miniacea* (Röding, 1798).
12a: Martini, fig. 476. 12b: Martini, fig. 477.
Scale 1:1.

oculata (p.35, # 426)

ORIGINAL DESCRIPTION:

426|28 *P. Oculata* Die geängelte Dattel. 12 St.

DISCUSSION. "Geängelte" is probalbly a misprint for "geäugelte". This name is completely unidentifiable.

STATUS: **nomen nudum.**

ornata (p.33, # 398)

ORIGINAL DESCRIPTION:

398|12 *P. Ornata* Die geschmüekte Dattel. Gmel. V.Oliva. sp. 17. 2 St.

DISCUSSION. Gmelin's *oliva* is preoccupied by *oliva* (L., 1758). This species is completely indeterminate.

STATUS: **nomen nudum.**

Note. This is *oliva* (L., 1758) according to WAGNER & ABBOTT (1978).

paleacea (p.36, # 442)

ORIGINAL DESCRIPTION:

442|36 *P. Paleacea*. Die strohfarbene Dattel. 1 St.

DISCUSSION. This name is completely unidentifiable.

STATUS: **nomen nudum.**

papyracea (p. 36, # 443)

ORIGINAL DESCRIPTION:

443|37 *P. Papyracea*. Die buntpapierne Dattel. 4 St.

DISCUSSION. This name is completely unidentifiable.

STATUS: **nomen nudum.**

punctata (p.33, # 397)

ORIGINAL DESCRIPTION:

397|11 *P. Punctata*. Die gestippelte Dattel. Gmel. V.Oliva. sp. 17. 4 St.

DISCUSSION. Gmelin's *oliva* is preoccupied by *oliva* (L., 1758). This name is completely unidentifiable.

STATUS: **nomen nudum.**

Note. This is:

-*spicata* (Röding, 1798) var. *venulata* Lamarck, 1811 according to BURCH & BURCH (1960).

-*oliva* (L., 1758) for WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

- *rejecta* Burch & Burch, 1962 according to PETUCH & SARGENT (1986)

quercina (p.34, # 418)

ORIGINAL DESCRIPTION:

418|23 *P. Quercina*. Die Eichenholz - Dattel. Gmel. V.Oliva sp. 17.

Knorr 5.tab.26. fig.4. 6 St.

419| *P. α* 2 St.

420| *β* Knorr 5.t.27.fig.5. 1 St.

DISCUSSION. Knorr's fig. 26/4 was previously utilised by Gmelin for *oliva* var. and by Röding himself for *sepultura principis*. Knorr's fig. 27/5 was previously utilised by Gmelin for *oliva* var., preoccupied by *oliva* (L., 1758). Many olives with a low spire have melanistic forms and these figures are ambiguous.

STATUS: **nomen dubium.**

Note. This could be *reticulata* (Röding, 1798) for WAGNER & ABBOTT (1978).

reticulata (p.33, # 396)

ORIGINAL DESCRIPTION:

396|10 *P. Reticulata*. Die Netz-Dattel. Gmel.V.Oliva.sp. 17.α. Martini 2.t.48. f.512.533. 9 St.

DISCUSSION. Martini's figure 512 was previously utilised for *oliva* as well as *ispidula* Gmelin (both names preoccupied by Linnaeus). It was later utilised for *sanguinolenta* Lamarck. Fig. 533 was not previously utilised. It was used later by Lamarck for *fabagina*. Fig. 533 is entirely unidentifiable (and "533" is probably a misprint for 513), but Fig. 512 (a dark brown-grey shell with an orange columella and lip) is not inconsistent with the current acceptance of the widely used name *reticulata*, which should be kept for the sake of stability.

STATUS: **valid name.**

Note. This is *sanguinolenta* Lamarck, 1811 for BURCH & BURCH (1960).

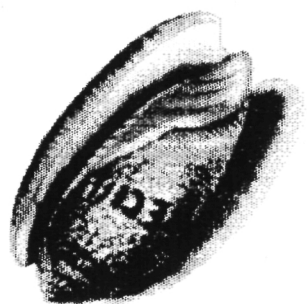


Fig. 13. *Oliva reticulata* (Röding, 1798).
Martini, fig. 512. Scale 1:1.

ruffina (p.32, # 388)

ORIGINAL DESCRIPTION:

388|3 P. *Ruffina*. Die rothe Dattel. Gmel.Vol. sp.49.γ. 2 St.

DISCUSSION. There is a previous *V. ruffina* of Gmelin (p. 3450, sp. 49) which is not cited by Röding. It is based upon "Gualtieri t.54 f. G ?". This figure could depict *vidua*, but Gmelin's decription of *ruffina* "... *V. testa integriuscula transversim rugosa: columella quadriplicata, labro crenulato*" is not compatible with an *Oliva*. Röding's *ruffina* is completely unidentifiable.

STATUS: nomen dubium.

Note. This is a *nomen nudum* for WAGNER & ABBOTT (1978).

sepultura principis (p.33, # 403)

ORIGINAL DESCRIPTION:

403|17 P. *Sepultura Principis*. Das Prinzen Begräbnisz. Gmel.V.Oliva.sp. 17.ξ. Rumpf t.39.f.4.

α 2 St.

405| β Martini 2.t.51.f.563. Knorr 5.t.26.f.4. 4 St.

406| γ Martini 2.t.45.f.480.481. Knorr 5.t.19.f.1. 3 St.

407| δ 4 St.

408| ε 2 St.

409| ξ 1 St.

DISCUSSION. The figure of Rumphius was previously utilised by Gmelin for *oliva*. Knorr's fig. 26/4 was previously utilised by Gmelin for *oliva* var. and was also utilised by Röding himself for *quercina*. Knorr's fig. 19/1 was previously utilised by Gmelin for *oliva* var. and was also utilised by Röding himself for *variegata* α. Martini's figs. 45/480, 481 were previously utilised by Gmelin for *oliva* var. and are utilised later by Lamarck for *funerialis*. Martini's fig. 51/563 was previously utilised by Gmelin for *oliva* var. Gmelin's *oliva* is preoccupied by Linnaeus, 1758. Knorr 5.t.19.f.1. is a *Conus* (possibly *aulicus*). Martini 2.t.51.f.563 is ambiguous, could be *peruviana* as well as *vidua*. Martini 2.t.45.f.480.481 could be what we call *Oliva funerialis*. Rumpf. t.39.f.4. is not recognisable. Knorr 5.t.26.f.4. is reminiscent of the shell now usually called *lignaria*, but could be any dark olive with a low, calloused spire. All these figures are either unidentifiable or conflicting.

STATUS: nomen dubium.

Note. This could be *funerialis* Lamarck, 1811 for WAGNER & ABBOTT (1978).

sericea (p.33, # 390)

ORIGINAL DESCRIPTION:

390|5 P. *Sericea*. Das Seidenzeug. Gmel. V.oliva sp. 17.δδ. Martini 2.t.51. f.559.561. 8 St.

DISCUSSION. Martini fig.559 previously utilised for *oliva* var. Gmelin, later by Lamarck for *textilina*. Fig. 561 later utilised by Lamarck for both *irisans* and *reticularis*. Gmelin's sp. 17 is *oliva*, a name preoccupied by Linnaeus. The figures are not inconsistent with the current acceptance of the widely used name *sericea*, which should be kept for the sake of nomenclatural stability.

STATUS: valid name.

Note. This is:

- *textilina* Lamarck, 1811 for DAUTZENBERG (1927)

- *textilina* Lamarck, 1811 (*pars*) for BURCH & BURCH (1960) and ZEIGLER & PORRECA (1969).



14a



14b

Fig. 14. *Oliva sericea* (Röding, 1798). 14a: Martini, fig. 559. 14b: Martini, fig. 561. Scale 1:1.

spicata (p.35, # 423)

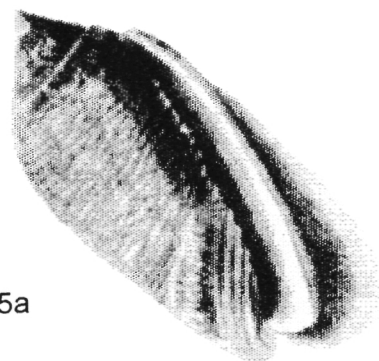
ORIGINAL DESCRIPTION:

423|25 *P. Spicata* Die Kornähre. Gmel.V.oliva sp. 17. Martini 2.t.48. f.509.10. 7 St.

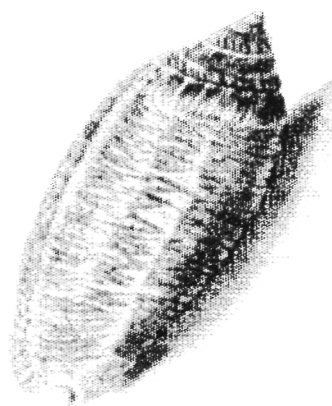
DISCUSSION. Martini's figures were previously utilised by Gmelin for *oliva*, preoccupied by *oliva* (L., 1758). The same figures are utilised by Röding himself for *arachnoides*. They were later utilised by Lamarck for *araneosa*. The figures are not inconsistent with the current acceptation and the widely used name *spicata* should be kept for the sake of stability.

STATUS: **valid name.**

Note. "*O. intertincta* Röding, 1798" given in the synonymy of *spicata* by WAGNER & ABBOTT (1978) is not a name published by Röding. Probably a typographic error for *intercincta* Carpenter, 1857.



15a



15b

Fig. 15. *Oliva spicata* (Röding, 1798). 15a: Martini, fig. 509. 15b: Martini, fig. 510. Scale 1:1.

textilis (p.37, # 456)

ORIGINAL DESCRIPTION:

456|47 *P. Textilis*. Die gewebte Dattel. 1 St.

DISCUSSION. This name is completely unidentifiable.

STATUS: **nomen nudum.**

tigris (p.36, # 441)

ORIGINAL DESCRIPTION:

441|35 *P. Tigris*. Die Tiger-Dattel. 1 St.

DISCUSSION. This name is completely unidentifiable.

STATUS: **nomen nudum.**

tuberosa (p.37, # 460)

ORIGINAL DESCRIPTION:

460|51 P. *Tuberosa* Die kanehlfarbene Dattel. Kammerer t.3.fig. 7.8. 3 St.

DISCUSSION. Kammerer's figures are quite clear and unmistakably depict a form of *O. bulbosa* (Röding, 1798), a conclusion also reached by WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1969) and PETUCH & SARGENT (1986). The name *bulbosa* has page precedence, is widely used and should be kept for the sake of stability.

STATUS: **subjective junior synonym** of *bulbosa* (Röding, 1798).

tumida (p.37, # 455)

ORIGINAL DESCRIPTION:

455|46 P. *Tumida*. Die aufgeblasene Dattel. Lister t.746.f.40. 1 St.

DISCUSSION. Lister's figure 40 was previously utilised by Gmelin in his remarks on *oliva*, a name preoccupied by *oliva* (L., 1758). The figure of Lister is unrecognizable and might even not depict an *Oliva*. This name is completely unidentifiable.

STATUS: **nomen nudum**.

Note. This is an indeterminate *Ancilla* for WAGNER & ABBOTT (1978).

turgida (p.34, # 416)

ORIGINAL DESCRIPTION:

416|21 * B. *Turgida* Die wulstige Dattel. Gmel. V.Oliva sp. 17. 1 St.

DISCUSSION. We have no explanation for the "* B." in the original description. It might be a typographical error. Gmelin's sp. 17 is *oliva*, a name preoccupied by *oliva* (L., 1758). This name is completely unidentifiable.

STATUS: **nomen nudum**.

umbrosa (p.36, # 449)

ORIGINAL DESCRIPTION:

449|42 P. *Umbrosa*. Die Licht- und Schatten-Dattel. Gmel.Voluta ispidula α . sp.23. Martini 2.t.49.f.537. Knorr 1.t.15. f.7. 3 St.

DISCUSSION. Martini's figure 537 was never utilised before. Knorr's figure 7 was utilised by Gmelin for *oliva*, a name preoccupied by *oliva* (L., 1758). The figures of Martini and Knorr are compatible with a dark specimen of the "*Oliva oliva* complex" shown to be composed of distinct, closely related species (TURSCH, MISSA & BOUILLON, 1992), well separated by multivariate analysis but impossible to segregate on the basis of approximate illustrations.

STATUS: **nomen dubium**.

Note. This is *oliva* (L., 1758) for WAGNER & ABBOTT (1978) and PETUCH & SARGENT (1986).

undulata (p.35, # 425)

ORIGINAL DESCRIPTION:

425|27 P. *Undulata* Die wellenförmige Dattel. 18 St.

DISCUSSION. This name is completely unidentifiable.

STATUS: **nomen nudum**.

variabilis (p.33, # 395)

ORIGINAL DESCRIPTION:

395|9 P. *Variabilis*. Die spielende Dattel. Gmel. V. Oliva.p.17. 7 St.

DISCUSSION. Gmelin's sp. 17 is *oliva*, a name preoccupied by *oliva* (L., 1758). This name is completely unidentifiable.

STATUS: **nomen nudum**.

Note. This is:

- *sanguinolenta* Lamarck, 1811 for BURCH & BURCH (1960).

- *reticulata* (Röding, 1798) for WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1969) and PETUCH & SARGENT (1986).

variegata (p.33, # 393)

ORIGINAL DESCRIPTION:

393|8 P. *Variegata*. Die schäckigte Dattel. Gmel.Voluta.Sp. 17.8. Martini 2.t.45.f.478.479. 24 St.

394| α Martini 2.t.45.f.480.481. Knorr 5.t.19.f.1. 5 St.

DISCUSSION. Martini's fig. 478 and 479 were previously utilised by Gmelin for *oliva*. Martini's figs. 480 and 481 were utilised by Gmelin for a variety of *oliva*, by Röding himself for *sepultura principis* (a nomen dubium) and later by Lamarck for *funeralis*. Knorr's figure (possibly *Conus aulicus*) had already been utilised for *oliva* and *oliva* var. by Gmelin; and also by Röding himself for *sepultura principis*. Gmelin's sp. 17 is *oliva* a name preoccupied by *oliva* (L., 1758).

STATUS: nomen dubium.

Note. This is:

- *sanguinolenta* Lam., 1811 for DAUTZENBERG (1927).

- *reticulata* (Röding, 1798) for WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1969), PETUCH & SARGENT (1986).

***vellus-aureum* (p.36, # 444)**

ORIGINAL DESCRIPTION:

444|38 P. *Vellus-aureum*. Das goldne Vliesz. Gmel.V.Oliva sp. 17.var.ess. Martini 2.t.46.f.490. 3 St.

DISCUSSION. Martini's fig. 490 was previously utilised by Gmelin for *oliva* var., a name preoccupied by *oliva* (L., 1758). The figure could represent *reticularis* as well as *spicata* or even another species.

STATUS: nomen dubium.

Note. This is probably *oliva* (L., 1758) for WAGNER & ABBOTT (1978)

***vidua* (p.34, # 412)**

ORIGINAL DESCRIPTION:

412|20 P. *Vidua* Die ungarische Wittwe. Gmel.V.sp. 17. Martini 2.t.45. f.472.473. 17 St.

413| α 1 St.

414| β 1 St.

DISCUSSION. Martini's figures have been previously utilised by Gmelin for *oliva*, a name preoccupied by Linnaeus, 1758. They were later utilised by Lamarck for *maura*. As both cited figures were utilised to establish *nigrita* (Karsten, 1789) we are reluctantly compelled to give priority to Karsten's name.

STATUS: objective junior synonym of *nigrita* Karsten, 1789.

Note. This name is *valid* according to BURCH & BURCH (1960), ZEIGLER & PORRECA (1969) PETUCH & SARGENT (1986).

***ziczac* (p.37, # 461)**

ORIGINAL DESCRIPTION:

461|52 P. *Ziczac*. Die Ziczac Dattel. 4 St.

DISCUSSION. This name is completely unidentifiable.

STATUS: nomen nudum.

9. The *Oliva* of Link, 1807.

In his *Beschreibung*, Link introduces the new names *coerulea* (not *caerulea*), *fusca*, *miniata*, *taeniata* and *tentorium*. The name *aurata* also has to be considered, since *aurata* (Röding, 1798) is a *nomen nudum* and therefore remains available.

The *Oliva* of Link are all grouped in the genus *Porphyria*, and in citations of these species, the name of the author should thus been enclosed in parentheses (Code, art. 51 c).

***aurata* (p. 97)**

ORIGINAL DESCRIPTION:

P. *aurata*. Gelbmündige D. Mart.Conch. 2.t.46.f.491,492. Unterscheidet sich von allen übrigen durch die gelbe Mündung; nähert sich sonst in allen Stücken sehr der vorigen (note: this refers to *coerulea*).

DISCUSSION. The two Martini figures have already been used by Röding for *amethystina*.

STATUS: objective junior synonym of *amethystina* (Röding, 1798).

Note. This is a color form of *bulbosa* (Röding, 1798) for PETUCH & SARGENT (1986)

***coerulea* (p. 97)**

ORIGINAL DESCRIPTION:

P. *coerulea*. Kamelot D. Bolt. Verz. p. 33. γ. *Oliva* α. Linn. Gm. l. c. Mart. Conch. 2. t. 48. f. 515. 516. Unterscheidet sich von allen übrigen durch die blaue Mündung, auch ist viel Blau in

der Zeichnung. Die Grösse ist nicht viel über ein Zoll; die kleinern weichen etwas in der Form ab. Die zweite Windung ist wenig oder gar nicht aufwärts getrümmet. Immer ist sie schmal.

DISCUSSION. Although the cited figures of Martini are not convincing, the explicit reference to the Bolten Catalogue and the description point to *caerulea* (Röding, 1798).

STATUS: **incorrect spelling** for *caerulea* (Röding, 1798).

fusca (p. 95)

ORIGINAL DESCRIPTION:

P. fusca. Zigeuner D. V.Oliva ε Linn.Gm.l.c. Mart. Conch.2.t.47. f.501. Gelblich braun; die zweite Mündung stark aufwärts gebogen.

DISCUSSION. *O. fusca* (Link, 1807) is a homonym of *fusca* Fischer, 1807. We know the exact date of publication neither of the *Museum Demidoff* (Fischer, 1807) nor of the *Beschreibung* (Link, 1807) and we are thus unable to decide on priority. The Martini figure had already been used for a variety of *O. oliva* by Gmelin. This figure depicts the orange variety of *nigrita* (Karsten, 1789) (see Pl. 9, fig. 3 of Zeigler & Porreca, as *vidua* Röding, 1798).

STATUS: **subjective junior synonym** of *nigrita* (Karsten, 1789).

Note. This is:

- *oliva* (L., 1758) for BURCH & BURCH (1960).
- *vidua* (Röding, 1798) for WAGNER & ABBOTT (1978), PETUCH & SARGENT (1986).

miniata (p. 95)

ORIGINAL DESCRIPTION:

P. miniata. Morgenroth D. Bolt. Verz. p.33. Porphyria β Linn.l.c. Mart. Conch. 2. t.45. f.476.477. Kenntlich an der rothen Mündung.

DISCUSSION. Both Martini figures had already been used by Röding for *miniacea*.

STATUS: **objective junior synonym** of *miniacea* (Röding, 1798).

taeniata (p. 98)

ORIGINAL DESCRIPTION:

P. taeniata. Bandirte D. Mart. Conch. 2. t.49. f.530. Vielleicht nur eine Abänderung der vorigen (this is *ispidula*), von der sie sich allein durch das dunkle, einfarbige Querband am obern Ende der ersten Windung unterscheidet.

DISCUSSION. The Martini figure had already been used by Röding for *ispida*.

STATUS: **objective junior synonym** of *ispida* (Röding, 1798).

Note. This is:

- *ispidula* (L., 1758) according to BURCH & BURCH (1960).
- a form of *oliva* (L., 1758) for WAGNER & ABBOTT (1978) and ZEIGLER & PORRECA (1969).
- a subspecies of *oliva* (L., 1758) for PETUCH & SARGENT (1986)

tentorium (p. 95)

ORIGINAL DESCRIPTION:

P. tentorium. Portobello D. V.Porphyria Linn. Gm.p.3438. Mart. Conch.2 t.46. f.485.486. Das türkische Zelt.

DISCUSSION. One should note that Röding also used the vernacular "Portobello-Dattel" for *porphyria* (species 386). Both Martini figures clearly depict *porphyria* (L., 1758) and had indeed been utilised in the original description by Linnaeus.

STATUS: **objective junior synonym** of *porphyria* (L., 1758).

Note. This is spelled "*tentoria*" by BURCH & BURCH (1960) and PETUCH & SARGENT (1986).

10. The *Oliva* of Fischer, 1807.

G. Fischer von Waldheim described in the *Museum Demidoff* (in French) a collection given by Paul de Demidoff to the Imperial University of Moscow. This collection, long thought lost during the siege of Moscow by Napoleon, has been recently retrieved (IVANOV & KANTOR, 1991).

The species considered new by Fischer are marked by "*m.*" or "*mihi*". Fischer is the first author to have placed all his species in the genus *Oliva*. Fischer, a generally accepted author, appears however not to be consistently binominal, describing some species (e.g. the "Olive lettrée" only by vernacular names).

***fusca* (p. 160, # 19-30)**

ORIGINAL DESCRIPTION:

19. 20. L'olive nègre, unie; la base de la spire recourbée, la columelle obliquement striée.

Oliva fusca m.

Voluta oliva Lin. Gm. 3439.17. Bosc.5.37. Martini 2.t.45.f.472-473. Knorr.5.t.28.f.6. - se trouve dans la mer des Indes.

21. β. l' **Olive** à robe brune plus claire avec des raies transversales plus foncées.

22-25. γ. l' **Olive** à robe brun - clair passant au rouge ou au jaune.

26. δ. l' **Olive** à robe brune avec une bande ou zone, au milieu, tachetée de noir.

27. 28. ε. l' **Olive** brune à stries longitudinales plus foncées.

29. ζ. l' **Olive** blanchâtre avec des taches irrégulières couleur d'olive.

30. θ. l' Olive verdâtre avec des desseins en zigzag.

DISCUSSION. *O. fusca* Fischer, 1807 is a homonym of *fusca* (Link, 1807). We know the exact date of publication neither of the *Museum Demidoff* (Fischer, 1807) nor of the *Beschreibung* (Link, 1807) and we are thus unable to decide on priority. Bosc refers to a vast assortment of entirely unrelated Olives. This species is represented in Moscow by a series. The lectotype selected by IVANOV & KANTOR (1991) was identified as *vidua* (Röding, 1798), an objective junior synonym of *nigrita* (Karsten, 1789).

STATUS: subjective junior synonym of *nigrita* (Karsten, 1789).

Note. This is *oliva* (L., 1758) according to BURCH & BURCH (1960) and WAGNER & ABBOTT (1978).

***guttata* (p.162, # 133)**

ORIGINAL DESCRIPTION:

133. **Olive Girol**, Alongée, lisse, la spire courte et lisse, la bouche très ouverte et violette.

***Oliva guttata* mihi.** Elle a été figurée par Lister 720.6. Martini 2. p. 161. t. 46. 493. 494. le **Girol** d' Adanson p. 61. Pl. 4. f. 6. -La partie en est inconnue.

DISCUSSION. The specimen of *guttata* in the collection is said to have been lost before 1872 (IVANOV, D.L. & Yu. KANTOR, 1991). The figure of Adanson is not clearly recognisable. Figs. 472-473 of Martini were utilised for *olivacea* (Karsten, 1789), an earlier name for *tessellata* Lamarck, 1811 (who indeed refers to the same figures). The figure of Lister, as well as the description agree with that identification.

STATUS: objective junior synonym of *olivacea* (Karsten, 1789).

Note. This is:

- *annulata* (Gmelin, 1791) according to BURCH & BURCH (1960) and WAGNER & ABBOTT (1978).

- a color form of *annulata* (Gmelin, 1791) for PETUCH & SARGENT (1986).

***plicata* (p. 161, # 90-92)**

ORIGINAL DESCRIPTION:

90. L'olive bossue Ovale unie, le second tour de la spire enfoncé, trois plis distincts de la columelle, dont le premier très élevé.

***Oliva plicata* mihi.** Je n'en connois pas de figure.

Elle est ovale, blanche ou verdâtre, ponctuée de brun de différente manière. La lèvre est épaisse, distante dans toute sa longueur.

Elle est de la grandeur de l' *Olive nègre*.

91. Variété de la même, jaune ponctuée de brun.

La patrie en est inconnue.

DISCUSSION. The specimen of *plicata* in the collection is said to have been lost before 1872 (IVANOV & KANTOR, 1991). This name is unidentifiable and might even not apply to an *Oliva*.

STATUS: *nomen dubium*.

One should also consider Fischer's *ispidula*, this name being still available for an *Oliva* since *ispidula* (L., 1758) has been shown not to belong to this genus). The specimen of *ispidula* in the collection is said to have been lost before 1872 (IVANOV & KANTOR, 1991). The argument used in the case of Born also applies here. The first reference for this species is "*Voluta ispidula* Gmel. 3442. n. 23". This is *ispidula* L. and it can be concluded that Fischer refers to the species already described by Linnaeus.

11. The *Oliva* of Montfort, 1808.

In his *Conchyliologie Systématique*, Denys de Montfort did not describe species, but only genera. For the genus *Oliva*, he chose for type species *Oliva panamensis*.

panamensis (p. 387)

ORIGINAL DESCRIPTION:

Olive de Panama. Oliva panamensis seu porphyrius.

Voluta porphyria Linn. sp. 61...etc..

(follows a long list of references, previous illustrations, the names in different languages, and a description).

DISCUSSION. The explicit reference to *porphyria* (L., 1758), the cited illustrations and the description leave no doubt whatsoever on the identity of the species. It is evident that the author himself considered that the two names *porphyria* and *panamensis* apply to the same animal.

STATUS: Objective junior synonym of *porphyria* (L., 1758).

12. The *Oliva* of Perry, 1811.

In his *Conchology*, Perry introduced three new names. The five *Oliva* illustrations of Perry are quite stylized and some features are obviously exaggerated. Perry gave no references and did not cite previous illustrations.

porphyracea (Pl. 41)

ORIGINAL DESCRIPTION:

No. 2. OLIVA PORPHYRACEA. *Shell* dark purple and white, having three belts or circles enveloping the body; the *spire* also variegated with dark purple spots; the *mouth* red. From a shell in the Museum of Mr. Latham.

DISCUSSION. The illustration and the description are quite compatible with the Pacific form of *O. miniacea* (Röding, 1798).

STATUS: subjective junior synonym of *miniacea* (Röding, 1798).

Note. This is *porphyria* (L., 1758) according to WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1978), PETUCH & SARGENT (1986).

leveriana (Pl. 41)

ORIGINAL DESCRIPTION:

No. 3. OLIVA LEVERIANA. *Shell* of a pale purple and gray, richly studded and adorned with a close net pattern, inclosing the whole body; the *columella* covered with small branched flutings of a white colour, the general colour of the pattern a reddish pink, formed into angular marks. From a shell formerly in the Museum of the late Sir Ashton Lever, in honour of whose zeal for the promotion of natural history and the sciences, I have taken this opportunity of naming it.

DISCUSSION. The drawing and the description leave no doubt that this is *porphyria* (L., 1758).

STATUS: subjective junior synonym of *porphyria* (L., 1758).

subviridis (Pl. 41)

ORIGINAL DESCRIPTION:

No. 5. OLIVA SUBVIRIDIS. *Shell* of an olive green, interspersed with curious marks of dark brown, placed in the form of belts; the *mouth* gray, the girdle at the base of a rich brown colour. From a shell in the collection of Mr. Jennings of Chelsea, and supposed to be a native of the southern hemisphere.

DISCUSSION. By a stretch of imagination, one could interpret the description and the rather

caricatural figure as depicting a specimen of either *elegans* Lamarck, 1811, *reticulata* (Röding, 1798) or even *tricolor* Lamarck, 1811.

STATUS: nomen dubium.

Note. This is a color form of *tricolor* Lamarck, 1811 according to PETUCH & SARGENT (1986)

zigzag (Pl. 41)

ORIGINAL DESCRIPTION:

No. 4. OLIVA ZIGZAG. *Shell* pale yellow, thickly interspersed with brownish lines in an irregular and waving pattern, from whence its name; the *mouth* and girdle at the base of a strong orange colour. A native of Ceylon.

DISCUSSION. The drawing and the description leave no doubt that this is *reticulata* (Röding, 1798).

STATUS: subjective junior synonym of *reticulata* (Röding, 1798).

Note. This is:

- a variety of *sanguinolenta* Lamarck, 1811 for DAUTZENBERG (1927).

- a color form of *reticulata* (Röding, 1798) according to WAGNER & ABBOTT (1978), ZEIGLER & PORRECA (1969), PETUCH & SARGENT (1986).

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Index to the names.

valid names are in **bold**.

amethystina (Röding, 1798): valid.

amoena (Röding, 1798): nomen nudum.

annulata (Gmelin, 1791): nomen dubium.

arachnoidea (Röding, 1798): objective synonym of *spicata* (Röding, 1798).

aurata (Röding, 1798): nomen nudum.

aurata (Link, 1807): objective junior synonym of *amethystina* (Röding, 1798).

aurora (Solander in Dillwyn, 1817): manuscript name.

baltheata (Solander in Dillwyn, 1817): manuscript name.

bulbosa (Röding, 1798): valid.

caerulea (Röding, 1798): valid.

carneola (Gmelin, 1791): valid.

carneolus (Gmelin, 1791): incorrect original spelling of *carneola* (Gmelin, 1791).

cingulata (Röding, 1798): nomen nudum.

coerulea (Link, 1807): incorrect spelling for *caerulea* (Röding, 1798).

coffea (Röding, 1798): objective junior synonym of *carneola* Gmelin, 1791.

conoidea (Röding, 1798): nomen nudum.

cornea (Röding, 1798): nomen nudum.

crassa (Gmelin, 1791): not an *Oliva*.

cruenta (Solander in Dillwyn, 1817): manuscript name.

dealbata (Röding, 1798): nomen dubium.

fenestrata (Röding, 1798): nomen dubium.

fasciata (sp. 387, Röding, 1798): subj. junior synonym of *porphyria* (L., 1758).

fasciata (sp. 411, Röding, 1798): junior homonym of *fasciata* (sp. 387, Röding, 1798).

fimbriata (Röding, 1798): nomen nudum.

fulgurator (Röding, 1798): valid.

fusca Fischer, 1807: subjective junior synonym of *nigrita* (Karsten, 1789).

fusca (Link, 1807): subjective junior synonym of *nigrita* (Karsten, 1789)

griseola (Röding, 1798): nomen nudum.

guttata Fischer, 1807: objective junior synonym of *olivacea* (Karsten, 1789).

hepatica (Röding, 1798): nomen nudum.
incrassata (Lightfoot, 1786): valid.
"O intertincta Röding, 1798" (in Wagner & Abbott, 1978): not of Röding.
isabella (Röding, 1798): nomen nudum.
ispida (Röding, 1798): nomen dubium.
ispidula (L., 1758): not an *Oliva*.
ispidula (Abel, 1787): non binominal.
ispidula (Born, 1778): junior homonym of *ispidula* (L., 1758).
ispidula (Schröter, 1782): junior homonym of *ispidula* (L., 1758).
ispidula (Gmelin, 1791): junior homonym of *ispidula* (L., 1758).
ispidula Fischer, 1807: junior homonym of *ispidula* (L., 1758).
labradoriensis (Röding, 1798): nomen dubium.
"leucophaea Gmelin" (in Mörch, 1850): not of Gmelin.
leveriana Perry, 1811: subjective junior synonym of *porphyria* (L., 1758).
litterata (Röding, 1798): nomen dubium.
maculata (Solander in Dillwyn, 1817): manuscript name.
mauritana (Abel, 1789): non binominal.
mica (Röding, 1798): nomen dubium.
miniacea (Röding, 1798): valid.
miniata (Link, 1807): objective junior synonym of *miniacea* (Röding, 1798).
nigrita (Karsten, 1789): valid.
oculata (Röding, 1798): nomen nudum.
oliva (L., 1758): valid.
olivacea (Karsten, 1789): valid.
ornata (Röding, 1798): nomen nudum.
paleacea (Röding, 1798): nomen nudum.
panamensis Montfort, 1808: objective junior synonym of *porphyria* (L., 1758).
papyracea (Röding, 1798): nomen nudum.
plicata Fischer, 1807: nomen dubium.
porphyracea Perry, 1811: subj. junior syn. of *O. miniacea* (Röding, 1798)
porphyria (L., 1758): valid.
porphyrea (Abel, 1789): non binominal.
punctata (Röding, 1798): nomen nudum.
quercina (Röding, 1798): nomen nudum.
reticulata (Abel, 1789): non binominal.
reticulata (Röding, 1798): valid.
ruffina (Gmelin, 1791): not an *Oliva*.

ruffina (Röding, 1798): nomen nudum.
sepultura principis (Abel, 1789): non binominal.
sepultura principis (Röding, 1798): nomen dubium.
sericea (Röding, 1798): valid.
spicata (Röding, 1798): valid.
subviridis Perry, 1811: nomen dubium.
taeniata (Link, 1807): objective junior synonym of *ispida* (Röding, 1798).
tentorium (Link, 1807): objective junior synonym of *porphyria* (L., 1758).
tessellata Lamarck, 1811: objective junior synonym of *olivacea* (Karsten, 1789).
textilis (Röding, 1798): nomen nudum.
tigris (Röding, 1798): nomen nudum.
tuberosa (Röding, 1798): subjective junior synonym of *bulbosa* (Röding, 1798).
tumida (Röding, 1798): nomen nudum.
turgida (Röding, 1798): nomen nudum.
umbrosa (Röding, 1798): nomen dubium.
undulata (Röding, 1798): nomen nudum.
variabilis (Röding, 1798): nomen nudum.
variegata (Röding, 1798): nomen dubium.
ventricosa (Solander in Dillwyn, 1817): manuscript name.
vellus aureum (Abel, 1789): non binominal.
vellus-aureum (Röding, 1798): nomen dubium.
vidua (Röding, 1798): objective junior synonym of *nigrita* (Karsten, 1789).
ziczac (Röding, 1798): nomen nudum.
zigzag Perry, 1811: subjective junior synonym of *reticulata* (Röding, 1798).

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The references to the figures are *verbatim* those used by the authors of the descriptions.

ADANSON

p. 61. Pl. 4. f. 6: *guttata* Fischer, 1807.

ARGENVILLE, d'

t. 16. f. K: *porphyria* (Linnaeus, 1758).

t. 16. f. R: *oliva* (Linnaeus, 1758).

GUALTIERI

t. 23. f B: *oliva* (Linnaeus, 1758).

t. 24. f. O: *porphyria* (Linnaeus, 1758).

t. 24. f. P: *porphyria* (Linnaeus, 1758).

KAEMMERER

t. 3. fig. 7: *tuberosa* (Röding, 1798).

t. 3. fig. 8: *tuberosa* (Röding, 1798).

KNORR

1. t. 15. f. 7: *umbrosa* (Röding, 1798).

2. t. 10. f 6: *amethystina* (Röding, 1798).

2. t. 10. f 7: *amethystina* (Röding, 1798).

3. t. 17. f. 3: *fasciata* (Röding, 1798).

3. t. 19. f. 3: *ispida* (Röding, 1798).

5. t. 19. f. 1: *sepultura principis* γ (Röding, 1798).

5. tab. 26. fig. 4: *quercina* (Röding, 1798).

5. t 26. f. 4: *sepultura principis* β (Röding, 1798).

5. t. 27. fig. 5: *quercina* β (Röding, 1798).

5. t. 28. f. 6: *fusca* (Fischer, 1807).

6. t. 34. f. 4: *dealbata* (Röding, 1798).

6. t. 34. f. 5: *dealbata* (Röding, 1798).

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4. f. 10. c. 1. t. 2: *oliva* (Linnaeus, 1758) (not seen)

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720. 6: *porphyria* (Linnaeus, 1758).

731. f. 20: *annulata* (Gmelin, 1791)

t. 746. f. 40: *tumida* (Röding, 1798).

MARTINI

tab. 45. fig. 472: *nigrita* (Karsten, 1789).

2. t. 45. f. 472: *fusca* (Fischer, 1807).

2. t. 45. f. 472: *vidua* (Röding, 1798).

tab. 45. fig. 473: *nigrita* (Karsten, 1789).

2. t. 45. f. 473: *vidua* (Röding, 1798).

2. t. 45. f. 473: *fusca* (Fischer, 1807).

2. t. 45. f. 476: *miniata* (Link 1807).

2. t. 45. f. 476: *miniacea* (Röding, 1798).

2. t. 45. f. 477: *miniata* (Link, 1807).

2. t. 45. f. 477: *miniacea* (Röding, 1798).

2. t. 45. f. 478: *variegata* (Röding, 1798).

2. t. 45. f. 479: *variegata* (Röding, 1798).

2. t. 45. f. 480: *variegata* α (Röding, 1798).

2. t. 45. f. 480: *sepultura principis* γ (Röding, 1798).

2. t. 45. f. 481: *variegata* α (Röding, 1798).

2. t. 45. f. 481: *sepultura principis* γ (Röding, 1798).

2. t. 46. f. 485: *tentorium* (Link, 1807).

2. t. 46. f. 486: *tentorium* (Link, 1807).

2. t. 46. f 488: *litterata* (Röding, 1798).

2. t. 46. f. 490: *vellus-aureum* (Röding, 1798).

2. t. 46. f. 491: *amethystina* (Röding, 1798).

2. t. 46. f. 491: *aurata* (Link, 1807).

2. t. 46. f. 492: *amethystina* (Röding, 1798).

2. t. 46. f. 492: *aurata* (Link, 1807).

T. 2. tab. 46. fig. 493: *olivacea* (Karsten, 1789).

2. p. 161. t. 46. 493: *guttata* Fischer, 1807.

T. 2. tab. 46. fig. 494: *olivacea* (Karsten, 1789).

2. p. 161. t. 46. 494: *guttata* Fischer, 1807.

2. t. 46. f. 495: *carneolus* (Gmelin, 1791)

2. t. 46. f. 495: *coffea* (Röding, 1798).

Vol. II- f. 499: *incrassata* (Lightfoot, 1786).

Vol. II- f. 500: *incrassata* (Lightfoot, 1786).

T. 2. tab. 47. fig. 501: *nigrita* (Karsten, 1789).

2. t. 47. f. 501: *fusca* (Link, 1807).

2. t 47. f. 502: *fenestrata*, (Röding, 1798).

2. t 47. f. 507: *bulbosa* (Röding, 1798).

2. t 47. f. 508: *bulbosa* (Röding, 1798).

2. t 48. f. 509: *spicata* (Röding, 1798)

2. t 48. f. 509: *arachnoidea* (Röding, 1798).

2 t. 48. f. 510: *spicata* (Röding, 1798).

2. t 48. f. 510: *arachnoidea* (Röding, 1798).

2. t 48. f. 512: *reticulata* (Röding, 1798).

2. t. 48. f. 515: *coerulea* (Link, 1807).

2. t. 48. f. 516: *coerulea* (Link, 1807).

2. t 48. f. 518: *caerulea* (Röding, 1798).

2. t. 49. f. 522: *ispida* β (Röding, 1798).

2. t. 49. f. 523: *ispida* β (Röding, 1798).

2. t. 49. f. 524: *ispida* (Röding, 1798).

2. t. 49. f. 525: *ispida* (Röding, 1798).

2. t. 49 f. 527: *mica* var α (Röding, 1798).

2. t. 49 f. 528: *mica* var α (Röding, 1798).

2. t. 49 f. 529: *mica* var α (Röding, 1798).

2. t. 49. f. 530: *ispida* (Röding, 1798).
 2. t. 49. f. 530: *taeniata* (Link, 1807).
 2. t. 48. f. 533: *reticulata* (Röding, 1798).
 (note: fig. 533 is in Pl. 49!).
 2. t. 49. f. 535: *ispida* α (Röding, 1798).
 2. t. 49. f. 537: *umbrosa* (Röding, 1798).
 2. t. 51. f. 559: *sericea* (Röding, 1798).
 2. t. 51. f. 561: *sericea* (Röding, 1798).
 2. t. 51. f. 562: *fulgurator* (Röding, 1798).
 2. t. 51. f. 563: *sepultura principis* β
 (Röding, 1798).
 2. t. 51. f. 564: *annulata* (Gmelin, 1791)

PETIVER, Gazophil., 1767.

- t. 59. f. 8: *ispidula* (Linnaeus, 1758).

REGENFUSS

2. t. I. f. 2: *oliva* (Linnaeus, 1758).
 8. t. 2. f. 15: *porphyria* (Linnaeus, 1758).

RUMPHIUS

- t. 39. f. 1: *porphyria* (Linnaeus, 1758).
 t. 39. f. 2: *oliva* (Linnaeus, 1758).
 t. 39. f. 3: *oliva* (Linnaeus, 1758).
 t. 39. f. 4: *oliva* (Linnaeus, 1758).
 t. 39. f. 4: *sepultura principis* (Röding, 1798).
 t. 39. f. 5: *oliva* (Linnaeus, 1758).
 t. 39. f. 5: *caerulea* (Röding, 1798).
 t. 39. f. 6: *ispidula* (Linnaeus, 1758).
 t. 39. f. 7: *ispidula* (Linnaeus, 1758).

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