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With kindest regards,

22476



Type specimens of Pectinidae (Mollusca: Bivalvia) described by Linnaeus (1758–1771)

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Linnaeus listed and described (as *Ostrea* species) 20 recent pectinid species in the 10th edition of his *Systema Naturae* and one pectinid species in his *Mantissa*. These are now placed in 17 genera of the family Pectinidae. Nine species are cited to Museum Ludovicae Ulricaе. Ten primary types are present in the Linnean Society of London, and the same number in the Zoological Museum of the Uppsala University. Two lectotypes were designated recently by Smith and Waller; 18 lectotypes and one neotype are selected herein. Nine of the species are type species of currently accepted pectinid genera. Seven new type localities are also designated for species which had unknown or erroneous type localities, and six are more restricted. Potential type material of eight species is also traced in the Gualtieri collection of the Museo di Storia Naturale e del Territorio at Certosi di Calci (Italy).

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ADDITIONAL KEY WORDS:—taxonomy – nomenclature – pectinids.

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INTRODUCTION

Carl Linnaeus (1707–1778) entered the University of Lund in August 1727, and attended the lectures of Dr Kilian Stobaeus (1690–1742), an eminent physician and naturalist. He stimulated Linnaeus and showed him his private collections of ‘naturalia’. Linnaeus soon began to make similar collections for himself, including shells. His private collections were moved to Hammarby, where he built a museum, which was finished in 1769.

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Carl Linnaeus the younger (1741–1783) inherited the library and the collections of ‘naturalia’ of his father, and supplied further natural objects (Dance, 1967). After his death in November 1783, the collections became the property of his mother, who sold them in 1784 to James Edward Smith (1759–1828), an English medical student and naturalist (Jackson, 1923). He retained them until he died. In 1829 his wife sold them to the Linnean Society of London. Among them were 1564 specimens of molluscs. The Linnaean molluscan collection is still preserved in a specially constructed strongroom in Burlington House by the Linnean Society of London (Stearn & Bridson, 1978).

In 1750 Adolphus Frederic and Louise Ulrica succeeded to the throne in Sweden. Both were interested in ‘naturalia’ and on several occasions from 1750 to 1752 natural objects were purchased from Dutch collectors. The King’s Museum at Ulriksdal consisted chiefly of Vertebrata and the Queen’s Museum at Drottningholm comprised Insecta, Mollusca, Crustacea, corals and Echinodermata (Löwegren, 1952, 1960).

In 1751 Linnaeus was invited to arrange the royal collections and for each collection an illustrated publication was planned under his authorship. He visited Drottningholm several times in 1751 and 1752 and the manuscript of the *Museum Ludovicae Ulricae* was ready for printing in 1753, but was deferred indefinitely due to financial circumstances. The figures ‘en gouache’ prepared by Hermann Conrad von Krus and Nicolas Lafrensen were never published and are now preserved in the library of the Royal Swedish Academy of Sciences at Stockholm. In 1764 after a delay of a decade, the manuscript was finally published.

In 1771 the King’s collections went to Drottningholm and Olaus Swartz, an eminent botanist at Uppsala, was appointed to take care of them before they were donated to the University of Uppsala in 1803 by Gustavus IV Adolphus, grandson of Louise Ulrica. Under the supervision of Carl Peter Thunberg, a disciple of Linnaeus, the collections were stored in the buildings of the museum in the Botanical Garden, and afterwards labelled and catalogued (Lovén, 1887). These collections are now housed in the Zoological Museum of the University of Uppsala.

ABBREVIATIONS

Institutions

BMNH, Natural History Museum, London. EFCC, Epping Forest Conservation Centre, Loughton. ICZN, International Code of Zoological Nomenclature. GNS, Institute of Geological & Nuclear Sciences, Lower Hutt. LSL, Linnean Society of London. MLU, Museum Ludovicae Ulricae. MHNG, Muséum d’Histoire Naturelle, Geneva. MNG, Museum der Natur, Gotha. MNHN, Muséum National d’Histoire Naturelle, Paris. MSNP, Museo di Storia Naturale e del Territorio, Calci. NMNH, National Museum of Natural History, Washington, DC. NNM, National Natuurhistorisch Museum, Naturalis, Leiden. RSAS, Royal Swedish Academy of Sciences, Stockholm. SMNH, Swedish Museum of Natural History, Stockholm. UCMP, University of California, Museum of Paleontology, Berkeley. UUZM, University of Uppsala, Zoological Museum, Uppsala. ZMA, Zoologisch Museum, Amsterdam. ZMUC, Zoologisk Museum, Copenhagen.

Specimen details

H, height

W, width

lv, left valve

rv, right valve

spm, a pair of matching valves.

MATERIAL AND METHODS

This paper deals with the type material of Pectinidae, described by Linnaeus in the tenth edition of his *Systema Naturae* (1758) and the *Mantissa* (1771), examined in the years 1987, 1989, 1996 (LSL), 1990 (UUZM) and (MSNP), together with the manuscript paintings of von Krus and Lafrensen (RSAS). References to works cited by Linnaeus, owned by himself (LSL), are studied and compared with the original text. Original descriptions from the 10th and 12th editions are compared with the MLU. Pectinid material in both collections (LSL, UUZM) has been inspected carefully for potential type material. Manuscripts of Linnaeus and subsequent authors together with notes (Thunberg, 1828; North, 1951; Odhner, 1953; Morris, 1987) have been consulted for additional information. Specimens have been photographed, measured (not all the possible paralectotypes in the general collection of the UUZM, referred to by Wallin), and observed for written ink-marks. Autoreferences of Linnaeus, additional references of subsequent authors and synonyms are enumerated herein. Type specimens (selected or not selected by previous workers) and other material (LSL, UUZM) are discussed, and current taxonomic positions are given. Comparative pectinid material has been studied in the collections of the main museums of Europe and Australia.

Hanley (1855) was the first conchologist who studied and re-ordered the molluscan material of Linnaeus in the LSL. According to Dance (1967) Hanley's rearrangement was not always correct and was rather uncritical. In 1913 Jackson published a catalogue of Linnaean and non-Linnaean material of the LSL, without isolating the Linnaean pectinid specimens from the non-Linnaean specimens. Dodge (1952, 1959) studied the original descriptions of the Linnaean Mollusca extensively but did not examine the collections in the LSL and the UUZM. Subsequently, Dance (1967) re-studied the molluscan collection of the LSL (Linnaean and non-Linnaean material), on historical principles. In 1963 he segregated all those specimens which he considered could have been owned by Linnaeus. In his opinion many specimens in the so-called Linnaean shell collection never did form part of his collection and should not be automatically regarded as potential type material, no matter how convenient it may be to so regard them (Dance, 1967, and pers. comm. 1995).

The second collection, studied by Linnaeus, is that of the royal Swedish family (MLU), now housed in the UUZM (Table 1). Lovén (1887) described the history of the MLU and mentioned that Linnaeus did not label this collection. Possibly he only numbered some specimens in accordance with his ordering system of the royal collection (see herein). Subsequently, Swartz and Thunberg provided printed and handwritten labels for the collection (see Table 2). Holm (1957) also described the MLU collections, including the smaller collections at Uppsala. Odhner (1953) catalogued the Linnaean species in the UUZM, with remarks on their current

TABLE 1. References to Pectinidae of the Gustaf VI Adolf (GA) and Carl XIII (C) collections donated to the UUZM

Species	Thunberg 1804	Thunberg 1820	Thunberg 1828
<i>O. maxima</i>	GA	C	GA+C
<i>O. jacobaea</i>	GA	C	GA+C
<i>O. ziczac</i>	GA	C	GA+C
<i>O. striatula</i>	-	-	-
<i>O. minuta</i>	-	C	C
<i>O. pleuronectes</i>	-	C	C
<i>O. obliterated</i>	GA	C	C
<i>O. radula</i>	GA	C	GA+C
<i>O. plica</i>	GA	C	GA+C
<i>O. pallium</i>	-	C	C
<i>O. nodosa</i>	GA	C	GA+C
<i>O. pesfelis</i>	-	-	-
<i>O. pellucens</i>	-	C	C
<i>O. sanguinea</i>	-	C	C
<i>O. varia</i>	GA	C	GA+C
<i>O. pusio</i>	-	C	C
<i>O. glabra</i>	GA	C	GA+C
<i>O. opercularis</i>	GA	C	GA+C
<i>O. gibba</i>	-	C	C
<i>O. flavicans</i>	GA	-	GA
<i>O. pestlutrae</i>	-	-	-

TABLE 2. Labels of Swartz (printed name labels) and Thunberg (written name and collection labels) belonging to the Gustav IV Adolf (GA) and/or Carl XIII (C) collections

Species	Swartz (printed)	Thunberg (written)	GA (written)	GA/C (?)	C
<i>O. maxima</i>	+	+	+	+	
<i>O. jacobaea</i>	-	+	+	-	+
<i>O. ziczac</i>	-	+	+	-	
<i>O. striatula</i>	-	+	-	+	
<i>O. minuta</i>	-	+	-	+	
<i>O. pleuronectes</i>	+	-	-	+	
<i>O. obliterated</i>	+	+	+	+	
<i>O. radula</i>	+	+	+	+	
<i>O. plica</i>	+	-	+	+	-
<i>O. pallium</i>	+	-	-	+	
<i>O. nodosa</i>	+	+	+	+	
<i>O. pesfelis</i>	+	-	-	+	-
<i>O. pellucens</i>	+	+	+	+	
<i>O. sanguinea</i>	+	-	-	+	+
<i>O. varia</i>	+	-	-	+	
<i>O. pusio</i>	+	-	-	+	
<i>O. glabra</i>	+	-	+	+	-
<i>O. opercularis</i>	+	-	-	+	
<i>O. gibba</i>	-	-	-	+	-
<i>O. flavicans</i>	+	-	-	+	-
<i>O. pestlutrae</i>	-	-	-	-	-

systematic status. Subsequently Wallin (1991, 1993) compiled a catalogue of the type specimens of Linnaeus, with a historical survey and background of the collections housed in the UUZM.

Studies based on parts of the Linnaean collections are provided by Kohn (1963, 1991, 1992), Olsson & Dance (1966), Schilder (1966), Cernohorsky (1969), Nelson & Pain (1986) and Kabat (1990).

In the 10th edition of the *Systema* Linnaeus described 20 species of Pectinidae as *Ostrea* species and divided them into three infrageneric categories: “* Pectines auriculati, aequilateres” [=pectinids with equal ears: 8 species], “** Pectines auricula altera intus ciliato-spinosa” [=pectinids with one ear on interior many spines: 11 species], and “*** Pectines valvulis altero latero magis gibbis” [=pectinids with one valve more convex: 1 species]. These currently are placed into 17 genera of the family Pectinidae (see Table 3). Possible potential types are present in both collections (LSL, UUZM), and are discussed herein. Ten primary types are present in the LSL, and also ten in the UUZM. Type material of *Ostrea gibba* is of uncertain status. Lectotypes of *Ostrea nodosa* and *Ostrea pusio* were designated recently by Smith (1991) and Waller (1993) respectively, and 18 lectotypes are selected herein. Nine of the species are type species of currently accepted pectinid genera. Seven new type localities are also designated for species which had unknown or erroneous type localities, and six have been more restricted. *Ostrea opercularis* is figured by Dance (1967: pl. 2, figs 3, 4).

Several described species are based on pectinids in Linnaeus' private collection, others on pectinids in the collection of Queen Ulrica, or in both (see Table 4).

The descriptive catalogue of the *Museum Ludovicae Ulricae* (MLU) was ready for printing in 1754, but was not published until 1764 (Dodge, 1959: 176). Linnaeus (1758) often cited this catalogue (see Table 5). It provides supplementary references and descriptions for several species described in the 10th edition and is, therefore, of great importance. It is noteworthy that Linnaeus did not mention a type locality for any of the species in the MLU (1764), in contrast to the 10th (1758) and 12th (1767) editions of the *Systema Naturae*, where type localities are stated. Hanley (1859) compared the manuscript of the MLU, housed at the Linnean Society of London, with the printed version and enumerated several discrepancies in the descriptions of the species.

Publications that Linnaeus mentioned in the 10th edition (1758) and the MLU (1764) (Dance, 1967: 11) and which belonged to him are at the Linnean Society of London, and the Royal Swedish Academy of Sciences at Stockholm, respectively. The most important ones for the pectinids are Rumphius (1705) (his favourite), Argenville (1742) and Gualtieri (1742); 11 species are cited in all. Only one pectinid species is described in the *Mantissa* (Linnaeus, 1771). No additional species were described by Linnaeus (1767).

Ten pectinid species are cited by Linnaeus (1758, 1771) to Gualtieri (1742). Potential type specimens (paralectotypes) of eight species were traced in the Gualtieri collection (MSNT) during a visit to Calci in November 1990.

The pectinid species described by Linnaeus (1758, 1771) are recorded from the following regions: eastern Atlantic (nine species), western Atlantic (three species) and the Indo-Pacific (nine species). The type localities mentioned by Linnaeus are mostly used in the broadest sense (and herein more restricted) or are incorrect and have been emended here. The figures are grouped at the end of the paper, pp. 434–443.

TABLE 3. Linnaeus' new taxa of Pectinidae

Taxon	Current combination	Primary types (LSL, UUZM)	Remarks
<i>O. maxima</i>	<i>Pecten maximus</i> (Linnaeus, 1758)	lectotype (LSL)	Type species of <i>Pecten</i> Müller, 1776
<i>O. jacobaea</i>	<i>Pecten jacobaeus</i> (Linnaeus, 1758)	lectotype (UUZM)	
<i>O. ziczac</i>	<i>Euvola ziczac</i> (Linnaeus, 1758)	lectotype (UUZM)	Type species of <i>Euvola</i> Dall, 1898
<i>O. striatula</i>	<i>Annachlamys striatula</i> (Linnaeus, 1758)	lectotype (UUZM)	Senior synonym of <i>Pecten macassarensis</i> Chenu, 1845
<i>O. minuta</i>	<i>Haumea minuta</i> (Linnaeus, 1758)	lectotype (UUZM)	Senior synonym of <i>Pecten inaequivalvis</i> Sowerby, 1842
<i>O. pleuronectes</i>	<i>Amusium pleuronectes</i> (Linnaeus, 1758)	lectotype (LSL)	Type species of <i>Amusium</i> Röding, 1798
<i>O. obliterated</i>	<i>Amusium (Dentamussium) obliteratedum</i> (Linnaeus, 1758)	lectotype (UUZM)	Type species of <i>Amusium (Dentamussium)</i> Dijkstra, 1990
<i>O. radula</i>	<i>Decatopecten radula</i> (Linnaeus, 1758)	lectotype (UUZM)	
<i>O. plica</i>	<i>Decatopecten plica</i> (Linnaeus, 1758)	lectotype (LSL)	Type species of <i>Decatopecten</i> [Rüppell <i>in</i>] Sowerby, 1839
<i>O. pallium</i>	<i>Gloripallium pallium</i> (Linnaeus, 1758)	lectotype (LSL)	Type species of <i>Gloripallium</i> Iredale, 1939
<i>O. nodosa</i>	<i>Nodipecten nodosus</i> (Linnaeus, 1758)	lectotype (UUZM)	Type species of <i>Nodipecten</i> Dall, 1898 Designation of lectotype by J.T. Smith (1991: 93, pl. 4, 3-4)
<i>O. pesfelis</i>	<i>Manupecten pesfelis</i> (Linnaeus, 1758)	lectotype (LSL)	Type species of <i>Manupecten</i> Monterosato, 1889
<i>O. pellucens</i>	<i>Caribachlamys pellucens</i> (Linnaeus, 1758)	lectotype (UUZM)	Senior synonym of <i>Ostrea imbricata</i> Gmelin, 1791
<i>O. sanguinea</i>	<i>Mimachlamys sanguinea</i> (Linnaeus, 1758)	lectotype (LSL)	Senior synonym of <i>Ostrea senatoria</i> Gmelin, 1791
<i>O. varia</i>	<i>Mimachlamys varia</i> (Linnaeus, 1758)	lectotype (LSL)	
<i>O. pusio</i>	<i>Crassadoma pusio</i> (Linnaeus, 1758)	lectotype (LSL)	Designation of lectotype by Waller (1993: 215, not fig'd)
<i>O. glabra</i>	<i>Flexopecten glaber</i> (Linnaeus, 1758)	lectotype (UUZM)	Painted by H.C. von Krus (1775: pl. 39, fig. 10)
<i>O. opercularis</i>	<i>Aequipecten opercularis</i> (Linnaeus, 1758)	lectotype (LSL)	Type species of <i>Aequipecten</i> H. Fischer, 1886
<i>O. gibba</i>	<i>Argopecten gibbus</i> (Linnaeus, 1758)	neotype (UUZM)	Type material in LSL and UUZM uncertain; Browne's (1756: pl. 40, fig. 10) figure dubious
<i>O. flavicans</i>	<i>Semipallium flavicans</i> (Linnaeus, 1758)	lectotype (UUZM)	Painted by Lafrensen (?1755: fig. 17) Senior synonym of <i>Pecten tigris</i> Lamarck, 1819
<i>O. peslutrae</i>	<i>Pseudamussium peslutrae</i> (Linnaeus, 1771)	lectotype (LSL)	Senior synonym of <i>Pecten septemradiatus</i> Müller, 1776

TABLE 4. References to Pectinidae specimens in the UUZM and LSL: Hanley, 1855 (HA); Dance, 1963 (D); Odhner, 1953 (O); Holm, 1957 (HO); GC = General collection; MLU (1758) = MLU cited; MLU (1764) = + = present, - = absent, ? = doubtful

No.	Sp. no.	Species	LSL (HA)	LSL (D)	LSU (GC)	MLU (1758)	MLU (1764)	UUZM (HO)	UUZM (O)	UUZM (GC)
1.	154	<i>O. maxima</i>	+	+	+	-	+	+	+	+
2.	155	<i>O. jacobaea</i>	+	+	+	+	+	+	+	+
3.	156	<i>O. ziczac</i>	+	?	-	+	+	-	+	+
4.	157	<i>O. striatula</i>	-	-	-	+	+	-	-	+
5.	158	<i>O. minuta</i>	-	-	-	+	+	-	-	+
6.	159	<i>O. pleuronectes</i>	+	+	-	-	+	-	-	+
7.	160	<i>O. obliterata</i>	-	-	-	-	+	-	+	+
8.	161	<i>O. radula</i>	?	?	-	-	+	-	+	+
9.	162	<i>O. plica</i>	+	+	-	-	+	-	+	+
10.	163	<i>O. pallium</i>	+	+	+	-	+	+	-	+
11.	164	<i>O. nodosa</i>	+	+	?	-	+	+	+	+
12.	165	<i>O. pesfelis</i>	+	+	+	-	+	+	-	+
13.	166	<i>O. pellucens</i>	-	-	-	-	+	-	+	+
14.	167	<i>O. sanguinea</i>	+	+	+	-	+	+	-	+
15.	168	<i>O. varia</i>	+	+	+	-	+	+	-	+
16.	169	<i>O. pusio</i>	+	+	+	-	+	+	-	+
17.	170	<i>O. glabra</i>	+	+	+	-	+	-	+	+
18.	171	<i>O. opercularis</i>	+	+	+	+	-	+	-	+
19.	172	<i>O. gibba</i>	?	?	-	+	+	-	-	+
20.	173	<i>O. flavicans</i>	-	-	-	+	+	+	-	+
21.	-	<i>O. peslutrae</i>	-	-	+	-	-	-	-	-

N.B. Dance (1963) = Dance labelled the shells in 1963 together with his manuscript notes (LSL); Odhner (1953) = Odhner's identifications in his manuscript of 1953 (UUZM).

THE SPECIES

Ostrea maxima Linnaeus, 1758 (Fig. 1A, B)

Cited references

- Lister, 1678: pl. 5, fig. 29 (Linnaeus, 1758, 1767).
 Lister, 1685: pl. 161 [sic, = 163], fig. 1 (Linnaeus, 1758, 1767).
 Gualtieri, 1742: pl. 98, figs A, B (Linnaeus, 1758, 1764, 1767).
 Linnaeus, 1746: 1343 (Linnaeus, 1758), 2148 (Linnaeus, 1764).
 Linnaeus, 1758: 696, no. 154 (Linnaeus, 1764).
 Linnaeus, 1764: 522, no. 98 (Linnaeus, 1767).
 Linnaeus, 1767: 1144, no. 185.

Additional references

- Hanley, 1855: 102; 1859: 57; Sherborn, 1899: 57; North, 1951: 9; Dodge, 1952: 163; Odhner, 1953: 5; Holm, 1957: 17; Morris, 1987: 40; Wallin, 1993: 87.

Synonyms

Pecten vulgaris Da Costa, 1778: 140, pl. 9, fig. 3, living, coasts of Great Britain and Ireland.

Janira intermedia Schumacher, 1817: 118, pl. 3, fig. 4a,b, living, locality unknown.

TABLE 5. Citations of references and localities used in the 10th edition of the *Systema Naturae* (1758) and the *Mantissa* (1771)

Species	References	MLU cited	Localities
<i>O. maxima</i>	Lister (1685–92) Lister (1678) Gualtieri (1742) Linnaeus (1746)	MLU – – –	“Oceano Europaeo”
<i>O. jacobaea</i>	Gualtieri (1742) Regenfuss (1758) Bonanni (1684)	MLU – –	“M. Mediterraneo”
<i>O. ziczac</i>	–	MLU	“O. australiore”
<i>O. striatula</i>	–	MLU	“O. Indico”
<i>O. minuta</i>	–	MLU	“O. Indico”
<i>O. pleuronectes</i>	Bonanni (1684) Rumphius (1705) Gualtieri (1742) Argenville (1742) Klein (1753)	– – – – –	“Indiis”
<i>O. obliterata</i>	Gualtieri (1742)	–	“O. australiore”
<i>O. radula</i>	Rumphius (1705) Klein (1753)	– –	“O. Indico”
<i>O. plica</i>	Rumphius (1705) Argenville (1742)	– –	“O. Indico”
<i>O. pallium</i>	Rumphius (1705) Gualtieri (1742) Argenville (1742) Regenfuss (1758)	– – – –	“O. australiore & Indico”
<i>O. nodosa</i>	Bonanni (1684) Rumphius (1705) Gualtieri (1742) Argenville (1742)	– – – –	“O. Africano & Indico”
<i>O. pefelis</i>	–	–	“O. Africano”
<i>O. pellucens</i>	Argenville (1742)	–	“O. australiore”
<i>O. sanguinea</i>	Gualtieri (1742)	–	“O. australiore”
<i>O. varia</i>	–	–	“O. australiore”
<i>O. pusio</i>	–	–	“O. australiore”
<i>O. glabra</i>	Gualtieri (1742) Regenfuss (1758)	MLU –	“M. Mediterraneo”
<i>O. opercularis</i>	–	MLU	“O. meridionale”
<i>O. gibba</i>	Browne (1756)	MLU	“M. Americano”
<i>O. flavicans</i>	–	MLU	“O. australiore”
<i>O. pestultrae</i>	Gualtieri (1742) Argenville (1742) Lister (1678)	– – –	–

N.B. W Atlantic: 3 species; E Atlantic: 9 species; Indo-Pacific: 9 species (according to the lectotypes and neotype referred to herein)

Description

Shell up to *c.* 150 mm in height, solid, suborbicular, wider than long, inequivalve, nearly equilateral, left valve concave (immature), flat (mature), right valve convex, auricles subequal in size, umbonal angle *c.* 105°. Both valves with 12–17 rounded radial costae and secondary radial riblets. Microsculpture of commarginal lamellae, more prominent on left valve. Hinge line straight, byssal notch very weak, no ctenolium. Colour very variable, right valve paler to whitish.

Type locality

“Habitat in Oceano Europaeo”.

Type material

	H	W	
1. LSL, lectotype	122 mm	122 mm	(rv)
2. LSL, ?paralectotype	101 mm	111 mm	(rv)
3. UUZM, paralectotype 1	85 mm	100 mm	(spm)
4. UUZM, paralectotype 2	52 mm	57 mm	(lv)
5. UUZM, paralectotype 3	51 mm	56 mm	(rv)

Dance isolated two right valves from the collection and noticed that Hanley referred to at least one of the specimens. The inside of the lectotype (Fig. 1A,B), herein designated, is marked in ink "154 Maxima", and the inside of the paralectotype "185" in ink and "Syst. Nat. 12th ed" in pencil (a specimen of J. Smith?).

UUZM (isolated by Odhner, 1953: 5):

A box with one specimen (paralectotype 1) with two handwritten labels in ink "Maxima" and "Mus.Gust.Ad." of Thunberg. No printed label of Swartz. On the outside of the anterior auricle near the umbo in ink "1" (see also Wallin, 1993: 87; *Ostrea maxima* # 487).

UUZM (isolated by Holm):

A box with a left valve (paralectotype 2) and a right valve (paralectotype 3), with a printed label "*maxima*" of Swartz, without the handwritten ink labels of Thunberg (see also Wallin, 1993: 87; *Ostrea maxima* # 886).

Other material

LSL (not isolated):

One adult specimen and 1 adult right valve; 1 juvenile specimen; 2 adult left valves and 4 adult right valves. None of these is marked.

UUZM (not isolated):

A box with a right valve and a Thunberg label "*minuta*". This specimen does not correspond with the original description of *Ostrea minuta* but resembles the type material of *Ostrea maxima*.

A box with a left valve and a Thunberg label "*striatula*". This specimen does not correspond with the original description of *Ostrea minuta* but is conspecific with *Ostrea maxima*.

Remarks

The first reference cited by Linnaeus (1758: 696), to Lister, is incorrect, as mentioned by Hanley (1855: 102). Figure 161 is an illustrated title page, whereas figure 163.1 clearly represents a figured right valve similar to *Ostrea maxima* with the text "1. pecten magnus, albidus, circiter Duodecem striis, multis minutisq incisuris exasperatis donatus". "Anglic". According to Dillwyn (1823: 14) it is copied from the *Historia Animalium Angliae* (pl. 5, fig. 29). Linnaeus (1758: 696) also mentioned this reference with the addition "*Pecten maximus*". Linnaeus' reference to Gualtieri (1742: pl. 98, figs A, B) is incorrect; figures A (a left valve) and B (a right valve) clearly resemble *Ostrea jacobaea* Linnaeus, 1758. Subsequent additional references mentioned by Gmelin (1791: 3315) are not always relevant and sometimes refer to *O. jacobaea* or are indeterminable.

Current taxonomic position

Ostrea maxima Linnaeus, 1758 is the type species of *Pecten* Müller, 1776 (subsequent designation by Schmidt, 1818) (Hertlein, 1969: N366). The current combination is *Pecten maximus* (Linnaeus, 1758), placed in the tribe Pectinini (Waller, 1993: 198) of Pectininae Wilkes, 1810, a subfamily of Pectinidae Wilkes, 1810 (Waller, 1993: 198, and emended by Waller, 1978: 353).

Distribution

Dillwyn (1817: 248) listed several localities mentioned by earlier authors, viz. "coasts of Sweden (Linnaeus), Britain (Lister, and others), Denmark (Müller), Norway and Mediterranean (Regenfuss), Spain and Portugal (Chemnitz)". Presently known from the eastern Atlantic Ocean along the European coasts of southern Norway to Spain (Nordsieck, 1969: 55; Lucas, 1980a,c: 7; Wagner, [1991]: 45). Records from western Portugal to southeastern Spain and the Canary Islands refer to more atypical specimens. Living in the littoral zone on sandy, muddy or muddy sand bottoms.

Ostrea jacobaea Linnaeus, 1758
(Fig. 8B)

Cited references

MLU cited (Linnaeus, 1758).
Buonanni, 1681: figs 3, 4 (Linnaeus, 1758, 1767).
Gualtieri, 1742: pl. 99, fig. B (Linnaeus, 1758, 1764, 1767).
Ginanni, 1757: pl. 16, fig. 123 (Linnaeus, 1767).
Regenfuss, 1758: 8, pl. 2, fig. 19 (Linnaeus, 1758, 1767).
Linnaeus, 1758: 696, no. 155 (Linnaeus, 1764).
Linnaeus, 1764: 522, no. 99 (Linnaeus, 1767).
Linnaeus, 1767: 1144, no. 186.

Additional references

Hanley, 1855: 102; 1859: 57; Sherborn, 1899: 49; North, 1951: 9; Dodge, 1952: 164; Odhner, 1953: 5; Holm, 1957: 17; Morris, 1987: 40; Wallin, 1993: 86.

Description

Shell up to *c.* 150 mm in height, solid, suborbicular, wider than long, inequivalve, nearly equilateral, left valve slightly concave (immature), flat (mature), right valve convex, auricles subequal in size, umbonal angle *c.* 105°. Both valves with 14–17 prominent radial costae, high rounded on left valve, more angular on right valve. Secondary radial riblets (2–6) on primary ribs of right valve. Microsculpture of commarginal lamellae prominent in interstices, weak on ribs. Hinge line straight, byssal notch very weak, no ctenolium. Colour very variable, right valves paler to whitish.

Type locality

"Habitat in M. Mediterraneo".

Type material

	H	W	
1. UUZM, lectotype	58 mm	65 mm	(spm)
2. LSL, paralectotype 1	42 mm	37 mm	(rv)
3. LSL, paralectotype 2	30 mm	32 mm	(spm)
4. MSNP, paralectotype 3	76 mm	88 mm	(rv)

Odhner (1953: 5) isolated one specimen of *O. jacobaea* from the MLU collection. Two handwritten labels of Thunberg, viz. "Jacobaea" and "Mus.Gust.Ad.", are glued to the cotton. On the inside of the right valve is written in pencil "jacobeus". This specimen is designated herein as the lectotype (Fig. 8B) (see also Wallin, 1993: 86, *Ostrea jacobaea* # 488).

Hanley isolated one unmarked right valve from the Linnaean collection (LSL). Dance isolated an additional small specimen of *O. jacobaea*, which is marked on the inside of the left valve in ink "155" with "186" superimposed. According to Dance's note on the printed label Hanley did not refer to this marked specimen.

In the Gualtieri collection of the MSNP is one right valve, which is similar to Linnaeus' reference (Gualtieri, 1742: pl. 99, fig. B).

Other material

LSL (not isolated):

One small specimen (H 41 mm, W 45 mm). One adult right valve (H 111 mm, W 121 mm). A metal box with a juvenile left and a right valve. A metal box with one juvenile left valve. A metal box with two juvenile right valves. All are unmarked.

UUZM (not isolated):

One cardboard box with one marked specimen. On the outside of the left valve near the umbo an inked number "2", and on the inside "186" also in ink. Two glued Thunberg labels, viz. "Jacobaea" and "Mus. Carol. XIII".

Remarks

After the original diagnoses of *O. jacobaea* in the 10th edition MLU is cited in italics. This abbreviation is not always used (see table). Linnaeus (1764: 522) added a more comprehensive description to his diagnosis of *O. jacobaea*. Hanley (1855: 102) mentioned that the figure by Regenfuss (1758: pl. 2, fig. 19) referred to in the 10th edition is not similar to Linnaeus' diagnosis. After a careful examination I agree with Hanley's opinion and regard Regenfuss' figure as of *O. maxima*, as did Dodge (1952: 164). Buonanni's and Gualtieri's figures clearly refer *O. jacobaea* as used here.

Current taxonomic position

Ostrea jacobaea Linnaeus, 1758 is the type species of *Argoderma* Poli, 1795, a junior synonym of *Argus* Poli, 1795, which is congeneric with *Pecten* Müller, 1776 (Hertlein, 1969: N366). The current combination is *Pecten jacobaeus* (Linnaeus, 1758).

Distribution

Linnaeus (1758: 696) correctly stated the locality as the Mediterranean Sea. Records mentioned in the literature from the eastern Atlantic are *P. maximus* (Linnaeus, 1758) or *Pecten keppelianus* G.B. Sowerby III, 1905, which lives more

southwards to Angola. *P. jacobaeus* lives on sandy or muddy sand bottoms in the littoral zone.

Ostrea ziczac Linnaeus, 1758
(Fig. 8D)

Cited references

MLU cited (Linnaeus, 1758).
Linnaeus, 1758: 696, no. 156 (Linnaeus, 1764).
Linnaeus, 1764: 523, no. 100 (Linnaeus, 1767).
Linnaeus, 1767: 1144, no. 187.

Additional references

Hanley, 1855: 102; 1859: 57; Sherborn, 1899: 108; North, 1951: 9; Dodge, 1952: 164; Odhner, 1953: 5; Morris, 1987: 41; Wallin, 1993: 88.

Synonym

Janira laevigata Schumacher, 1817: 118, living, locality, unknown [Porto Rico on label, ZMUC].

Description

Shell up to *c.* 100 mm in height, suborbicular, wider than long, inequivalve, equilateral, left valve flat, right valve convex, auricles subequal in size, umbonal angle *c.* 95°. Left valve sculptured with 32–36 low, irregularly arranged, flat radial riblets, right valve with 18–22 low, rather indistinct, broad radial ribs usually with a central groove. Microsculpture of closely spaced, commarginal lamellae on the left valve, absent on the right valve. Internal carinae prominent near ventral margin. Hinge line straight, byssal notch weak, no ctenolium. Colour variable, usually creamy brownish to dark brown, rarely white or orange, right valve paler.

Type locality

“Habitat in *O. australiore*”. The locality mentioned by Linnaeus (1758: 696) is erroneous. This species does not exist in the Indo-Pacific region, but in the tropical and subtropical western Atlantic. Specimens studied (ZMA) from the Caribbean are identical to the type material, so the type locality is designated herein as the Caribbean Sea.

Type material

	H	W	
1. UUZM, lectotype	88 mm	97 mm	(spm)
2. LSL, ?paralectotype	65 mm	69 mm	(spm)

Odhner (1953: 5) isolated one specimen from the MLU collection. Two Thunberg labels and one of Swartz’s are glued to the cotton. This specimen is designated herein as the lectotype (Fig. 8D) (see Wallin, 1993: 88, *Ostrea ziczac* # 489).

Hanley has isolated one specimen from the "Linnaean" collection. Dance noted, that the mark in pencil "ziczac Martini vix Linnaei" could be Smith's handwriting.

Other material

UUZM (not isolated):

(1) A box with a specimen glued to cotton with a Thunberg label "*Ziczac*". On the outside of the left valve near the umbo is a handwritten ink mark "3". This specimen could belong to the MLU collection.

(2) A box with a specimen glued to cotton with a Thunberg label "*Ziczac*". This specimen could also belong to the MLU collection.

(3) A box with a specimen and a glued Thunberg label "Mus. Carol. XIII". On the outside of the left valve near the umbo is a handwritten ink mark "3".

A box with 2 specimens, a box with one specimen, a box with a left and a right valve, and another box with a left and a right valve. All lack labels or other relevant indications.

Remarks

Linnaeus (1758: 696) only referred to the MLU and attributed this species to "O. australiore". The wrong locality and description of 18 radial costae have led to confusions by subsequent authors in the 18th and 19th centuries (Dodge, 1952: 166). Specimens at the UUZM (see above) are clearly referable to *O. ziczac*, a species known only from the subtropical and tropical western Atlantic.

Current taxonomic position

Ostrea ziczac Linnaeus, 1758 is the type species of *Euvola* Dall, 1898 by original designation, proposed as a subgenus of *Pecten* Müller, 1776. Waller (1991: 41) treated *Euvola* as a full genus, and this genus is now placed in Pectinini (Waller, 1993: 198). Consequently the current combination is *Euvola ziczac* (Linnaeus, 1758).

Distribution

Gmelin (1791: 3316) gave the locality "Oceano americano". Dillwyn (1817: 249) mentioned two localities from the West Indies, referring to Lister ("coasts of Jamaica"). D'Orbigny *in* Sagra (1853) was the first author to give more precise localities in the West Indies, viz. "Cuba, Martinique, Guadeloupe, Sainte-Lucie, Saint-Domingue, Santo-Thomas et Jamaïque". The species occurs from off North Carolina through the Gulf of Mexico and the Caribbean Sea to Brazil, living in the littoral zone on sandy or muddy sand bottoms.

Ostrea striatula Linnaeus, 1758

(Fig. 10E, F)

Cited references

MLU cited (Linnaeus, 1958).
Linnaeus, 1758: 696, no. 157 (Linnaeus, 1764).
Linnaeus, 1764: 523, no. 101 (Linnaeus, 1767).
Linnaeus, 1767: 1144, no. 188.

Additional references

Hanley, 1855: 103; 1859: 57; Sherborn, 1899: 95; North, 1951: 10; Dodge, 1952: 166; Odhner, 1953: 5; Dance, 1967: 22; Morris, 1987: 41.

Synonyms

Pecten striatulus Bosc, 1802: 260, living, "la mer des Indes". [junior homonym]
Pecten solaris G.B. Sowerby II, 1842: 55, pl. 12, figs 7, 8, 22 (non Born, 1778), living, Macassar and China.
Pecten macassarensis Chenu, 1845: pl. 39, figs 4, 4d, living, locality unknown. **Syn. nov.**

Description

Shell up to *c.* 50 mm in height, suborbicular, wider than long, inequivalve, slightly inequilateral, right valve more convex than left valve, auricles subequal in size, umbonal angle *c.* 95°. Both valves with 14–18 regularly arranged, radial lirae. Microsculpture of commarginal lamellae on both valves. Internal carinae. Hinge line straight, byssal notch weak, no ctenolium. Colour very variable, creamy, pinkish or brownish with bright maculations or streaks, inside usually yellowish.

Type locality

"Habitat in O. Indico".

The locality mentioned by Linnaeus ("O. Indico" [=Indo–West Pacific]) is correct. Specimens examined (ZMA) from the Philippines are conspecific with the lectotype, and so the type locality is restricted herein to that area.

Type material

	H	W	
1. UUZM, lectotype	61 mm	65 mm	(spm)

On 10 May 1990 I traced this specimen in the general collection of the UUZM. The only associated Thunberg label "dubia" probably deceived Odhner and Holm neither of whom isolated this specimen. The name mentioned on Thunberg's label does not refer to Linnaeus' described species. Probably he could not place this specimen from the royal cabinet. The type specimen is unmistakably identical with the characteristic features of Linnaeus' descriptions (1758, 1764).

Linnaeus' diagnosis versus morphological features of lectotype: "radiis 16 oblitteratis" (16 radial costae), "transverse membranaceo striatis" (closely arranged fine concentric or commarginal lamellae), "valvula convexior paulo magis gibba, quam planior" (both valves slightly convex), "color intus flavescens" (internal colour yellowish), and "radiatorum interstitiis albis" (interstices of radial costae white). On the outside of the left valve near the umbo an ink number "4" is visible, which could not have been written by Thunberg. This number corresponds with other isolated type specimens, viz. *O. maxima* ("1"), *O. jacobaea* ("2"), and *O. ziczac* ("3"). The present specimen is designated herein as the lectotype (Fig. 10E, F).

Other material

UUZM (not isolated):

A box with a left valve (H 56 mm, W 59 mm) and a Thunberg label "Mus.

Carol.XIII”, together with a modern handwritten ink label “Dubia” of a person unknown (?).

A box with a left valve and a Thunberg label ‘striatula’. This specimen resembles *O. maxima*.

A box with two different juvenile left valves and a Thunberg label “striatula”, together with a label marked in ink “587.”. The smallest valve resembles *Pecten albicans* Schröter, 1802, the largest being similar to *O. maxima*. Neither fits the original description of *O. striatula*.

Remarks

Linnaeus (1758: 696) referred to the MLU and no specimens could be found in the LSL (Hanley, 1855: 103). Thunberg (1828–18 . . . , MS) did not mention *Ostrea striatula* in his handwritten list, although two of his labels were in the general collection (see above). He did mention *Ostrea dubia* from the Karl XIII collection, but not from the Gustaf IV Adolf collection. Some discrepancies exist between Thunberg’s and Odhner’s listings (see Table 4).

Nomenclatural status

Bosc (1802: 260) described a pectinid species with identical morphological characteristics to those of Linnaeus (1758: 696) but without referring to Linnaeus. Also the locality is only a translation. Therefore *Pecten striatulus* Bosc, 1802 is a primary junior homonym. Lamarck (1819: 183, no. 21) overlooked Bosc’s name and described a fossil from the environment of Turin with the same species name (a subjective junior homonym; ICZN art. 53c) of *Pecten striatulus* Bosc, 1802.

Current taxonomic position

Ostrea striatula Linnaeus, 1758 is a senior synonym of *Pecten macassarensis* Chenu, 1845, which is a representative species of *Annachlamys* Iredale, 1939 (type species *Pecten leopardus* Reeve, 1853 [= *Pecten flabellatus* Lamarck, 1819]) and placed in the tribe Decatopectinini (Waller, 1986: 40). The current taxonomic combination for the present species is *Annachlamys striatula* (Linnaeus, 1758).

Distribution

The present species is known from the western through the southwestern Pacific to the eastern Indian Ocean, and lives on muddy sand bottoms littorally.

Ostrea minuta Linnaeus, 1758
(Fig. 8C)

Cited references

- MLU cited (Linnaeus, 1758).
Linnaeus, 1758: 696, no. 158 (Linnaeus, 1764).
Linnaeus, 1764: 524, no. 102 (Linnaeus, 1767).
Linnaeus, 1767: 1144, no. 189.

Additional references

Hanley, 1855: 104; 1859: 57; Sherborn, 1899: 60; North, 1951: 10; Dodge, 1952: 166; Odhner, 1953: 5; Dance, 1967: 22; Morris, 1987: 41.

Synonyms

Pecten minutus Bosc, 1802: 260, living, "la mer des Indes". [junior homonym]
Pecten inaequivalvis G.B. Sowerby II, 1842: 50, pl, 19, figs 193–195, living, Philippine Islands. **Syn. nov.**

Description

Shell up to *c.* 30 mm in height, suborbicular, wider than long, inequivalve, inequilateral, slightly oblique, right valve much more convex than left valve, auricles unequal in size, umbonal angle *c.* 110°. Both valves with 18–20 regularly arranged, subangular radial costae, broader on right valve than on left valve. Microsculpture of commarginal lamellae in interstices. Hinge line straight, byssal notch rather deep, ctenolium present. Colour variable, usually greyish or brownish with darkbrown or black streaks and white spots, right valve paler or whitish.

Type locality

"Habitat in Oceano indien".

Specimens examined from the Philippines (ZMA) are similar to Linnaeus' species, so the type locality is restricted herein to that region.

Type material

	H	W	
1. UUZM, lectotype	20 mm	20 mm	(spm)

One specimen was found in the general collection of UUZM with two handwritten labels "minuta", one of which is Thunberg's. Shell and labels are not glued to the cotton. On the inside of the left valve is a very faint mark in ink "158". This specimen corresponds well with Linnaeus' descriptions (1758, 1764) and is designated herein as the lectotype (Fig. 8C).

Other material

UUZM (general collection):

- (1) A conspecific left valve with a handwritten Thunberg label "turgida."
- (2) A box with a right valve of *O. maxima* and a handwritten Thunberg label "minuta." This specimen does not correspond to Linnaeus' descriptions (1758, 1764).
- (3) A box with a right valve of a *Pecten* species, probably *Pecten erythraeensis* G.B. Sowerby II, 1842, and a handwritten Thunberg label "minuta." This specimen does not correspond to Linnaeus' descriptions (1758, 1764).

Remarks

Linnaeus (1758: 696) only referred to the "MLU" indicating that he described the present species on material from Queen Ulrica's collection. Specimens of this species have not been found in the "Linnaean" collection (LSL).

Current taxonomic position

Ostrea minuta Linnaeus, 1758 is a senior synonym of *Pecten inaequivalvis* G.B. Sowerby II, 1842, now placed in the genus *Haumea* Dall, Bartsch & Rehder, 1938. The current combination for the present species is *Haumea minuta* (Linnaeus, 1758).

Distribution

Known from the western Indian Ocean, and western and southwestern Pacific, living unattached on sandy or muddy sand bottoms at littoral to sublittoral depths.

Ostrea pleuronectes Linnaeus, 1758

(Fig. 1C–F)

Cited references

- Buonanni, 1684: fig. 354 (Linnaeus, 1758).
 Rumphius, 1705: pl. 45, figs A, B (Linnaeus, 1758, 1764, 1767).
 Gualtieri, 1742: pl. 73, fig. B (Linnaeus, 1758, 1764, 1767).
 Argenville, 1742: pl. 27, fig. G (Linnaeus, 1758, 1764, 1767).
 Klein, 1753: pl. 9, fig. 30 (Linnaeus, 1758, 1767).
 Linnaeus, 1758: 696, no. 159 (Linnaeus, 1764, 1767).
 Linnaeus, 1764: 524, no. 103 (Linnaeus, 1767).
 Linnaeus, 1767: 1145, no. 190.

Additional references

- Hanley, 1855: 104; 1859: 57; Sherborn, 1899: 78; North, 1951: 10; Dodge, 1952: 167; Odhner, 1953: 5; Morris, 1987: 42; Wallin, 1993: 87.

Synonyms

- Amusium rumphii* Chemnitz, 1784: 284, pl. 61, fig. 595, living, Moluccas. [invalid publication, ICZN art. 11 (c)]
Amusium magneticum Röding, 1798: 165, living, locality unknown.
Pecten pleuronectes Bosc, 1802: 255, living, “la mer des Indes”. [junior homonym]
Pleuronectia laevigata Swainson, 1840: 388.
Pecten (Amusium) milneedwardsi Gregorio, 1898: 6, pl. 1, figs 1, 6, living, New Caledonia.
Amusium pleuronectes australiae Habe, 1964: 2, pl. 1, figs 1–2, living, Arafura Sea.
Amusium pleuronectes nanshaensis Wang & Chen, 1991: 152, 160, fig. 3, living, Nansha Islands, China.

Description

Shell up to c. 100 mm in height, rather thin, compressed, right valve slightly more convex than left valve, gaping at anterior and posterior margins, suborbicular to orbicular, somewhat longer than wide, inequivalve, equilateral, auricles small, equal in size, umbonal angle c. 120°. Outer surface of both valves smooth, inner surface with c. 12–17 pairs of ribs. Hinge line straight, byssal notch very weak, no ctenolium. Colour of left valve variable, creamy, pinkish or brownish with radiating bluish bands and intermediate minute white dots, right valve white, interior white.

Type locality

“Habitat in Indiis” [=Indonesia, det. Dijkstra].

Type material

	H	W	
1. LSL, lectotype	46 mm	46 mm	(spm)
2. MSNP, paralectotype	85 mm	83 mm	(lv)

Hanley (1855: 104) isolated one specimen, which is unmarked, according to Dance's accompanying label. No other specimens are in the LSL collection. This specimen is designated herein as the lectotype (Fig. 1C–F).

In the Gualtieri collection of the MSNP is one specimen (lv), which is similar to Linnaeus' reference (Gualtieri, 1742: pl. 73, fig. B).

Other material

UUZM (general collection):

A box with two specimens with a handwritten label in ink “pleuronectes” (not by Thunberg) and a handwritten label in ink “595.”, referring to Chemnitz' figure (1784: pl. 61, fig. 595).

MSNP (Gualtieri collection):

A smaller specimen (lv: H 70 mm, W 69 mm), which was not figured by Gualtieri, was traced in the collection.

Remarks

The references, used by Linnaeus, all clearly refer to Linnaeus' diagnosis (1758, 1764, 1767), as Hanley (1855: 104) stated. The specimen isolated by Hanley is designated herein as lectotype.

Current taxonomic position

Ostrea pleuronectes Linnaeus, 1758 is the type species of *Amusium* Röding, 1798 (subsequent designation by Herrmannsen, 1846) (Hertlein, 1969: N349). The current combination for the present species is *Amusium (Amusium) pleuronectes* (Linnaeus, 1758).

Distribution

Rumphius (1705: 144–5, 188) mentioned more precisely *O. pleuronectes* from the north coast of Ceram (Moluccas, Indonesia) and from off Batavia [=Jakarta]. It is known from several localities in the Indo-West Pacific, living on sandy or muddy sand bottoms in shallow waters.

Ostrea obliterata Linnaeus, 1758
(Fig. 9A, B)

Cited references

- Gualtieri, 1742: pl. 73, fig. C (Linnaeus, 1764, 1767).
 Gualtieri, 1742: pl. 73, fig. G (Linnaeus, 1758).
 Linnaeus, 1758: 697, no. 160 (Linnaeus, 1764).

Linnaeus, 1764: 525, no. 104 (Linnaeus, 1767).

Linnaeus, 1767: 1146, no. 197.

Additional references

Hanley, 1855: 108; 1859: 57; Sherborn, 1899: 66; North, 1951: 10; Dodge, 1952: 175; Odhner, 1953: 5; Dance, 1967: 22; Morris, 1987: 42; Wallin, 1993: 87.

Synonym

Pecten glaberrimus Chemnitz, 1784: 324, pl. 66, figs 622–624, living, Moluccas. [invalid publication]

Description

Shell up to *c.* 60 mm in height, rather thin, compressed convex, suborbicular, equivalve, inequilateral, auricles subequal in size, umbonal angle *c.* 115°. Outer surface of both valves smooth, inner surface with *c.* 50 radial ribs. Microsculpture of antimarginal striae in early growth stage. Hinge line straight, byssal notch and ctenolium rather weak. Colour orange to red with radiating dark red bands of left valve, right valve paler, interior whitish, yellowish, brownish or purplish.

Type locality

“Habitat in *O. australiore*”.

Linnaeus (1758: 697) first mentioned the above locality and in the 12th edition (1767: 1146) “Habitat in *Europa australiore*”. Both localities are incorrect and so the type locality is designated herein as Moluccas, Indonesia.

Type material

	H	W	
1. UUZM, lectotype	45 mm	43 mm	(spm)
2. UUZM, paralectotype 1	44 mm	44 mm	(spm)
3. MSNP, paralectotype 2	34 mm	32 mm	(lv)

Odhner (1953) isolated one lot with two right valves and two handwritten Thunberg labels “Mus.Gust.Ad.” and “obliterata.” glued to cotton. On 8 May 1990 I found another box in the general collection with two left valves and one printed Swartz label “obliterata”. These left valves belong to the right valves isolated by Odhner (see also Wallin, 1993: 87, *Ostrea obliterata* # 490 and *Ostrea obliterata* # 1649). The largest specimen is designated herein as the lectotype (Fig. 9A, B).

In the Gualtieri collection of the MSNP one specimen (lv) is found, which is similar to Linnaeus’ reference (Gualtieri, 1742: pl. 73, fig. G [sic, = C]).

Other material

UUZM (general collection):

(1) A box with a left and right valve without any labels or markings.

(2) A box with one specimen and two labels: a handwritten label in ink “Mus. Carol.XIII”, and a printed Swartz label “obliterata”.

There are no specimens in the LSL collection.

Remarks

Linnaeus (1758: 697) wrongly referred to Gualtieri's figure G, which was subsequently corrected (1764, 1767) to figure C. Linnaeus did not cite the MLU in the 10th edition. Specimens of *O. obliterata* were found only in the UUZM collection.

Current taxonomic position

Ostrea obliterata Linnaeus, 1758 is the type species of *Dentamussium* Dijkstra, 1990, a subgenus of *Amusium* Röding, 1798. The current combination for the present species is *Amusium (Dentamussium) obliteratum* (Linnaeus, 1758).

Distribution

Only known from the southern Philippines and Indonesia, living on sandy bottoms in shallow waters and sublittorally.

Ostrea radula Linnaeus, 1758
(Fig. 8A)

Cited references

- Rumphius, 1705: pl. 44, fig. D (Linnaeus, 1758).
 Rumphius, 1705: pl. 44, fig. AA (Linnaeus, 1764).
 Rumphius, 1705: pl. 44, fig. AB (Linnaeus, 1767).
 Klein, 1753: pl. 9, fig. 34 (Linnaeus, 1758).
 Linnaeus, 1758: 697, no. 161 (Linnaeus, 1764).
 Linnaeus, 1764: 525, no. 105 (Linnaeus, 1767).
 Linnaeus, 1767: 1145, no. 191.

Additional references

- Hanley, 1855: 104; 1859: 57; Sherborn, 1899: 83; North, 1951: 10; Dodge, 1952: 167; Odhner, 1953: 5; Morris, 1987: 42; Wallin, 1993: 88.

Synonym

- Pecten argenteus* Reeve, 1853: species 168, pl. 35, fig. 168, living, China Sea.

Description

Shell up to *c.* 120 mm in height, solid, compressed, right valve more convex than left valve, triangularly ovate, longer than wide, inequivalve, inequilateral, auricles subequal in size, umbonal angle *c.* 85°. Both valves with 9–14 regularly arranged, radial subangular lirae, secondary radial riblets and microscopic commarginal lamellae on and between primary ribs. Hinge line straight, byssal notch and ctenolium very weak. Colour creamy or brownish with dark brown spots or streaks on left valve, right valve paler, interior whitish with a dark brown cardinal crura.

Type locality

“Habitat in O. Indico”.

Restricted herein to Indonesia. Specimens examined (ZMA) from China have

more radial costae (13–14) than are mentioned by Linnaeus (1758, 1764, 1767), and than occur on specimens from Australia to the Samoa Islands (9–10).

Type material

	H	W	
1. UUZM, lectotype	57 mm	52 mm	(spm)
2. UUZM, paralectotype	60 mm	55 mm	(spm)
3. UUZM, ?paralectotype	60 mm	55 mm	(spm)
4. LSL, ?paralectotype	69 mm	62 mm	(spm)

UUZM (isolated by Odhner):

(1) A box with one specimen and two handwritten Thunberg labels “Mus.Gust.Ad.” and “radula”. On the outside of the posterior auricle an ink number “161”, referring to *Ostrea radula* number 161 of the tenth edition (1758: 697), is visible, and on the inside of each valve “Radula” is marked in pencil. This specimen matches the diagnosis of Linnaeus (1758, 1764) and is designated herein as the lectotype (Fig. 8A) (see also Wallin, 1993: 88, *Ostrea radula* # 491).

(2) A box with one specimen and two handwritten Thunberg labels “Mus.Gust.Ad.” and “radula” without other marks (see also Wallin, 1993: 88, *Ostrea radula* # 492).

UUZM (general collection):

Another box with one specimen and a printed Swartz label “Radula”, no Thunberg labels (see Wallin, 1993: 88, *Ostrea radula* # 1051).

LSL (isolated by Hanley):

The specimen isolated by Hanley (1855: 104), marked “radula” in pencil on the inside of the right valve near the umbo, was probably added by the younger Linnaeus (Hanley, 1855: 105).

Remarks

The conflicting references used by Linnaeus (1758, 1764, 1767) were discussed by Hanley (1855: 104), Iredale (1939: 360) and Dodge (1952: 167). Only figure A of plate 44 (Rumphius, 1705) matches the present species, cited by Linnaeus (1764: 525) as “f.AA”. The specimens isolated by Odhner (1953: 5) accord with Rumphius’ fig. A, and not with fig. D [= *Lima vulgaris* Link, 1807, det. Dijkstra], nor with fig. B [= *Ostrea pallium* Linnaeus, 1758, det. Dijkstra].

Current taxonomic position

Ostrea radula Linnaeus, 1758 was commonly placed in *Comptopallium* Iredale, 1939 (type species *Comptopallium pauciplicatum* Iredale, 1939), but recently Waller (1986: 40) treated it as a junior synonym of *Decatopecten* [Rüppell *in*] Sowerby, 1839. Current taxonomic combination for the present species is *Decatopecten radula* (Linnaeus, 1758).

Distribution

Known from throughout the Indo-West Pacific, living in the littoral zone on muddy sand bottoms.

Ostrea plica Linnaeus, 1758
(Fig. 2A–D)

Cited references

Rumphius, 1705: pl. 44, fig. O (Linnaeus, 1758, 1764, 1767).
Argenville, 1742: pl. 27, fig. C (Linnaeus, 1758, 1764, 1767).
Linnaeus, 1758: 697, no. 162 (Linnaeus, 1764).
Linnaeus, 1764: 526, no. 106 (Linnaeus, 1767).
Linnaeus, 1767: 1145, no. 192.

Additional references

Hanley, 1855: 105; 1859: 57; Sherborn, 1899: 78; North, 1951: 11; Dodge, 1952: 169; Odhner, 1953: 5; Hertlein, 1969: N365, fig. C87: 4a–b; Morris, 1987: 43; Wallin, 1993: 88.

Synonyms

Pecten plicatus Chemnitz, 1784: 292, pl. 62, fig. 598a, b, living, “ostindischen Gewässern” [= eastern Indonesia, det. Dijkstra]. [invalid publication].
Pallium striatum Schumacher, 1817: 120, pl. 4, fig. 4a, b, living, locality unknown, [Canton (= off Guangzhou, Guangdong, China) on label, ZMUC].
Pecten subplicatus G. B. Sowerby II, 1842: 64, pl. 13, fig. 37, pl. 14, figs 72, 73, 81, living, “Amboina” [= Ambon, Moluccas, det. Dijkstra].

Description

Shell up to *c.* 50 mm in height, solid, compressed to more swollen near ventral margin, right valve slightly more convex than left valve, nearly equivalve and equilateral, auricles rather small, subequal in size, umbonal angle *c.* 80°. Both valves with 5 radial plicae, weaker near anterior and posterior margins, secondary radial riblets and microsculpture of commarginal lamellae on and between primary ribs. Hinge line straight, byssal notch and ctenolium nearly absent. Colour very variable, usually creamy with brown maculations, also uniform white or yellow, interior whitish with a brown cardinal crura.

Type locality

“Habitat in O. Indico”.

Restricted herein to Indonesia, according to similar observed material from the NNM and ZMA collections.

Type material

	H	W	
1. LSL, lectotype	35 mm	35 mm	(spm)
2. LSL, paralectotype 1	29 mm	28 mm	(spm)
3. LSL, paralectotype 2	20 mm	19 mm	(spm)
4. UUZM, paralectotype 3	35 mm	31 mm	(spm)
5. UUZM, ?paralectotype	20 mm	22 mm	(spm)
6. UUZM, ?paralectotype	33 mm	32 mm	(spm)

LSL (isolated by Hanley):

Three complete unmarked specimens, isolated by Hanley (1855: 105), correspond to Linnaeus' descriptions (1758, 1764). The largest is designated herein as the lectotype (Fig. 2A–D). No other conspecific specimens were found in the LSL collection.

UUZM (isolated by Odhner):

Odhner (1953: 5) isolated one specimen from the general collection with a handwritten Thunberg label "Mus. Gust.Ad." (see Wallin, 1993: 88, *Ostrea plica* # 493).

UUZM (general collection):

Probable paralectotypes are cf. Wallin (1993: 88, *Ostrea plica* # 1048 and 1058) with a printed Swartz label "Plica".

Remarks

Linnaeus referred to figure O of plate 44 (Rumphius, 1705), which corresponds very well with the selected type specimens and the descriptions of Linnaeus (1758, 1764, 1767). The second reference to Argenville's figure C of plate 27 [=?24] is more or less obscure and could represent another pectinid species.

This species is variable in form (flat to more swollen), in sculpture (low rounded to more prominent radial lirae), in number of primary and secondary radial costae (usually three prominent and two very weak on the anterior and posterior margins), and in colour. Examined material (BMNH, MNHN, NNM and ZMA) from the southern Philippines and Indonesia is typical.

Current taxonomic position

Ostrea plica Linnaeus, 1758 is the type species of *Decatopecten* [Rüppell in] Sowerby, (1839). This genus is placed in the tribe Decatopectinini by Waller (1986: 40), and a representative of the subfamily Pectininae Wilkes, 1810 (Waller, 1993: 198). The current taxonomic combination for the present species is *Decatopecten plica* (Linnaeus, 1758).

Distribution

Known throughout the Indo-West Pacific, living in the littoral zone on sandy or muddy bottoms.

Ostrea pallium Linnaeus, 1758
(Figs 2E, F, 3A, B)

Cited references

- Rumphius, 1705: pl. 44, figs B, C (Linnaeus, 1758, 1764).
 Gualtieri, 1742: pl. 74, fig. F (Linnaeus, 1758, 1764, 1767).
 Argenville, 1742: pl. 27, fig. I (Linnaeus, 1758, 1764, 1767).
 Regenfuss, 1758: pl. 6, fig. 59 (Linnaeus, 1758, 1767).
 Linnaeus, 1758: 697, no. 163 (Linnaeus, 1764).
 Linnaeus, 1764: 526, no. 107 (Linnaeus, 1767).
 Linnaeus, 1767: 1145, no. 193.

Additional references

Hanley, 1855: 105; 1859: 57; Sherborn, 1899: 69; North, 1951: 12; Dodge, 1952: 170; Odhner, 1953: 5; Holm, 1957: 17; Hertlein, 1969: N357, fig. C79: 1c; Waller, 1972: 239, pl. 3, figs 45–47; Morris, 1987: 43; Wallin, 1993: 87.

Synonym

Pecten novaeguinae Tenison-Woods, 1878: 267, Pleistocene, Hall Sound, Papua New Guinea.

Description

Shell up to *c.* 80 mm in height, solid, moderately compressed, valves equally convex, suborbicular, slightly longer than wide, equivalve, equilateral, auricles unequal in size, umbonal angle *c.* 90°. Both valves with 12–14, regularly arranged, primary radial plicae, secondary, scaled radial riblets and microsculpture of commarginal lamellae on and between primary ribs, auricles with tubercular radial ribs. Hinge line straight, byssal notch moderately deep, ctenolium well developed. Colour very variable, orange, red, purple to violet, white or creamy near umbo, maculated with streaks of darker or lighter colours, interior whitish with orange near margins.

Type locality

“Habitat in *O. australiore* & *Indico*”.

Restricted herein to the Moluccas, Indonesia.

Type material

	H	W	
1. LSL, lectotype	42 mm	41 mm	(spm)
2. LSL, paralectotype 1	46 mm	44 mm	(rv)
3. LSL, paralectotype 2	43 mm	32 mm	(rv)
4. LSL, paralectotype 3	36 mm	32 mm	(lv)
5. UUZM, ?paralectotype	56 mm	52 mm	(spm)
6. UUZM, ?paralectotype	44 mm	39 mm	(rv)
7. MSNP, paralectotype 4	49 mm	49 mm	(spm)

Hanley (1855: 105) isolated one specimen, herein designated as the lectotype (Figs 2E, F, 3A, B), and three valves, all unmarked. The left valve is conspecific with *Ostrea sanguinea*, as Dance also correctly noted on his label. According to Hanley these specimens are from a metal box correctly labelled “pallium”. Subsequently, I found in the unsorted material of the LSL collection another metal box marked in ink “sanguinea” with one right valve of *O. pallium*. It is possible, that these specimens were mixed; both could be treated as type specimens of different species.

In the general collection of the UUZM are two boxes, one with a specimen and a printed Swartz label “Pallium”, and another with a right valve and also a Swartz label. Both specimens may have belonged to the MLU collection (see Wallin, 1993: 87, *Ostrea pallium* # 1052 and 1056). These two specimen were not isolated by Odhner (1953: 5).

In the Gualtieri collection of the MSNP is one specimen, which is similar to Linnaeus’ reference (Gualtieri, 1742: pl. 74, fig. F).

Other material

LSL (not isolated by Hanley): a left valve without any marks.

UUZM (general collection): four boxes each with a specimen and handwritten Thunberg labels "nodosa" and "Mus.Carol.XIII".

Remarks

Linnaeus (1758, 1764, 1767) referred to Rumphius' figures B and C, of which B is correct and C incorrect [= *Ostrea squamosa* Gmelin, det. Dijkstra]. Hanley (1855: 105) noted, that the figure C was erased in the revised copy of the "Systema". Plate 27 of Argenville is erroneous and should be plate 24. Otherwise all figures of Linnaeus' references are clearly determinable.

Current taxonomic position

Ostrea pallium Linnaeus, 1758 is the type species of *Gloripallium* Iredale, 1939. Currently this genus is placed in the tribe Decatopectinini by Waller (1986: 40). The current taxonomic combination for the present species is *Gloripallium pallium* (Linnaeus, 1758).

Distribution

This common species is widely distributed throughout the Indo-Pacific, and living between coral and coral rubble on sandy bottoms at subtidal to littoral depths.

Ostrea nodosa Linnaeus, 1758

(Fig. 8E)

Cited references

- Rondeletius, 1554: 25 (Linnaeus, 1767).
 Buonanni, 1684: fig. 18 (Linnaeus, 1758, 1767).
 Rumphius, 1705: pl. 48, fig. 8 (Linnaeus, 1758, 1764, 1767).
 Gualtieri, 1742: pl. 99, figs C, D (Linnaeus, 1758, 1764, 1767).
 Argenville, 1742: pl. 27, fig. F (Linnaeus, 1758, 1764, 1767).
 Linnaeus, 1758: 697, no. 164 (Linnaeus, 1764).
 Linnaeus, 1764: 527, no. 108 (Linnaeus, 1767).
 Linnaeus, 1767: 1145, no. 194.

Additional references

- Hanley, 1855: 106; 1859: 57; Sherborn, 1899: 65; North, 1951: 12; Dodge, 1952: 171; Odhner, 1953: 5; Holm, 1957: 17; Morris, 1987: 44; J.T. Smith, 1991: 93, pl. 3 figs 3, 4, 6, pl. 4, figs 3, 4 (lectotype figured), pl. 7, figs 6, 7, pl. 8, figs 1, 3, 4, pl. 9, figs 1, 2; Wallin, 1993: 87.

Synonym

Nodipecten nodosus gabonensis Nicolay, 1981: 17, figs, living, off Libreville, Gabon.

Description

Shell up to *c.* 150 mm in height, solid, valves equally convex, suborbicular, inequivalve, equilateral, auricles unequal in size, umbonal angle *c.* 100°. Left valve

with 9 nodose, right valve with 9–10 less nodose, radial plicae, secondary radial riblets on and between primary ribs, microsculpture of commarginal lamellae between radial riblets. Hinge line straight, byssal notch moderately deep, ctenolium well developed. Colour very variable, creamy, yellow, orange, red, brown, purplish, uniform or mottled, interior paler.

Type locality

“Habitat in O. Africano & Indico”.

These localities suggest, that Linnaeus is here referring to *Pecten corallinoides* d’Orbigny, 1839 from the Canary Islands and the Indian Ocean, which is related to the present species. However, material of *P. corallinoides* is not present in the UUZM or the LSL collections.

Smith (1991: 93) mentioned the erroneous localities of Linnaeus (1758, 1767), and compared material (UCMP 37389, 37390) from Margarita Island, Venezuela with the selected lectotype; they were similar. The type locality is restricted herein to Margarita Island, Venezuela.

Type material

	H	W	
1. UUZM, lectotype	84 mm	91 mm	(spm)
2. LSL, ?paralectotype	76 mm	81 mm	(lv)
3. LSL, ?paralectotype	93 mm	98 mm	(lv)
4. MSNP, paralectotype 1	103 mm	112 mm	(rv)
5. MSNP, paralectotype 2	92 mm	94 mm	(rv)

UUZM (isolated by Odhner):

A specimen with two handwritten Thunberg labels “Mus.Gust.Ad.” and “nodosa.”. Inside of right valve marked in pencil “nodosa”. This specimen is designated as the lectotype (Fig. 7E) by J.T. Smith (1991: 93) (see also Wallin, 1993: 87, *Ostrea nodosa* # 494).

LSL (isolated by Hanley):

Hanley (1855: 106) isolated two left valves, according to Dance’s accompanying printed label of which the smallest is marked “nodosa” in pencil on the inside. According to a label of Morris’ (1987) this mark could have been made by Hanley. However Hanley (1855: 106) mentioned only one specimen. Both specimens are typical for *O. nodosa*.

In the Gualtieri collection of the MSNP two specimens (rv) were traced, which are similar to Linnaeus’ reference (Gualtieri, 1742: pl. 99, figs C, D).

Other material

UUZM (in general collection):

A box with a specimen and a printed Swartz label, no accompanying Thunberg labels [= *Pecten mirificus* Reeve, 1853, det. Dijkstra]. This specimen does not correspond to the type material, nor to Linnaeus’ descriptions (1758, 1764, 1767).

LSL (not isolated):

One left valve of *Pecten corallinoides* d’Orbigny. This specimen was not isolated by Hanley. It may have belonged to Linnaeus, judging by his cited localities. Small

specimens of *O. nodosa* may be easily confused with *P. corallinoides*, when localities are unknown.

Remarks

Linnaeus (1758: 697) first referred to Buonanni (1684), figure 18, which is a *Spondylus* species. This reference is omitted in Linnaeus' publications of 1764 and 1766. The second reference is to Rumphius (1705), plate 48, figure 8 (a right valve), which is similar to the type material. However, he overlooked figure 7 (a left valve), which is also similar. The third reference is to Gualtieri (1742), plate 99, figures C and D. Both figures correspond very well with the type material. The fourth reference is to Argenville (1742), plate 27, figure F. The plate number is incorrect and should be 24; figure F also resembles the type material.

Current taxonomic position

Ostrea nodosa Linnaeus, 1758 is the type species of *Nodipecten* Dall, 1898 by original designation. Hertlein (1969: N360) treated *Nodipecten* as a subgenus of *Chlamys* Röding, 1798, whereas Abbott (1974: 449) mentioned it as a subgenus of *Lyropecten* Conrad, 1862. Recently Smith (1991: 86) treated *Nodipecten* as an extant genus. The current taxonomic combination for the present species is *Nodipecten nodosus* (Linnaeus, 1758).

Distribution

N. nodosus is widely distributed in the Caribbean region from eastern Panama through the southern region of the Greater Antilles to Brazil and tropical western Africa, living in the littoral zone between coral on sandy bottoms.

Ostrea pesfelis Linnaeus, 1758 (Fig. 3C-F)

Cited references

Linnaeus, 1758: 697, no. 165 (1764).
Linnaeus, 1764: 527, no. 109 (1767).
Linnaeus, 1767: 1146, no. 195.

Additional references

Hanley, 1855: 106; 1859: 57; Sherborn, 1899: 74; North, 1951: 12; Dodge, 1952: 172; Odhner, 1953: 5; Holm, 1957: 17; Morris, 1987: 44; Wallin, 1993: 87.

Synonyms

Ostrea elongata Born, 1778: 86; 1780: 103, pl. 6, fig. 2, living, locality unknown.
Ostrea corallina Poli, 1795: 164, pl. 28, fig. 16, living, locality unknown.
Pecten bornii Payraudeau, 1826: 76, living, Gulf of Ajaccio, Corsica.
Pecten felipes Locard, 1886: 512, living, Mediterranean Sea.

Description

Shell up to *c.* 70 mm in height, triangularly elongate, compressed, valves nearly equally convex, inequivalve, inequilateral, sometimes slightly oblique, auricles very

unequal in size, umbonal angle $c. 75^\circ$. Both valves with 6–8 high to low radial plicae, tubercular radial ribs near dorsal margin on auricles, secondary radial riblets on and between primary ribs, shagreen microsculpture. Hinge line somewhat declined, byssal notch rather deep, ctenolium well developed. Colour very variable, white, creamy, orange, yellow, red, brown, purplish, uniform or mottled, right valve paler.

Type locality

“Habitat in O. Africano”.

Restricted herein to the Mediterranean Sea, in accordance with similar observed material (MNHN, ZMA). Specimens from northwestern Africa are atypical with very weak radial costae.

Type material

	H	W	
1. LSL, lectotype	43 mm	35 mm	(spm)
2. LSL, paralectotype 1	36 mm	30 mm	(rv)
3. LSL, paralectotype 2	34 mm	27 mm	(lv)
4. LSL, paralectotype 3	33 mm	26 mm	(lv)
5. UUZM, ?paralectotype	46 mm	40 mm	(rv)

Hanley (1855: 106) isolated one specimen, herein designates as the lectotype (Fig. 3C–F), and three valves, all unmarked. These all correspond well to Linnaeus’ descriptions (1758, 1764, 1767).

In the general collection of the UUZM is one right valve with a printed Swartz label. This old specimen may have belonged to the MLU collection (see Wallin, 1993: 87, *Ostrea pesfelis* # 1648).

Other material

LSL (not isolated): one valve without any auricles is present in a metal box. This specimen may also be part of the type set.

Remarks

The name ‘pes felis’ comprises two substantives, viz. *pes* (masculine) = paw, foot, and *felis* or *feles* (feminine) = cat or weasel. According to the ICZN this species-group name should form a single word (Art. 11 h (v)).

Linnaeus (1758: 697) did not cite MLU after his diagnosis.

Current taxonomic position

Ostrea pesfelis Linnaeus, 1758 is the type species of *Manupecten* Monterosato, 1889, by subsequent designation of Sacco, 1897. Hertlein (1969: N359) treated it as a subgenus of *Chlamys* Röding, 1798. Recently Wagner [1991: 21] treated *Manupecten* as an extant genus with *Semipallium* [Jousseume *in*] Lamy, 1928 as subgenus. The current taxonomic combination for the present species is *Manupecten pesfelis* (Linnaeus, 1758).

Distribution

The present species is distributed throughout the Mediterranean Sea and adjacent areas of the eastern Atlantic Ocean from Portugal to the Cape Verde Islands, living on coralline or gravelly sandy bottoms at littoral to sublittoral depths.

Ostrea pellucens Linnaeus, 1758
(Fig. 10D)

Cited references

Argenville, 1742: pl. 27, fig. H (Linnaeus, 1758, 1764, 1767).
Linnaeus, 1758: 698, no. 166 (Linnaeus, 1764).
Linnaeus, 1764: 528, no. 110 (Linnaeus, 1767).
Linnaeus, 1767: 1146, no. 196.

Additional references

Hanley, 1855: 107; 1859: 57; Sherborn, 1899: 72; North, 1951: 12; Dodge, 1952: 174; Odhner, 1953: 6; Dance, 1967: 22; Morris, 1987: 44; Waller, 1993: 226, figs 7c, f, i, l, 9f-j; Wallin, 1993: 87.

Synonym

Ostrea imbricata Gmelin, 1791: 3318, no. 12, living, "mari rubro" [=Red Sea], emended by Waller (1993: 226) to the Antillean region, western Atlantic. **Syn. nov.**

Description

Shell up to c. 50 mm in height, triangularly elongate, compressed, right valve more convex than left valve, inequivalve, equilateral, auricles very unequal in size, umbonal angle c. 80°. Left valve with 9 radial, scaly or tubercular imbricated, costae, right valve with 10 and weaker sculptured, secondary radial riblets variable developed, microsculpture of commarginal lamellae and antimarginal striae in interstices. Hinge line straight, somewhat declined on posterior side, byssal notch moderately deep, ctenolium well developed. Colour creamy with dark reddish or purple maculations near umbo on left valve, lacking on right valve, interior yellowish and purplish, dark brown or purplish cardinal crura.

Type locality

"Habitat in *O. australiore*".

The present species does not occur in the Indo-Pacific. The type locality is designated herein as Florida, U.S.A. Examined material (ZMA) resembles the type material.

Type material

	H	W	
1. UUZM, lectotype	27 mm	25 mm	(spm)
2. UUZM, ?paralectotype	33 mm	31 mm	(lv)

Odhner (1953: 6) isolated a specimen with a handwritten Thunberg label "Mus. Gust.Ad." and identified *O. pellucens* as a senior synonym of *Pecten imbricatus* (Gmelin, 1791) on another label (see Wallin, 1993: 87, *Ostrea pellucens* # 495). This specimen is designated herein as the lectotype (Fig. 10D).

Another specimen, a left valve, exists in the general collection with a handwritten Thunberg label "imbricata". This specimen also corresponds very well to Linnaeus' description (1764) and may also belong to the MLU collection.

Other material

UUZM (not isolated):

A lot of two left valves, a printed Swartz label "pellucens" and a handwritten label "pellucens" (not of Thunberg). These specimens do not correspond with Linnaeus' description of 1764 [= *Ostrea hyalina* Poli, 1795, det. Dijkstra].

Another lot with a specimen and a left valve together with a printed Swartz label "pellucens". These specimens do not fit Linnaeus' description of 1764 [= *Ostrea hyalina* Poli, 1795, det. Dijkstra].

No relevant material was found in the LSL collection.

Remarks

Two indications in the description of Linnaeus (1758, 1764, 1767) are misleading, and subsequently this species was confused by other workers. The name "pellucens" suggests *O. hyalina* (specimens are fragile and completely transparent), but other shell characters do not resemble Linnaeus' description. The given locality is vague and incorrect.

Thunberg (1804: 5) mentioned "imbricata" (unusually not written in italics). This name was not used by Linnaeus (1758, 1764, 1767, 1771), but appeared in the 13th edition of Gmelin (1791: 3318, no. 12) with a reference to Chemnitz (1784: pl. 69, fig. G) and the locality "mari rubro" [= Red Sea]. On Thunberg's list the name "pellucens" is lacking. In 1820 on page 24 Thunberg listed "pellucens" and the name "imbricata" is absent. In his catalogue of 1828 both names are used, viz. on page 266 "imbricata. GA." and on page 267 "pellucens. C.", indicating that material of *O. imbricata* was in the collection of Gustaf VI Adolf and material of *O. pellucens* in the collection of Carl XIII. No printed Swartz labels with 'imbricata' have been found, nor Thunberg labels marked "pellucens". The two specimens with the handwritten Thunberg labels "Mus. Gust.Ad." and "imbricata" are the only specimens which correspond completely to Linnaeus' descriptions (1757, 1764, 1767) and to Gmelin's description (1791). Specimens with the printed Swartz labels "pellucens" are misleading as they do not correspond at all to Linnaeus' descriptions (1758, 1764, 1767):

O.D. Linnaeus 1758, 1764, 1767	Thunberg's "imbricata"	Swartz' "pellucens"
"radiis 9"	radial costae 9	no radial costae
"testa ovata"	shell oval	shell circular
"squamis magis concavis"	scales or nodules on radial costae	no scales
"auricula altera major"	anterior auricle large (auricles unequal)	auricles equal
"color albus"	white coloured	yellow or creamy
"purpureo maculatus"	purple or red spots	maculated white and brown

Linnaeus (1758, 1764, 1767) referred to figure H of plate 27 of Argenville (1742), which is a pectinid species with many radial costae (*c.* 24) [= *Ostrea varia* Linnaeus, 1758, det. Dijkstra].

The selected lectotype is an ecomorphological variant typical of Florida specimens; the paralectotype is an ecomorphological variant from the Antilles.

Current taxonomic position

Ostrea pellucens Linnaeus, 1758 is a senior synonym of *Ostrea imbricata* Gmelin, 1791, which is a species of *Caribachlamys* Waller (1993: 217). This genus is a representative of the tribus Chlamydini von Teppner, 1922 of the subfamily Chlamydinae von Teppner, 1922. The current taxonomic combination for the present species is *Caribachlamys pellucens* (Linnaeus, 1758).

Distribution

Known from the tropical western Atlantic, from Bermuda, Florida, the Bahama Islands, through the West Indies and Antilles to northern Brazil, living attached to corals on sandy bottoms littorally.

Ostrea sanguinea Linnaeus, 1758
(Fig. 4A, B)

Cited references

Gualtieri, 1742: pl. 74, fig. N (Linnaeus, 1758, 1758, 1767, 1767).
Linnaeus, 1758: 698, no. 167 (Linnaeus, 1764).
Linnaeus, 1764: 528, no. 111 (Linnaeus, 1767).
Linnaeus, 1767: 1146, no. 198.

Additional references

Hanley, 1855: 108; 1859: 57; Sherborn, 1899: 87; North, 1951: 12; Dodge, 1952: 175; Odhner, 1953: 6; Holm, 1957: 17; Wallin, 1993: 88.

Synonyms

Pallium senatoris Chemnitz, 1784: 320, pl. 65, fig. 617, living, Moluccas. [invalid publication]
Pallium porphyreum Chemnitz, 1784: 330, pl. 66, fig. 632, living, Red Sea. [invalid publication]
Ostrea senatoria Gmelin, 1791: 3327, no. 61, living, "Oceano indico" [= Indo-Pacific].
Ostrea porphyrea Gmelin, 1791: 3328, no. 65, living, "mari rubro" [= Red Sea].
Pecten aurantius Lamarck, 1819: 175, no. 45, living, "l'Océan indien?".
Pecten florens Lamarck, 1819: 175, no. 46, living, "l'Océan indien?".
Pecten indicus Deshayes, 1832: 410, pl. 3, fig. 5, living, Sri Lanka, Indian Ocean.
Pecten pseudolima G.B. Sowerby II, 1842: 78, pl. 20, fig. 235, living, Jacna, Bohol, Philippines.
Pecten layardi Reeve, 1853: species 80, pl. 21, fig. 80a, b, living, Sri Lanka.
Pecten fricatus Reeve, 1853: species 161, pl. 34, fig. 161, living, locality unknown.
Pecten blandus Reeve, 1853: species 162, pl. 34, fig. 162a, b, living, Australia.

Pecten raffraysi Jousseume, 1886: 221, fig., living, Zanzibar.

Mimachlamys ellochena Iredale, 1939: 349, pl. 5, fig. 24, living, N of North Direction Isle, N Queensland, Australia.

Chlamys (Mimachlamys) asperrimoides Powell, 1958: 70, pl. 11, figs 3, 4, text fig. 3, living, Norfolk Island.

Description

Shell up to *c.* 70 mm in height, left valve slightly more convex than right valve, orbicular to more elongate, somewhat longer than wide, equivalve, equilateral, auricles unequal in size, umbonal angle *c.* 85°. Both valves with 20–24 regularly arranged, radial costae with small, somewhat tripartite, scales, a secondary spinous radial riblet on each flank of primary rib, microsculpture of antimarginal striae in interstices. Hinge line straight, byssal notch deep, ctenolium well developed. Colour very variable, creamy, yellowish, orange, reddish, brown, purple to violet, with pale radial streaks and mottled.

Type locality

“Habitat in O. australiore”.

Restricted herein to the Moluccas, Indonesia, in accordance with similar material examined in the NNM and ZMA collections.

Type material

	H	W	
1. LSL, lectotype	39 mm	34 mm	(lv)
2. LSL, paralectotype 1	39 mm	37 mm	(rv)
3. LSL, paralectotype 2	32 mm	33 mm	(rv)
4. MSNP, paralectotype 3	30 mm	26 mm	(lv)

Hanley (1855: 108) isolated three unmarked valves, of which the left valve is closest to Linnaeus' descriptions (1758, 1764, 1767). This specimen is designated herein as the lectotype (Fig. 4A, B).

Another similar left valve (H 40.5 mm, W 39 mm) has been isolated by Hanley under *Ostrea pallium*, and may also be considered part of the type material.

One specimen (lv) was found in the Gualtieri collection (MSNP), which is similar to Linnaeus' reference (Gualtieri, 1742: pl. 74, fig. N). In fact, this specimen is similar to *Ostrea varia* Linnaeus, 1758.

Other material

LSL (not isolated):

(1) A metal box with two left and two right unmarked valves. The smallest right valve most resembles the lectotype and could be considered part of the type material.

UUZM (isolated by Holm):

(2) An unmarked left valve with a printed label “flavicans” of Swartz. This specimen is similar to the lectotype and Linnaeus' descriptions (1758, 1764, 1767).

(3) An unmarked right valve with a printed Swartz label “flavicans”. This specimen resembles the lectotype and Linnaeus' descriptions (1758, 1764, 1767). Both specimens do not correspond to the descriptions of *Ostrea flavicans* (Linnaeus, 1758, 1764, 1767).

UUZM (not isolated):

(1) A box with two unmarked right valves and a printed Swartz label "sangvinea" [= *Ostrea pyxidata* Born, 1778, det. Dijkstra]. These two valves do not correspond to Linnaeus' description of *O. sanguinea* (see Wallin, 1993: 88, *Ostrea sanguinea* # 1054 and 1060).

(2) An unmarked specimen with two handwritten Thunberg labels "Mus. Carol. XIII" and "sangvinea.". This specimen resembles the lectotype and Linnaeus' description of *O. sanguinea*.

Remarks

Linnaeus (1758, 1764, 1767) only refers to Gualtieri (1742: pl. 74, fig. N). A marked specimen (74.N.) was found in the MSNP at Calci during my visit there in November 1990. This specimen is certainly *Ostrea varia* Linnaeus, 1758.

Current taxonomic position

Ostrea sanguinea Linnaeus, 1758 is a senior synonym of *Ostrea senatoria* Gmelin, 1791, which is the type species of *Mimachlamys* Iredale, 1939. Recently Waller (1993: 200) placed this genus in a new tribe Mimachlamydini of the subfamily Chlamydiae von Teppner, 1922. The current taxonomic combination for the present species is *Mimachlamys sanguinea* (Linnaeus, 1758).

Ostrea varia Linnaeus, 1758

(Fig. 5A–D)

Cited references

- Gualtieri, 1742: pl. 74, fig. R (Linnaeus, 1764, 1767).
 Linnaeus, 1758: 698, no. 168 (Linnaeus, 1764).
 Linnaeus, 1764: 529, no. 112 (Linnaeus, 1767).
 Linnaeus, 1767: 1146, no. 199.

Additional references

- Hanley, 1855: 109; 1859: 57; Sherborn, 1899: 105; North, 1951: 12; Dodge, 1952: 177; Odhner, 1953: 6; Holm, 1957: 17; Morris, 1987: 45; Wallin, 1993: 88.

Synonyms

- Pecten monotis* Da Costa, 1778: 151, pl. 10, figs 1, 2, 4, 5, 7, 9, living, England.
Ostrea muricata Gmelin, 1791: 3320, living, locality unknown.
Ostrea aculeata Gmelin, 1791: 3320, living, locality unknown.
Ostrea subrufa Gmelin, 1791: 3329, living, locality unknown.
Ostrea ochroleuca Gmelin, 1791: 3330, living, locality unknown.
Ostrea mustellina Gmelin, 1791: 3330, living, locality unknown.
Ostrea flammea Gmelin, 1791: 3330, living, locality unknown.
Ostrea versicolor Gmelin, 1791: 3331, living, locality unknown.
Pecten radiatus Bosc, 1802: 264, living, locality unknown.
Pecten varius Bosc, 1802: 264, living, Mediterranean Sea.

Description

Shell up to *c.* 100 mm in height, usually much smaller, solid, elongate, valves nearly equally convex, equivalve, equilateral, auricles very unequal in size, umbonal angle *c.* 80°. Both valves with 26–36 regularly arranged, high rounded, spinous radial ribs, microsculpture of commarginal lamellae in early ontogeny and anti-marginal striae, both in interstices. Hinge line straight, somewhat declined on posterior side, byssal notch deep, ctenolium well developed. Colour very variable, white, creamy, yellow, orange, red, brown, purplish or violet, uniform or mottled.

Type locality

“Habitat in *O. australiore*”.

The locality mentioned by Linnaeus (1758, 1767) is vague and incorrect and is restricted herein to Brittany (France), in accordance with similar examined material (MNHN, ZMA).

Type material

	H	W	
1. LSL, lectotype	39 mm	33 mm	(spm)
2. LSL, paralectotype 1	28 mm	23 mm	(spm)
3. LSL, paralectotype 2	42 mm	35 mm	(lv)
4. UUZM, ?paralectotype	32 mm	25 mm	(lv)
5. MSNP, paralectotype 3	42 mm	39 mm	(lv)

Hanley, (1855: 109) isolated two specimens and one left valve. On the outside of the right valve of the larger specimen an ink mark “11.” is visible near the umbo. All specimens were found in a marked metal box of Linnaeus, according to remarks on Dance’s printed label. The larger specimen is designated herein as the lectotype (Fig. 5A–D).

In the general collection of the UUZM one specimen (a left valve) with a printed Swartz label “vsria” (sic) is present (see Wallin, 1993: 88, *Ostrea varia* # 1057).

One specimen (lv) was found in the Gualtieri collection (MSNP), which is similar to Linnaeus’s reference (Gualtieri, 1742: pl. 74, fig. R).

Other material

LSL (not isolated):

(1) A card box with 12 unmarked valves (5 left valves and 7 right valves) of *Ostrea varia*.

(2) A marked metal box (“156 zic-zac”) with 2 unmarked valves (1 left valve and 1 right valve) of *Ostrea varia*.

(3) A marked metal box (? “185”) with an unmarked left valve of *Ostrea varia*.

(4) A marked metal box (“Pusio”) with two unmarked right valves of *Ostrea varia*.

(5) A large card box with one specimen and two right valves of *Ostrea varia*, all unmarked.

UUZM (not isolated):

Many specimens with written name bearing Thunberg labels “varia” are in the general collection, sometimes with a Thunberg label “Mus.Carol.XIII”. Among these specimens there could be MLU specimens of *Ostrea varia*.

Remarks

In the 10th edition of the *Systema* Linnaeus did not refer to Gualtieri (1742: pl. 74, fig. R) as he did in the MLU (1764) and the 12th edition (1767). Gualtieri's figure R corresponds very well with Linnaeus' descriptions and the selected type material of *Ostrea varia*. During my visit to Certosa di Calci (MSNP), in 1990, one marked left valve was found ("74.R."), corresponding in all shell features to Linnaeus' *Ostrea varia*.

Linnaeus (1758) mentioned, in his description, that the colour of *O. varia* is very variable ("Color maxime variat"); in the MLU (1964) he summarized six colour variations. Some of these, perhaps all, may be in the general collection of the UUZM. However, it is difficult, or nearly impossible, to isolate such specimens.

Current taxonomic position

Ostrea varia Linnaeus, 1758 is a well known extant pectinid species, commonly placed in the genus *Chlamys* Röding, 1798. Recently Waller (1991: 17, 31; 1993: 200) treated it as a representative species of *Mimachlamys* Iredale, 1939 in the tribe Mimachlamyidini Waller, 1993 of the subfamily Chlamyidinae von Teppner, 1922. The current taxonomic combination for the present species is *Mimachlamys varia* (Linnaeus, 1758).

Distribution

This common and well known species is distributed throughout the eastern Atlantic of Europe and Africa including the Mediterranean Sea, from Norway to the Canary Islands, and lives byssally attached to sediments, rocks, stones or gravel on a sandy or muddy sand bottom in the littoral to sublittoral zones.

Ostrea pusio Linnaeus, 1758
(Fig. 4C–F)

Cited references

Linnaeus, 1758: 698, no. 169 (Linnaeus, 1764).
Linnaeus, 1764: 529, no. 113 (Linnaeus, 1767).
Linnaeus, 1767: 1146, no. 200.

Additional references

Hanley, 1855: 109; 1859: 57; Sherborn, 1899: 82; North, 1951: 12; Dodge, 1952: 178; Odhner, 1953: 6; Holm, 1957: 17; Morris, 1987: 45; Waller, 1993: 215 (designation of lectotype); Wallin, 1993: 88.

Synonyms

Ostrea miniata Born, 1778: 88; 1780: 104, pl. 7, fig. 1, living, locality unknown.
Pecten distortus Da Costa, 1778: 148, pl. 10, figs 3, 6, living, England.
Ostrea sinuosa Gmelin, 1791: 3319, no. 16, living, Great Britain.
Pecten spinosus Brown, 1827: pl. 33, fig. 8; 1844: 73, living, Northumberland, England.
Pecten irregularis Deshayes; 1832: 273, living, coast of France.
Hinnites isabellae Macgillivray, 1843: 203, 225, living, off Aberdeen.
Pecten crottilus Reeve, 1853: sp. 150, pl. 33, fig. 150, living, locality unknown.

Description

Shell up to *c.* 60 mm in height, solid, juvenile valves slightly equally convex, adult valves distorted, right valve cemented to hard substrates, inequivalve, inequilateral, auricles unequal in size, umbonal angle *c.* 80°. Both valves with 60–80 irregularly arranged, closely spaced, spinous radial riblets, microsculpture of commarginal lamellae in early ontogeny and antimarginal striae, both in interstices.

Hinge line straight, somewhat declined on posterior side, byssal notch rather deep, ctenolium present. Colour variable, creamy, yellowish, orange or brown, usually mottled.

Type locality

“Habitat in *O. australiore*”.

The locality mentioned by Linnaeus (1758, 1767) is incorrect. Waller (1993: 215) designated a new locality: northeastern Atlantic.

Type material

	H	W	
1. LSL, lectotype	37 mm	35 mm	(spm)
2. LSL, ?paralectotype	19 mm	17 mm	(spm)
3. LSL, ?paralectotype	20 mm	18 mm	(lv)
4. LSL, ?paralectotype	18 mm	17 mm	(rv)

Hanley (1855: 109) isolated four unmarked specimens (two complete and two valves) from a marked Linnaeus box, but he pointed out that “the marked receptacle of the species in the Linnean cabinet has unfortunately been converted into a general depository for all the loose valves of the smaller *Pecten* . . .”

The first two possible paralectotypes are similar to *Pecten albolineatus* G.B. Sowerby II, 1842. The third possible paralectotype is a juvenile of *Pecten islandicus* Müller, 1776.

Waller (1993: 215) designated the largest specimen as the lectotype (Figs 4C–F) and discussed in more detail the other specimens, isolated by Hanley.

Other material

LSL (not isolated):

(1) A metal box with four unmarked specimens (two left valves and two right valves) of *P. albolineatus*.

(2) A large card box with twelve adult specimens (four left valves and eight right valves) of *P. islandicus*.

UUZM (not isolated):

(1) A left valve with a printed Swartz label “Pusio”. This specimen is similar to *P. albolineatus*. (see Wallin, 1993: 88, *Ostrea pusio* # 1045)

(2) A box with one specimen, a left valve and a right, with two printed labels “Pusio”, one glued to the cotton, and the other on the inside of the right valve. These specimens are similar to *Ostrea multistriata* Poli, 1795. (see Wallin, 1993: 88, *Ostrea pusio* # 1055a–c)

(3) Four boxes with handwritten Thunberg labels “Pusio”, two boxes with two handwritten Thunberg labels “Mus.Carol.XIII” and “Pusio”, and a box with a

handwritten Thunberg label "Mus.Carol.XIII". Some of these specimens may have belonged to the MLU collection.

Remarks

Specimens of *P. albolineatus* and *O. multistriata* labelled as *O. pusio* are in the UUZM collection. In the LSL collection are also *P. albolineatus*, but not *O. multistriata*. Morphological characters of *P. albolineatus* most resemble Linnaeus' descriptions (1758, 1764).

Waller (1993: 215–6) discussed the selection of the lectotype of *O. pusio* based merely on the opinions of previous authors (Hanley, 1855; Cox, 1927; Dodge, 1952; Glibert & Van der Poel, 1965; Dance, 1967 and Wallin, 1991). None has compared the material of *O. pusio* from the UUZM and the LSL with the descriptions of Linnaeus (1758, 1764) in detail. In my opinion only the specimens of *P. albolineatus* resemble Linnaeus' descriptions closely and one of these should have been selected as lectotype. However, according to the ICZN Art. 74a (v), it can not be proved that the lectotype selected by Waller, does not belong to the syntype series. Most probably this unmarked distorted specimen of *O. pusio* belonged to the younger Linnaeus or to Smith.

Ostrea pusio of authors is commonly used for the Atlantic, cemented, distorted "chlamiid" species and for the uncemented, byssally attached "chlamiid" species from the Mediterranean Sea, but not for any species from the Indo-Pacific region.

Current taxonomic position

Ostrea pusio Linnaeus, 1758 has been placed recently by Waller (1993: 215) in the genus *Crassadoma* Bernard, 1986. This genus is a representative of Crassadomini (Waller, 1993: 207), a tribe of Chlamydinae von Teppner, 1922. The current taxonomic combination for the present species is *Crassadoma pusio* (Linnaeus, 1758).

Distribution

Known from the eastern Atlantic of Europe, from Norway southwards to Spain and Portugal, and also from the Azores. This species is free-living in its early growth stages and is subsequently cemented to hard substrates on sandy or muddy sand bottoms at littoral to sublittoral depths.

Ostrea glabra Linnaeus, 1758
(Fig. 10A, B)

Cited references

- Gualtieri, 1742: pl. 73, fig. H (Linnaeus, 1758, 1764, 1767).
Regenfuss, 1758: pl. 1, fig. 10, pl. 2, fig. 16 (Linnaeus, 1758, 1767).
Linnaeus, 1758: 698, no. 170 (Linnaeus, 1764).
Linnaeus, 1764: 530, no. 114.
Linnaeus, 1767: 1146, no. 201.

Additional references

- Hanley, 1855: 110; 1859: 57; Sherborn, 1899: 41; North, 1951: 13; Dodge, 1952: 180; Odhner, 1953: 6; Morris, 1987: 45; Wallin, 1993: 86.

Synonyms

- Ostrea sulcata* Born, 1778: 86; 1780: 103, pl. 6, fig. 3, living, locality unknown.
Ostrea maculata Born, 1778: 90; 1780: 105, living, Adriatic Sea.
Pecten solaris Chemnitz, 1784: 336, pl. 67, fig. 638 (provparte), living, Adriatic Sea (non Born, 1778). [invalid publication]
Ostrea aurantia Gmelin, 1791: 3321, living, locality unknown.
Ostrea citrina Poli, 1795: 158, pl. 28, fig. 15, living, Sicily (non Gmelin, 1791).
Ostrea rustica Poli, 1795: 158, pl. 28, fig. 13, living, Sicily.
Ostrea nebulosa Poli, 1795: 159, pl. 28, fig. 12, living, Sicily.
Pecten glaber Bosc, 1802: 264, living, Mediterranean Sea and coast of Africa. [junior homonym]
Pecten sulcatus Lamarck, 1819: 168, living, Gulf of Tarente, Mediterranean Sea.
Pecten virgo Lamarck, 1819: 168, living, Gulf of Tarente, Mediterranean Sea.
Pecten unicolor Lamarck, 1819: 169, living, Mediterranean Sea.
Pecten griseus Lamarck, 1819: 169, living Mediterranean Sea.
Pecten distans Lamarck, 1819: 169, living, Mediterranean Sea (Dijkstra, 1994: 481).
Pecten golus Gregorio, 1885: 186, living, Mediterranean Sea.
Pecten anisopleurus Locard, 1888: 86, living, Cete, Marseille and Toulon, Provence, France.
Proteopecten liburnicus [Stossich MS] Monterosato, 1899: 188, figs 4, 5, living, Trieste.

Description

Shell up to *c.* 70 mm in height, extremely polymorphic, left valve more convex than right valve, orbicular to suborbicular, inequivalve, nearly equilateral, auricles unequal in size, umbonal angle *c.* 95–100°. Both valves with 10–12, regularly or irregularly arranged, radial plicae, secondary radial riblets and microsculpture of commarginal lamellae on and between primary ribs. Hinge line straight, byssal notch moderately deep, ctenolium well developed. Colour extremely variable, white, creamy, yellowish, orange, reddish, pinkish, purple, brown, greyish or black, uniform coloured or with V-shaped markings, dots and blotches.

Type locality

“Habitat in M. Mediterraneo”.

Type material

	H	W	
1. UUZM, lectotype	37 mm	37 mm	(spm)
2. UUZM, paralectotype 1	19 mm	18 mm	(spm)
3. LSL, paralectotype 2	28 mm	31 mm	(rv)
4. LSL, paralectotype 3	25 mm	27 mm	(rv)
5. LSL, paralectotype 4	24 mm	24 mm	(lv)
6. LSL, paralectotype 5	22 mm	23 mm	(rv)
7. LSL, paralectotype 6	14 mm	15 mm	(rv)
8. MSNP, paralectotype 7	41 mm	43 mm	(rv)

Odhner (1953: 6) isolated one specimen with a handwritten Thunberg label “Mus.Gust.Ad.”. This specimen is designated herein as the lectotype (Fig. 10A) (see also Wallin, 1993: 86, *Ostrea glabra* # 496).

Another specimen (not isolated by Odhner) with a printed Swartz label was found in the general collection (see Wallin, 1993: 86, *Ostrea glabra* # 1047).

Hanley (1855: 110) isolated 5 unmarked specimens (four right valves and one left valve), which all correspond to Linnaeus' descriptions (1758, 1764, 1767).

One specimen (rv) was traced in the Gualtieri collection (MSNP), which is similar to Linnaeus' reference (Gualtieri, 1742: pl. 73, fig. H).

Other material

LSL (not isolated):

A metal box with 13 unmarked specimens (8 left valves and 5 right valves). These could have formed part of the original Linnaean shell collection. All specimens correspond very well with the original description of *O. glabra*.

Remarks

In the Royal Swedish Academy of Sciences at Stockholm is a manuscript of H.C. von Krus (1754–5) (Lovén, 1887) with painted molluscan specimens from the MLU collection. One of the painted figures (Fig. 10B) is a yellow specimen of *O. glabra* (pl. 39, fig. 10), which he painted in February 1755.

This specimen has not been found in the general collection of the UUZM.

Linnaeus (1757, 1764, 1767) referred to Gualtieri, 1742: plate 73, fig. H). This figure is similar to the selected type material. An ink-marked specimen (right valve) with "73.H" on the inside near the umbo exists in the Gualtieri collection (MSNP) at Calci. This specimen is a typical *O. glabra*.

The second reference of Linnaeus (1758, 1767) is to Regenfuss (1758: pl. 1, fig. 10 and pl. 2, fig. 16). Figure 10 is a typical *O. glabra*; figure 16 corresponds more to *Ostrea gibba* Linnaeus, 1758.

Current taxonomic position

Ostrea glabra Linnaeus, 1758 is currently placed in *Flexopecten* Sacco, 1897 (type species *Ostrea flexuosa* Poli, 1795 by original description), a representative genus of Decatopectinini Waller, 1986 in the subfamily Pectininae Wilkes, 1810 (Waller, 1993: 198). The current taxonomic combination for the present species is *Flexopecten glaber* (Linnaeus, 1758).

Distribution

Linnaeus (1758, 1767) correctly attributed *O. glabra* to the Mediterranean Sea. This highly polymorphic species lives in the littoral zone throughout the Mediterranean Sea on sandy or muddy sand bottoms.

Ostrea opercularis Linnaeus, 1758
(Fig. 7A–D)

Cited references

- Linnaeus, 1758: 698, no. 171 (1764).
Linnaeus, 1764: 530, no. 115 (1767).
Linnaeus, 1767: 1147, no. 202.

Additional references

Hanley, 1855: 110; 1859: 57; Sherborn, 1899: 67; North, 1951: 13; Dodge, 1952: 181; Odhner, 1953: 6; Dance, 1967: 23, pl. 2, figs 3, 4; Morris, 1987: 45; Wallin, 1993: 87.

Synonyms

Pecten subrufus Pennant, 1777: 186, pl. 60, fig. 63, living, locality unknown.
Ostrea solaris Born, 1778: 91; 1780: 106, pl. 6, fig. 4, living, locality unknown.
Pecten pictus Da Costa, 1778: 144, pl. 9, figs 1, 2, 4, 5, living, Great Britain and Ireland.
Pecten lineatus Da Costa, 1778: 147, pl. 10, fig. 8, living, Cornwall and Weymouth.
Ostrea dubia Gmelin, 1791: 3319, living, locality unknown.
Ostrea elegans Gmelin, 1791: 3319, living, Great Britain.
Ostrea versicolor Gmelin, 1791: 3319 (non Gmelin, 1791: 3331), living, locality unknown.
Ostrea radiata Gmelin, 1791: 3320, living, locality unknown.
Ostrea regia Gmelin, 1791: 3321, living, locality unknown.
Ostrea sanguinea Poli, 1795: 161, pl. 28, figs 7, 8 (non Linnaeus, 1758).
Pecten elegans Bosc, 1802: 263, living, Europe.
Pecten versicolor Bosc, 1802: 263, living, locality unknown.
Pecten opercularis Bosc, 1802: 265, living, Europe.
Pecten regius Defrance, 1825: 250, living, locality unknown.
Pecten audouini Payraudeau, 1826: 77, pl. 2, figs 8, 9, living, Ajaccio, Figari and Santa Manza, Corsica.
Pecten itorus Gregorio, 1885: 191, post-Pliocene, Palermo.

Description

Shell up to *c.* 100 mm in height, depressed, left valve more convex than right valve, suborbicular, somewhat wider than long, inequivalve, inequilateral, slightly posteriorly oblique, auricles unequal in size, umbonal angle *c.* 105°. Both valves with 18–25, regularly arranged, radial, squamose costae, secondary radial, scaly riblets and commarginal lamellae on and between primary ribs, more prominent on left valve. Hinge line straight, byssal notch moderately small and deep, ctenolium well developed. Colour extremely variable, white, creamy, yellowish, orange, reddish, pinkish, purplish, brown or greyish, uniform coloured or maculated.

Type locality

“Habitat in *O. meridionali*”.

Herein more restricted to Brittany (France), according to similar examined material (MNHN, ZMA).

Type material

	H	W	
1. LSL, lectotype	52 mm	53 mm	(spm)
2. LSL, paralectotype 1	46 mm	50 mm	(lv)
3. LSL, paralectotype 2	40 mm	40 mm	(rv)
4. UUZM, paralectotype 3	68 mm	68 mm	(spm)

Hanley (1855: 110) isolated one complete marked specimen, herein designated as the lectotype (Fig. 7A–D). On the inside of the lectotype (lv) is a small glued label with “2” hand written in ink, and on the inside of the right valve a small glued label with “List f.30” hand written in ink (Dance, 1967: pl. 2, figs 3, 4). The other two isolated valves are unmarked.

Odhner (1953: 6) did not isolate specimens of this species, but a specimen with a printed Swartz label “opercularis” is in the general collection of the UUZM (see Wallin, 1993: 87, *Ostrea opercularis* # 1041).

Other material

LSL (not isolated):

(1) A marked metal box “opercularis” with one small specimen and two valves (a left and a right valve). All are unmarked.

(2) A marked metal box “Pusio” with two unmarked valves (a left and a right valve).

(3) A card box with one complete unmarked specimen together with a piece of paper on which “*Ostrea aspera*” is hand written in ink, probably by Solander (Dance, 1967: 3; 1971: 354–379).

(4) A card box with one complete, marked, white specimen and a marked, white, right valve. The hand written pencil marks on the inside of the right valve are illegible.

(5) A card box with three, unmarked, white, right valves.

(6) A card box with a complete unmarked specimen and an unmarked left valve.

(7) A large card box with four unmarked specimens (three left valves and one right valve).

It is possible that this material includes specimens from the original Linnaean shell collection.

Remarks

Linnaeus (1758: 698) cited MLU (in italics) after his diagnosis of *O. opercularis*. This citation (see Table 5) is often used but not for all pectinid species in *Ostrea*.

Current taxonomic position

Ostrea opercularis Linnaeus, 1758 is the type species of *Aequipecten* P. Fischer, 1886 (designation by monotype). This genus is now placed in the tribe Aequipectinini (Waller, 1993: 198) of the subfamily Chlamydinae von Teppner, 1922. The current combination for the present species is *Aequipecten opercularis* (Linnaeus, 1758).

Distribution

This common species is distributed throughout the eastern Atlantic along the European coasts from Norway to the Canary Islands and the Mediterranean Sea, and lives mostly in colonies on sandy or muddy sand bottoms in the littoral zone.

Ostrea gibba Linnaeus, 1758

(Fig. 6A–D)

Cited references

MLU cited (Linnaeus, 1758).

Browne, 1756: pl. 40, fig. 10 (Linnaeus, 1758, 1764, 1767).

Linnaeus, 1758: 698, no. 172 (Linnaeus, 1764).
 Linnaeus, 1764: 531, no. 116 (Linnaeus, 1767).
 Linnaeus, 1767: 1147, no. 203.

Additional references

Hanley, 1855: 111; 1859: 57; Sherborn, 1899: 41; North, 1951: 13; Dodge, 1952: 182; Odhner, 1953: 6; Waller, 1969: 36, pl. 8, figs 1–4, text figs 3, 8–10; Morris, 1987: 45.

Synonyms

Pecten (Chlamys) liocymatus Dall, 1925: 119, living, off Cape Hatteras, North Carolina, U.S.A.

Pecten (Plagioctenium) gibbus portusregii Grau, 1952b: 69 [nomen novum for *P. (P.) gibbus carolinensis* Grau, 1952a: 17, pl. 1, figs 2–5, 7 (non *Pecten carolinensis* Conrad, 1875)], living, off Port Royal, South Carolina, U.S.A.

Description

Shell up to *c.* 60 mm in height, solid, bulbous, valves almost equally convex, nearly orbicular, equivalve, equilateral, auricles slightly unequal in size, umbonal angle *c.* 95°. Both valves with 17–23, regularly arranged, smooth radial plicae, commarginal lamellae in interstices. Hinge line straight, byssal notch very weak, ctenolium absent in mature specimens. Colour variable, creamy, yellowish, orange, reddish, pinkish, purplish or brown, uniform coloured or mottled, right valve paler.

Type locality

U.S.A., Florida, off Marco Island, live, on sand flat, extreme low tide, November 1996. (ICZN, 1985, Article 75 f)

Type material

	H	W	
1. UUZM, neotype	49 mm	51 mm	(spm)

Hanley (1855: 111) isolated one unmarked specimen (a right valve) with some hesitation, and remarked that “Linnaeus has not included this species in the list of those possessed by himself . . .” This specimen (LSL) is closer to *Ostrea flabellum* Gmelin, 1791, known from Mauritania and southwards to Angola. No specimens similar to *O. gibba* are traced by me in the LSL.

The examined material in the general collection of the UUZM corresponds to Linnaeus’ descriptions. It is possible, however, that some or all of the specimens come from the MLU collection, but it cannot be proved.

Linnaeus (1758, 1764, 1767) only referred to Browne (1756: pl. 40, fig. 10), but the figure is of uncertain identity and could represent two valid species, viz. *Ostrea gibba* Linnaeus, 1758, or *Ostrea nucleus* Born, 1778. However, the former species is not known from Jamaica (Waller pers. comm., 10 May 1997). For the nomenclatural stability (ICZN, 1985, Article 75a) of *O. gibba*, it is herein designated as the neotype (Fig. 6A–D).

Other material

Odhner (1953: 6) did not isolate specimens from the general collection, although material of *O. gibba* is present, without any Thunberg or Swartz labels:

- (1) A box with two unmarked left valves.
- (2) A box with two unmarked valves (a left and a right valve).
- (3) Two boxes with two tied small valves.

Current taxonomic position

Ostrea gibba Linnaeus, 1758 is a common and well known extant, representative species of *Argopecten* Monterosato, 1889 and has been recently placed by Waller in the tribe Aequipectinini (Waller, 1991: 33; 1993: 198) of the subfamily Chlamydiae von Teppner, 1922. The current taxonomic combination for the present species is *Argopecten gibbus* (Linnaeus, 1758).

Distribution

Known from the western North Atlantic and Gulf of Mexico, from off North Carolina through Florida to the Caribbean Sea, living on sandy bottoms from littoral to sublittoral depths.

Ostrea flavicans Linnaeus, 1758
(Fig. 9C, D)

Cited references

Linnaeus, 1758: 698, no. 173 (Linnaeus, 1764).
Linnaeus, 1764: 531, no. 117 (Linnaeus, 1767).
Linnaeus, 1767: 1147, no. 204.

Additional references

Hanley, 1855: 111; 1859: 57; Sherborn, 1899: 37; Dodge, 1952: 183; Odhner, 1953: 6; Dance, 1967: 21; Morris, 1987: 45; Wallin, 1993: 86; Dijkstra, 1994: 483.

Synonym

Pecten tigris Lamarck, 1819: 171, no. 30, living, "l'Océan indien?" **Syn. nov.**

Description

Shell up to *c.* 60 mm in height, compressed, right valve more convex than left valve, subtriangularly ovate, posteriorly oblique, inequivalve, inequilateral, auricles very unequal in size, umbonal angle *c.* 80°. Both valves with 8–10, regularly arranged, radial plicae, secondary radial scaly riblets on and between primary ribs, covered by a shagreen microsculpture, microsculpture of commarginal lamellae in early ontogeny. Hinge line straight, somewhat declined on posterior side, byssal notch deep, ctenolium well developed. Colour creamy with dark brown or reddish-brown maculations or bands, yellowish near umbo, right valve paler, interior yellowish near resilial pit dark brown, on anterior auricle a red spot.

Type locality

“Habitat in *O. australiore*”.

Type material

	H	W	
UUZM, lectotype	49 mm	45 mm	(spm)
UUZM, ?paralectotype	42 mm	39 mm	(lv)
UUZM, ?paralectotype	41 mm	38 mm	(rv)

Although Odhner (1953: 6) did not isolate a specimen from the general collection, he remarked that Lafrensen painted this species (fig. 17) [MS in RSAS], and identified it as *Chlamys tigris* Lamarck. In May 1990 I observed one complete marked specimen without Thunberg or Swartz labels in the general collection, with an ink mark “17” on the outside of the right valve near the umbo. The number corresponds with the figure of Lafrensen (see also Wallin, 1993: 86, *Ostrea flavicans* # 1647). This specimen corresponds exactly to Linnaeus’ descriptions (1758, 1764) and is designated herein as the lectotype (Fig. 9C).

Holm isolated two unmarked specimens (a left and a right valve), each with a printed Swartz label “flavicans” (see Wallin, 1993: 86, *Ostrea flavicans* # 884 and 885). Both specimens differ totally in most shell characters from *O. flavicans* and are similar to *Ostrea senatoria* Gmelin, 1791.

Remarks

Linnaeus (1758: 698) cited MLU (in italics) after the diagnosis. This species is not in the LSL collection and it is most likely that he based his description of *O. flavicans* on a specimen housed in the MLU collection. Thunberg (1804: 5; 1820: 23; 1828: 266) mentioned *O. flavicans* only from Gustav IV Adolf’s donations. Only a single specimen was found in the UUZM corresponding to the MLU.

Current taxonomic position

Ostrea flavicans Linnaeus, 1758 is a senior synonym of *Pecten tigris* Lamarck, 1819, which is the type species of *Semipallium* [Jousseume *in*] Lamy, 1928 (by original designation). Hertlein (1969: N365) included *Semipallium* in the Decatopecten group, although Waller (1986: 40) excluded it, and placed this genus in the tribe Chlamydini of the subfamily Chlamydiae von Teppner, 1922 (Waller, 1993: 202). The current taxonomic combination for the present species is *Semipallium flavicans* (Linnaeus, 1758).

Distribution

Known from the Indo-West Pacific from southern Japan through the Philippines and Indonesia to northeastern Australia, living among coral on sandy bottoms in the littoral zone.

Ostrea peshutuae Linnaeus, 1771
(Fig. 7E, F)

Cited references

- Lister, 1687: pl. 171 (Linnaeus, 1771).
Argenville, 1742: pl. 27, fig. A (Linnaeus, 1771).
Gualtieri, 1742: pl. 74, figs C.C (Linnaeus, 1771).

Additional references

- Dodge, 1952: 196; Dance, 1967: 22.

Synonyms

- Pecten septemradiatus* Müller, 1776: 248, living, Denmark.
Pecten pseudamusium Chemnitz, 1784: 298, pl. 63, figs 601, 602, living, Trondheim, Norway. [invalid publication]
Ostrea hybridum Gmelin, 1791: 3318, living, Norway.
Pecten danicus Chemnitz, 1795: 265, pl. 207, fig. 2043, living, coast of Germany.
Pecten aspersus Lamarck, 1819: 167, living, locality unknown.
Pecten nebulosus Brown, 1835: 9, fig., living, Largs, mouth of the Clyde.
Pecten jamesoni J. Smith, 1839: 106, pl. 2, fig 1, living, Hebrides.

Description

Shell up to *c.* 60 mm in height, rather thin, translucent or opaque, compressed, right valve slightly more convex, almost orbicular, inequivalve, inequilateral, auricles somewhat unequal in size, umbonal angle *c.* 95°. Both valves with 5–10, usually regularly arranged, radial plicae, on right valve broader than on left valve, secondary radial scaly riblets, sometimes lacking, and microscopic radial striae on and between primary ribs, microsculpture of commarginal lamellae in early ontogeny. Hinge line straight, byssal notch and ctenolium weak. Colour brownish, creamy mottled, unusually white or purplish, right valve paler, interior glossy white.

Type locality

Not mentioned. Herein designated to off Largs, Scotland, according to similar observed specimens from the same region (BMNH, ZMA).

Type material

	H	W	
1. LSL, lectotype	40 mm	38 mm	(lv)
2. LSL, ?paralectotype	39 mm	38 mm	(lv)

Hanley (1855) did not isolate these specimens, although he mentioned that some specimens of *Pecten danicus* Chemnitz are present (Dodge, 1952: 196).

I found one specimen (an unmarked left valve) in a metal box, which corresponds very well with Linnaeus' description and is herein selected as the lectotype (Fig. 7E, F). Another specimen (also an unmarked left valve) was found in a large card box together with other not isolated pectinid specimens. This specimen also corresponds to Linnaeus' description.

No other similar specimens were found in the LSL collection, nor in the UUZM collection.

Remarks

Linnaeus (1771: 547) referred to three earlier publications (see above). Lister's figure 8 of plate 171 is somewhat like the lectotype with three prominent radial costae on the left valve. Argenville's figure A of plate 27 is indeterminable, and Gualtieri's figure CC of plate 74 are somewhat similar to *Ostrea clavata* Poli, 1795, a Mediterranean species.

Current taxonomic position

Ostrea pleslutrae Linnaeus, 1758 is a senior synonym of *Pecten septemradiatus* Müller, 1776, the type species of *Pseudamussium* Mörch, 1853 (according to the ICZN). This genus may be best placed in the tribe Palliolini (Waller, 1993: 198) of the subfamily Pectininae Wilkes, 1810. The current taxonomic combination for the present species is, therefore, *Pseudamussium pleslutrae* (Linnaeus, 1771).

Distribution

Known from the eastern Atlantic from Norway to Morocco into the western Mediterranean Sea, living on silty bottoms from littoral to bathyal depths.

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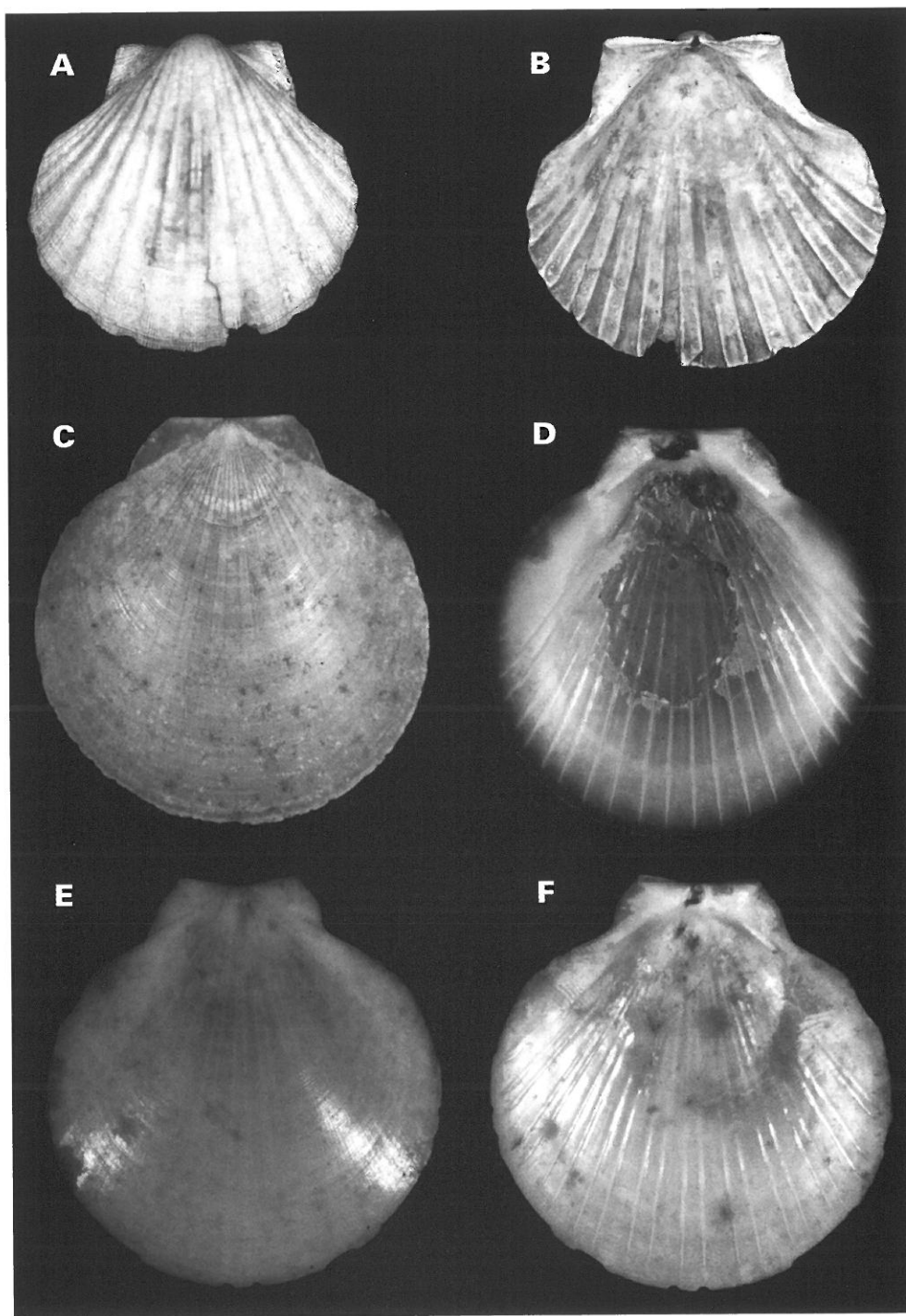


Figure 1. A, *Ostrea maxima* Linnaeus, 1758. Lectotype (H 122 mm, W 120 mm), LSL (No. 154), left valve, exterior. B, idem, interior. C, *Ostrea pleuronectes* Linnaeus, 1758. Lectotype (H 46 mm, W 46 mm), LSL (No. 159), left valve, exterior. D, idem, interior. E, idem, right valve, exterior. F, idem, interior.

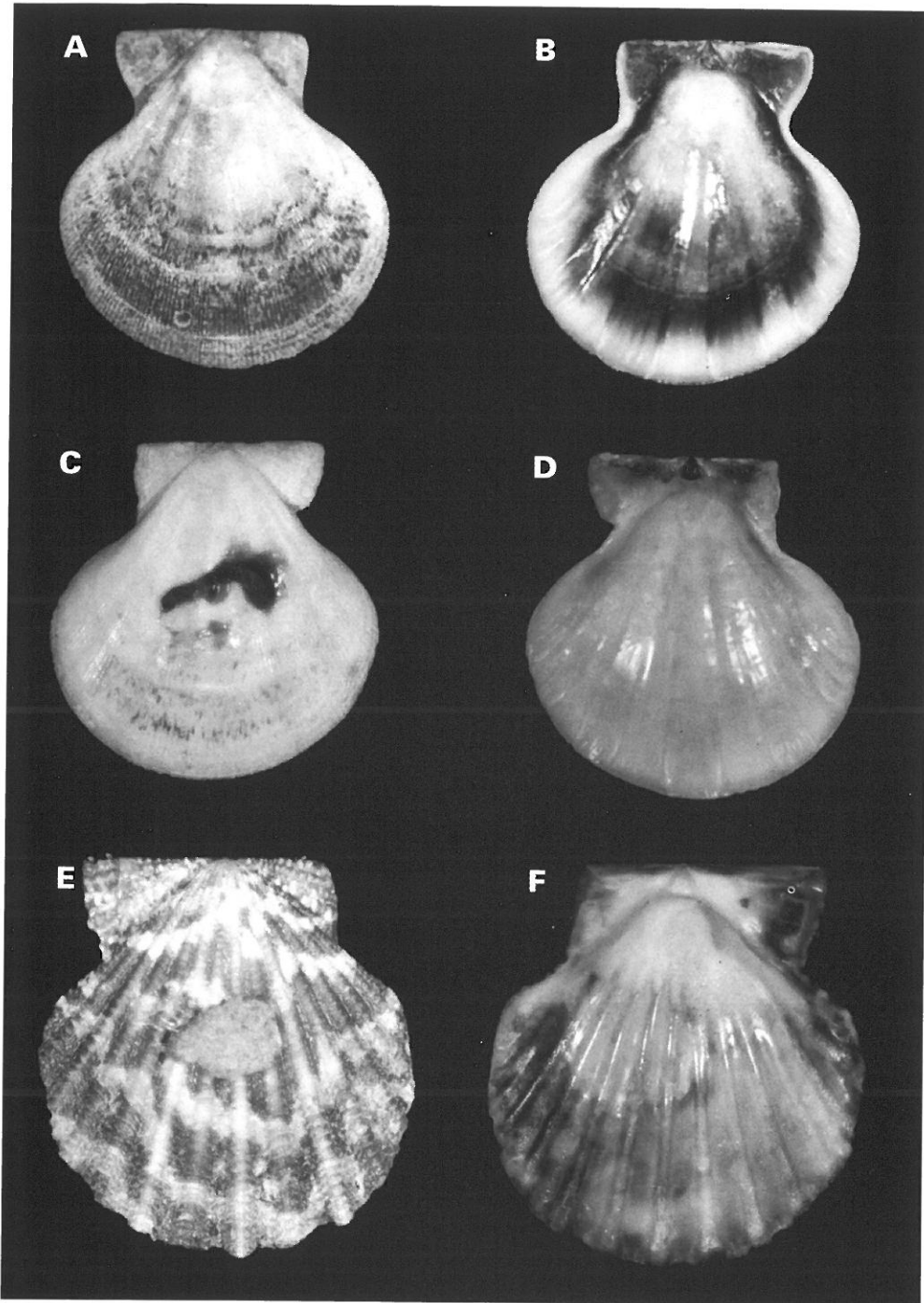


Figure 2. A, *Ostrea plica* Linnaeus, 1758. Lectotype (H 35 mm, W 35 mm), LSL (No. 162), left valve, exterior. B, idem, interior. C, idem, right valve, exterior. D, idem, interior. E, *Ostrea pallium* Linnaeus, 1758. Lectotype (H 42 mm, W 41 mm), LSL (No. 163), left valve, exterior. F, idem, interior.

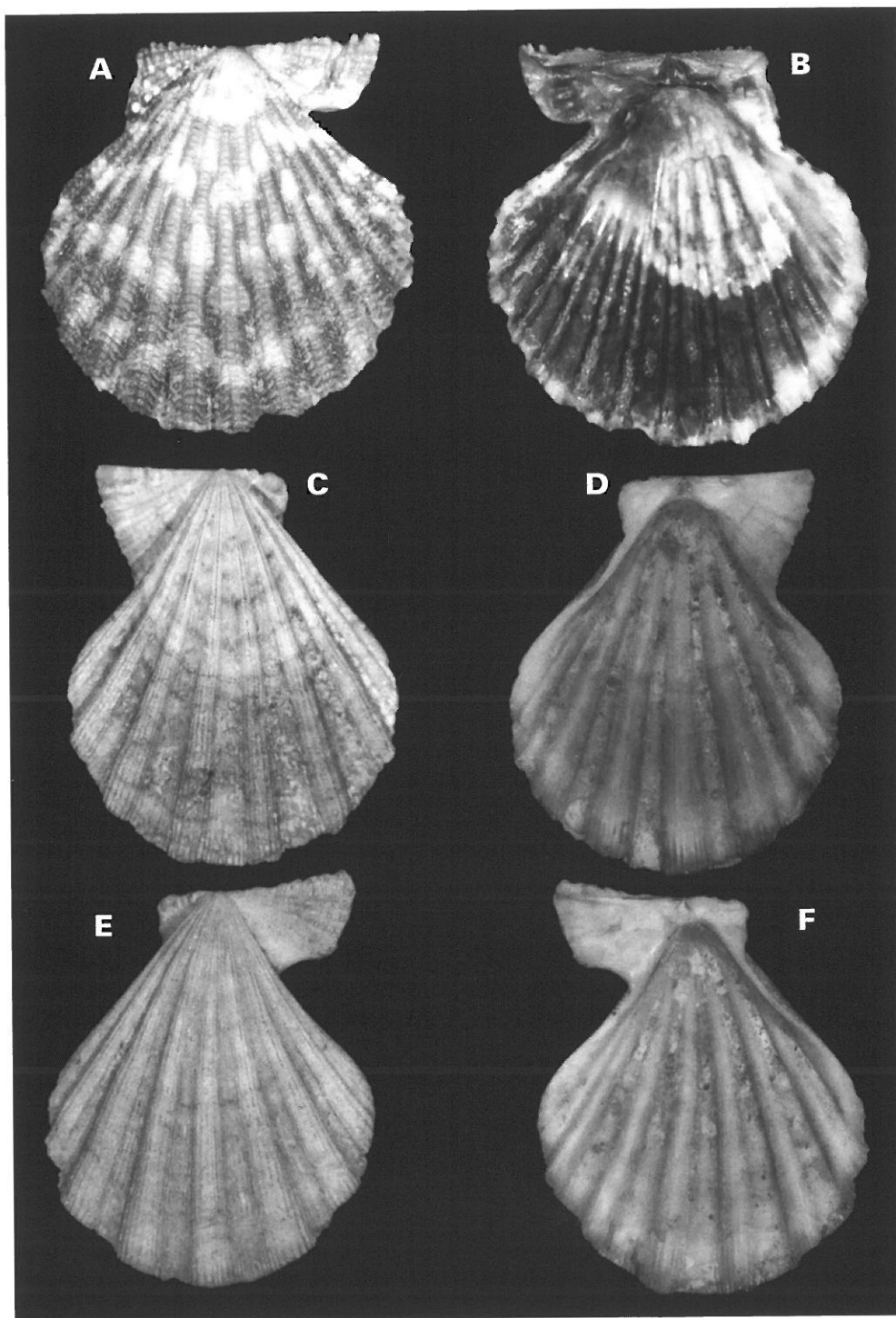


Figure 3. A, *Ostrea pallium* Linnaeus, 1758. Lectotype (H 42 mm, W 41 mm), LSL (No. 163), right valve, exterior. B, idem, interior. C, *Ostrea pesfelis* Linnaeus, 1758. Lectotype (H 43 mm, W 35 mm), LSL (No. 165), left valve, exterior. D, idem, interior. E, idem, right valve, exterior. F, idem, interior.

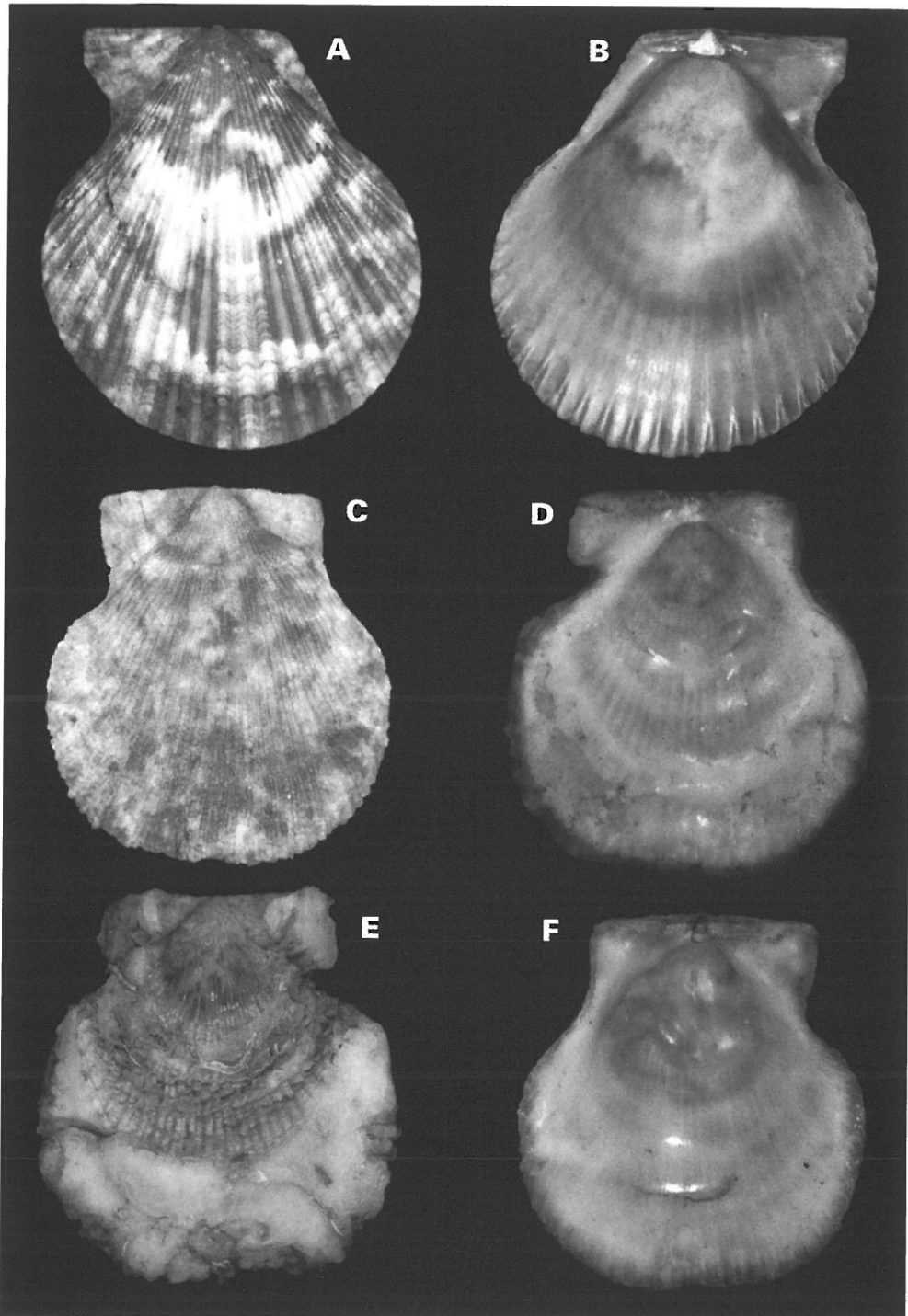


Figure 4. A, *Ostrea sanguinea* Linnaeus, 1758. Lectotype (H 39 mm, W 34 mm), LSL (No. 167), left valve, exterior. B, idem, interior. C, *Ostrea pusio* Linnaeus, 1758. Lectotype (H 37 mm, W 35 mm), LSL (No. 169), left valve, exterior. D, idem, right valve, interior. E, exterior. F, idem, left valve, interior.

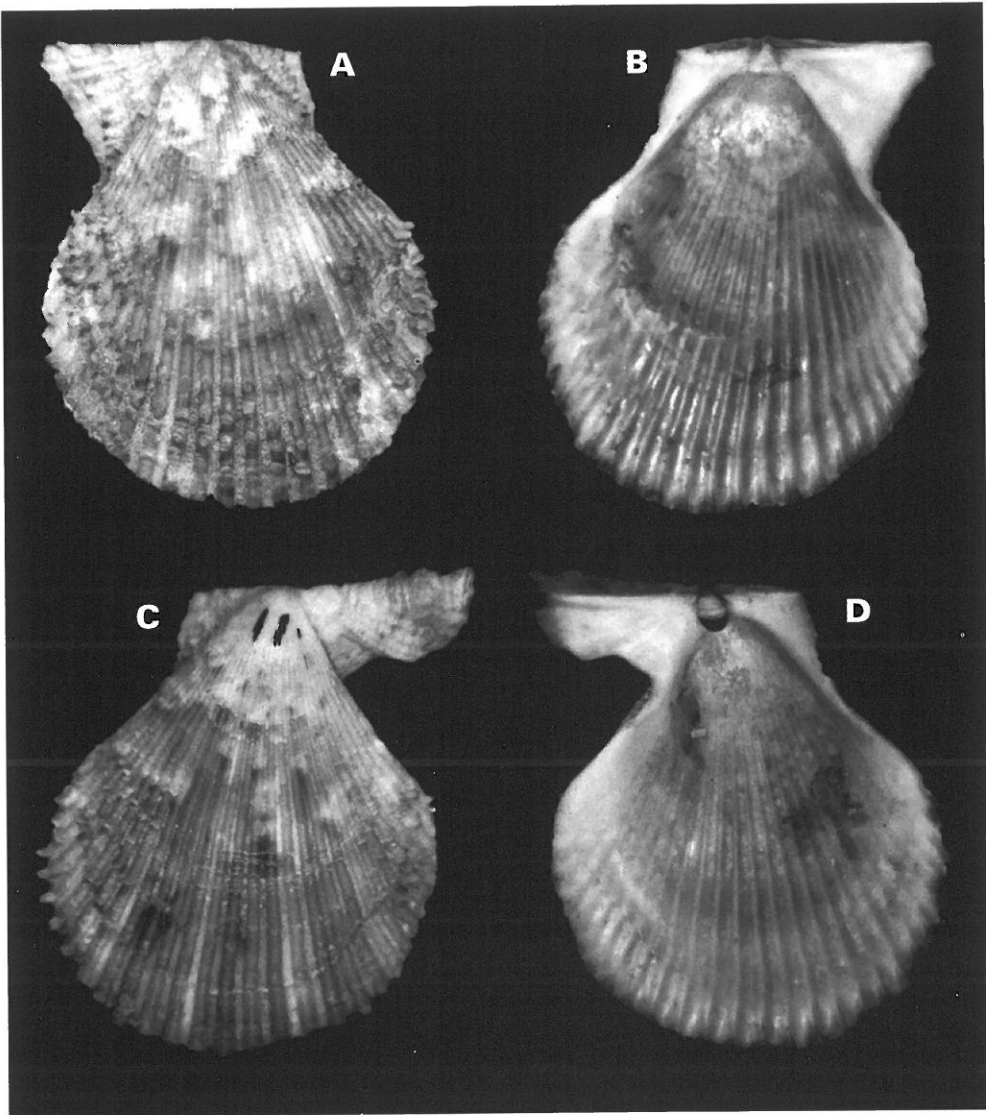


Figure 5. A, *Ostrea varia* Linnaeus, 1758. Lectotype (H 39 mm, W 33 mm), LSL (No. 168), left valve, exterior. B, idem, interior. C, idem, right valve, exterior. D, idem, interior.

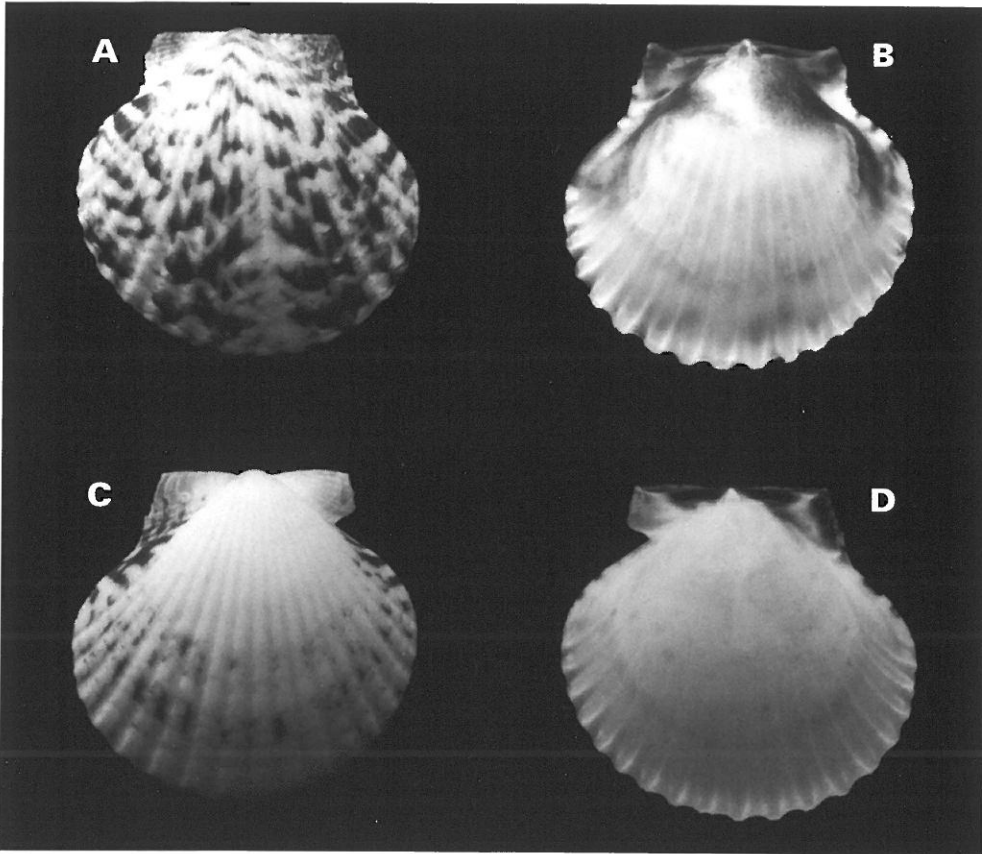


Figure 6. A, *Ostrea gibba* Linnaeus, 1758. Neotype (H 49 mm, W 51 mm), UUZM, left valve, exterior. B, idem, interior. C, idem, right valve, exterior. D, idem, interior.

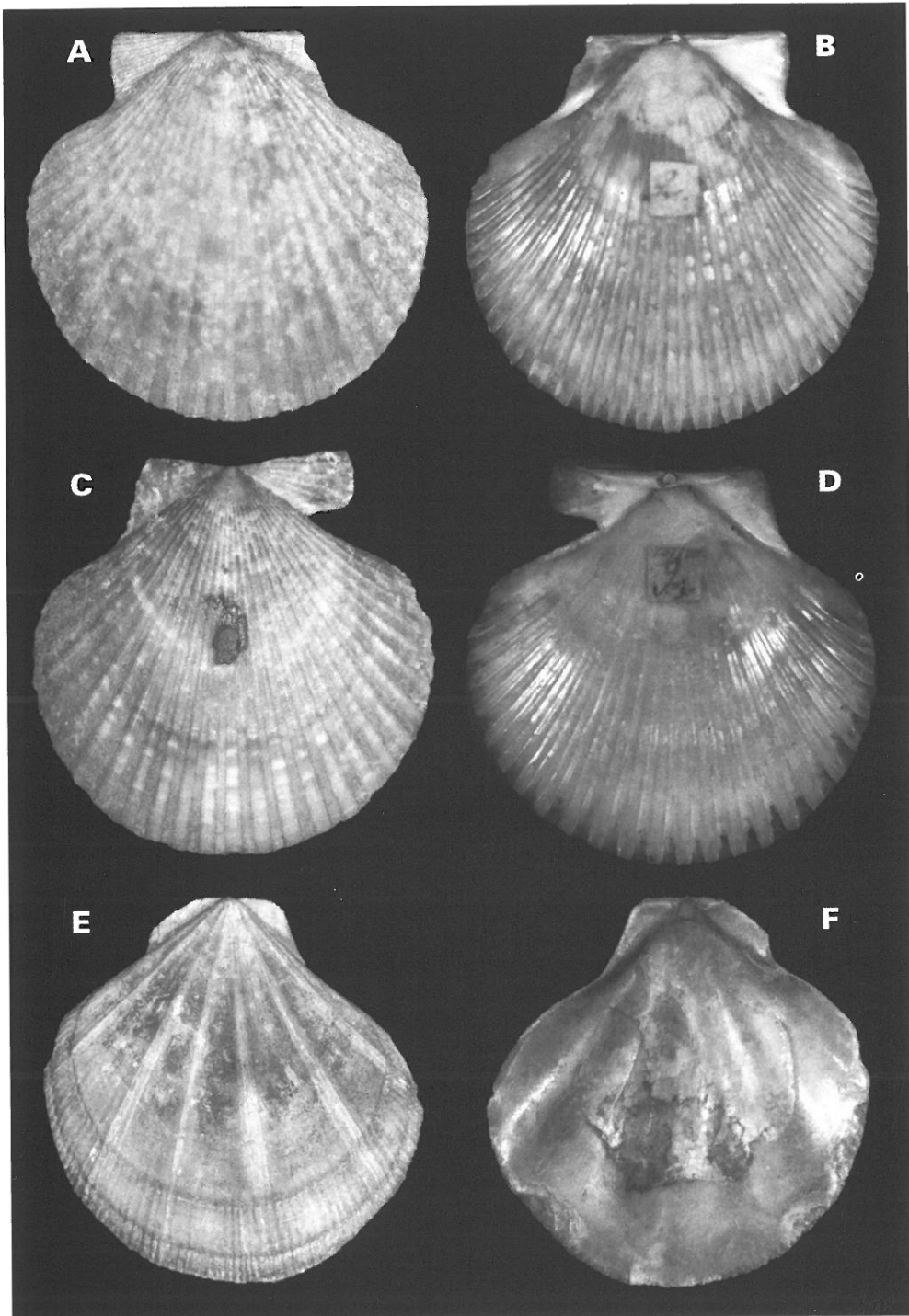


Figure 7. A, *Ostrea opercularis* Linnaeus, 1758. Lectotype (H 52 mm, W 53 mm), LSL (No. 171), left valve, exterior. B, idem, interior. C, idem, right valve, exterior. D, idem, interior. E, *Ostrea pestultrae* Linnaeus, 1771. Lectotype (H 40 mm, W 38 mm), LSL, left valve, exterior. F, idem, interior.

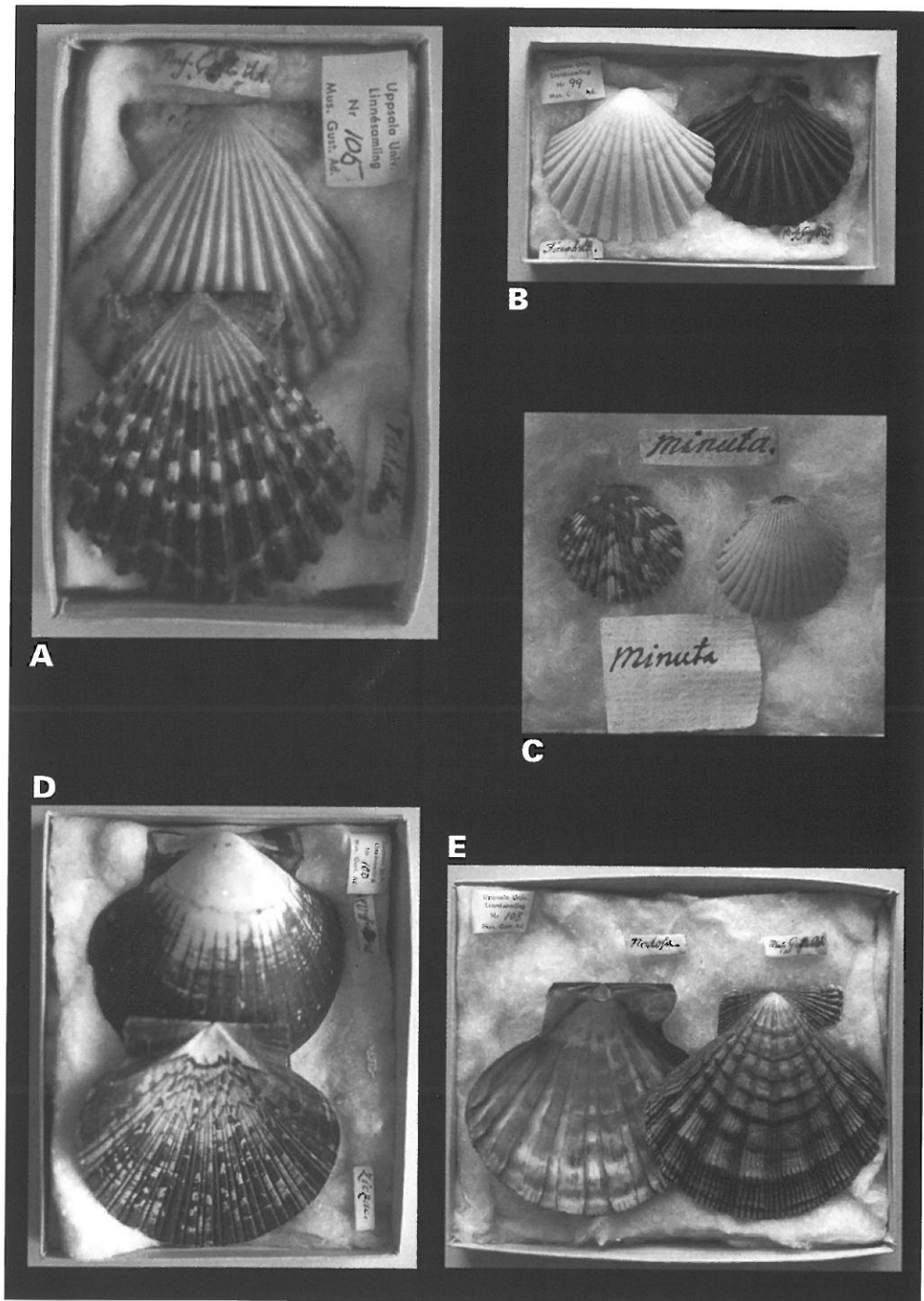


Figure 8. A, *Ostrea radula* Linnaeus, 1758. Lectotype (H 57 mm, W 52 mm), UUZM (No. 161), left and right valve, exterior. B, *Ostrea jacobaea* Linnaeus, 1758. Lectotype (H 58 mm, W 65 mm), UUZM (No. 155), left and right valve, exterior. C, *Ostrea minuta* Linnaeus, 1758. Lectotype (H 20 mm, W 20 mm), UUZM (No. 158), left and right valve, exterior. D, *Ostrea ziczac* Linnaeus, 1758. Lectotype (H 88 mm, W 97 mm), UUZM (No. 156), left and right valve, exterior. E, *Ostrea nodosa* Linnaeus, 1758. Lectotype (H 84 mm, W 91 mm), UUZM (No. 164), left valve, interior, right valve, exterior.



Figure 9. A, *Ostrea obliterata* Linnaeus, 1758. Lectotype (H 45 mm, W 43 mm) and paralectotype, UUZM (No. 160), right valves, exterior and interior. B, idem, left valves, exterior and interior. C, *Ostrea flavicans* Linnaeus, 1758. Lectotype (H 49 mm, W 45 mm), UUZM (no. 173), left and right valve, exterior. D, Manuscript painting (1, 3x) by N. Lafrensen (c. 1755) of lectotype (right valve) of *Ostrea flavicans* Linnaeus, 1758.



Figure 10. A, *Ostrea glabra* Linnaeus, 1758. Lectotype (H 37 mm, W 37 mm), UUZM (No. 170), left valve, exterior, right valve, interior. B, *Ostrea glabra* Linnaeus, 1758. Painting by H. C. von Krus (1755), RSAS. C, handwriting H. C. von Krus (1755). D, *Ostrea pellucens* Linnaeus, 1758. Lectotype (H 27 mm, W 25 mm), UUZM (no. 166), doublet, exterior. E, *Ostrea striatula* Linnaeus, 1758. Lectotype (H 61 mm, W 65 mm), UUZM (No. 157), left and right valve, exterior. F, idem, interior.

