

Marine Bivalve Mollusks of Jeju Island (Korea). Part 2

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ABSTRACT

The second part of the annotated and illustrated catalogue of species of the bivalve molluscan fauna of Jeju Island (Jeju-do) is based on original and literature data. The catalogue provides local distribution and taxonomic comments on bivalves and is supplemented with data on general distribution, habitats, and primary synonyms. This part includes 142 species belonging to 36 families (Lucinidae through Poromyidae), with original photographs for 76 species. Nineteen species are reported as new for Jeju Island, 9 species as new for Korea: *Vasticardium subrugosum* (G.B. Sowerby II, 1839), *Fragum loochooanum* Kira, 1959, *Montacutona japonica* (Yokoyama, 1922), *Pristipaglia ojiensis* (Tokunaga, 1906), *Donax cuneatus* L., 1758, *Sunetta kirai* Huber, 2010, *Pitar inflatus* (G.B. Sowerby II, 1851), *Dosinia* cf. *orbiculata* Dunker, 1877, *Pelecycora corculum* (Römer, 1870), and 6 species have been reported in literature but were not included in the first molluscan catalogue of Jeju by Noseworthy *et al.* (2007); in total, 25 species are added to the Jeju fauna in this part. Odd literature records are discussed. In all, 248 species and 58 families of marine bivalve mollusks are currently known in Jeju-do.

Key words: Bivalvia, fauna, taxonomy, distribution, ecology, Korea, Jeju-do

Introduction

This paper continues the previous publication dealing with bivalve mollusks of Jeju Island (part 1) (Lutaenko *et al.*, 2019). The first part included introductory chapters and annotated listing of 105 species belonging to 21 families (Nuculidae through Limidae). This, second part deals with 142 species belonging to 36 families (Lucinidae through Poromyidae) based on original and literature records. Lee J.-S. (2021) recently added a new species and family to the Jeju fauna: *Electroma alacorvi* (Dillwyn, 1817) (Vulsellidae). Thus, in total, the Jeju bivalve

marine fauna is comprised of 248 species and 58 families at present, while the former catalogue included 225 species (Noseworthy *et al.*, 2007). Not only were 41 new species added to this rich subtropical fauna (16 species in Part 1, and 25 in Part 2, including re-identified species), but a revision based on modern taxonomy, clarification of nomenclature, geographical distribution, and synonymies is provided along with photographic illustrations of 76 species based solely on Jeju specimens. Eleven species, in both parts of the paper, are reported as new for Korea. Thus, the Jeju marine bivalve molluscan fauna has become one of the most studied in Korea.

Material and methods, regional setting, previous research on Jeju bivalves, and ecology of common species were described in the previous part (Lutaenko *et al.*, 2019). As for the format of the paper, for each species, major synonyms (names proposed as new for science) are given, followed by the local and general distribution ranges, habitat, and comments. Specific Jeju survey stations are listed. Other records, either additional or from the same localities, are provided in

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the “other records” local distribution section. For each species we give zonal-geographical characteristics. For information about this method and a clarification of terms see Scarlato (1981), Kussakin (1990) and Lutaenko *et al.* (2019). A biogeographic analysis of the fauna and its affinities will be published elsewhere.

Abbreviations used in the paper, including plate captions, are as follows: JNU – the Shellfish Aquaculture and Research Laboratory at Jeju National University, Jeju City, Republic of Korea; MABIK – the National Marine Biodiversity Institute, Seocheon, Republic of Korea; ZMFU – the Zoological Museum, Science and Educational Museum, Far Eastern Federal University, Vladivostok, Russia.

Annotated Catalogue of Marine Bivalve Mollusk Species of Jeju-do

In second part of this catalogue, 142 species and 36 families are included (orders Lucinida, Carditida, Venerida, Myida, Anomalodesmata). Among them, 19 species (*Trapezium* (*Neotrapezium*) *sublaevigatum* (Lamarck, 1819), *Vasticardium subrugosum* (G.B. Sowerby II, 1839), *Fragum loochooanum* Kira, 1959, *Nemocardium australojaponicum* Poorten, 2013, *Pseudogaleomma japonica* (A. Adams, 1862), *Montacutona japonica* (Yokoyama, 1922), *Pristipagia ojiensis* (Tokunaga, 1906), *Macoma* (*Macoma*) *incongrua* (Martens, 1865), *Donax* (*Latona*) *cuneatus* L., 1758, *Nuttallia ezonis* Kuroda et Habe in Habe, 1955, *Protocallithaca adamsii* (Reeve, 1863), *Sunetta* (*Sunemeroe*) *kirai* Huber, 2010, *Pitar* (*Pitar*) *inflatus* (G.B. Sowerby II, 1851), *Dosinia* (*Dosinella*) cf. *orbiculata* Dunker, 1877, *Pelecypora* (*Pelecypora*) *corculum* (Römer, 1870), *Macridiscus melanaegis* (Römer, 1861), *Petricola* (*Petricola*) *habei* Huber, 2010, *Barnea* (*Anchomasa*) *manilensis* (Philippi, 1847), *Solen* (*Ensisolen*) *krusensternii* Schrenck, 1867) are recorded for the first time in Jeju Island based on original material or re-identification. Among them, 9 species (*V. subrugosum*, *F. loochooanum*, *M. japonica*, *P. ojiensis*, *D. cuneatus*, *S. kirai*, *P. inflatus*, *D.* cf. *orbiculata*, *P. corculum*) are new records for Korea. *N. australojaponicum*, under this name, was first

recorded for Korea by Poorten (2013), and *P. habei*, under this name, was first recorded for Korea by Lutaenko and Noseworthy (2019). In fact, 8 out of these 19 species were previously collected in Korea but they were published as misidentifications, but not synonyms, even under different genera, namely, *Coralliophaga coralliophaga* (Gmelin, 1791), *Nemocardium bechei* (Reeve, 1847), *Merisca subtruncata* (Hanley, 1844), *Pitar affinis* (Gmelin, 1791), *Pitar sulfureum* Pilsbry, 1904, *Dosinia amphidesmoides* Reeve, 1850, *Venerupis bruguieri* (Hanley, 1845), *Petricola carditoides* (Conrad, 1837) (see relevant comments in the catalogue). They are listed by Noseworthy *et al.* (2007) and are valid species living either in other parts of Korea or in other parts of the Indo-Pacific, eastern Pacific or Atlantic but are not found in Jeju, and are thus excluded from the Jeju fauna. *Teredora malleolus* (Turton, 1822) listed for Sagyei, Jeju (Min D.-K. *et al.*, 2004) is a Caribbean, west African and Mediterranean species and, therefore, is excluded from the Korean fauna.

Thus, we physically collected 12 species for the first time in Jeju (*V. subrugosum*, *F. loochooanum*, *P. japonica*, *M. japonica*, *M. incongrua*, *D. cuneatus*, *N. ezonis*, *P. adamsii*, *S. kirai*, *M. melanaegis*, *B. manilensis*, *S. krusensternii*) and among them, 5 new for Korea (*V. subrugosum*, *F. loochooanum*, *M. japonica*, *D. cuneatus*, *S. kirai*).

Another 6 species were not listed in the catalogue of Jeju mollusks by Noseworthy *et al.* (2007) and not mentioned by Min D.-K. *et al.* (2004) for Jeju, but are known from literature either published before or after 2007 (Adams, 1864a; b; Je J.-G. *et al.*, 1991; Je J.-G., 1993; Higo *et al.*, 1999; Suzuki, 2010; Lee J.-S., 2019), and, thus, they are added here to the Jeju fauna: *Hiatula boeddinghausi* Lischke, 1870, *Leptomya minuta* Habe, 1960, *Callocardia guttata* A. Adams, 1864, *Aphrodora kurodai* (Matsubara, 2007), *Pendaloma otohimeae* (Habe, 1952), and *Cuspidaria nobilis* (A. Adams 1864). Two of them, *L. minuta* and *C. nobilis*, are not included in any recent lists of the entire Korean molluscan fauna (Lee J.-S. and Min D.-K., 2002; Min D.-K. *et al.*, 2004; Lee J.-S., 2015; 2016). Taking into account the above-mentioned

species new for Jeju and Korea, we add here to the Jeju bivalve fauna 25 species; in total, in both parts of the paper, 41 species are new for Jeju, including re-identifications as compared to the catalogue of Noseworthy *et al.* (2007). The rest of the species names regarded in current taxonomic literature as synonyms, and enumerated by Noseworthy *et al.* (2007), and also mentioned in some other, mainly ecological, papers, are listed in this catalogue under different binomina but they do live in Jeju; these names are discussed in the comment sections of relevant species.

Some literature records are odd, doubtful, or unreliable, and thus are not included here because there are no images published, no further confirmation of their existence in Jeju, no voucher material is available, or they may live in the island, but additional collecting is required. These species are as follows: in Carditidae, *Cardita variegata* Bruguière, 1792 (Je J.-G. *et al.*, 2002); in Trapezidae, *Trapezium liratum* (Reeve, 1843) (Kim H.S. *et al.*, 1992; Je J.-G. *et al.*, 1994; Lee J.J. *et al.*, 1995; Lee J.-J. and Hyun J.-M., 1997); in Cardiidae, *Clinocardium californiense* (Deshayes, 1839) (Je J.-G. *et al.*, 1994; 2002) and *Acrosterigma arenicola* (Reeve, 1845) (Min D.-K. *et al.*, 2004); in Mactridae, *Micromactra angulifera* (Reeve, 1854) (Suzuki, 2010); in Tellinidae, *Merisca margaritina* (Lamarck, 1818) (Je J.-G. *et al.*, 2002); in Veneridae, *Meretrix lamarkii* Deshayes, 1853 (Suzuki, 2010), *Meretrix lusoria* (Röding, 1798) (Je J.-G. *et al.*, 2002), *Callista brevisiphonata* (Carpenter, 1864) (Ko J.-C. *et al.*, 2012), *Mercenaria stimpsoni* (Gould, 1861) (Je J.-G. *et al.*, 1994; 2002), *Claudiconcha japonica* (Dunker, 1882) (Je J.-G. *et al.*, 1994; 2002); in Solenidae, *Solen gordonis* Yokoyama, 1920 (Lee J.J., 1990; 1991; Kim H.S. *et al.*, 1992; Je J.-G. *et al.*, 1994; 2002; Lee J.-J. and Hyun J.-M., 1997); in Myidae, *Mya arenaria* L., 1758 and *Mya japonica* Jay, 1857 (Lee J.J. *et al.*, 1989; Je J.-G. *et al.*, 1994; 2002). *C. variegata* is not known from Korea (Lee J.-S. and Min D.-K., 2002; Min D.-K. *et al.*, 2004; Lee J.-S., 2015) although it is distributed in Okinawa, Amami Islands, and the Pacific coast of Honshu, Kyushu, and Shikoku in Japan (Higo *et al.*, 1999; Huber, 2015). *A. arenicola* (a synonym of *Acrosterigma maculosum* (Wood, 1815)),

a distinct species is a misidentification of *Acrosterigma burchardi* (Dunker, 1877). The distributional range of *M. angulifera*, either as a distinct species (*Mactrotoma angulifera* (Reeve, 1854) (<http://www.marinespecies.org/aphia.php?p=taxdetails&id=505729>), or as a synonym of *Mactrella striatula* (L., 1767) (Huber, 2015), extends from Indonesia and the Philippines to Japan including the East/Japan Sea but it has never been recorded in Korea (Lee J.-S. and Min D.-K., 2002; Min D.-K. *et al.*, 2004; Lee J.-S., 2015). *Tellinides margaritinus* (Lamarck, 1818) (originally described as *Tellina margaritina* Lamarck, 1818) is an Australian endemic (Huber, 2015). Records of *T. liratum* are most likely *Trapezium* (*Neotrapezium*) *sublaevigatum* (Lamarck, 1819). *Meretrix* shells, evidently explained by restaurant dumps, are often found on beaches and around tourist areas; these species are abundant in continental Korea. A valve of *Spisula sachalinensis* (Schrenck, 1861) (Mactridae) was found at Seongsan, but this species does not live here, and shells may come from restaurants. The rest of the species (*C. californiense*, *C. brevisiphonata*, *M. stimpsoni*, *C. japonica*, *S. gordonis*, *M. japonica*) are large shallow-water species and we could hardly miss them during 20 years of collecting activity in Jeju. Additionally, *M. arenaria* does not inhabit north-eastern Asian seas, and is a misidentification of *M. japonica* (Zhang *et al.*, 2018).

Subclass **HETERODONTA** Newmayr, 1884

Order **LUCINIDA** Gray, 1854

Superfamily **Lucinoidea** Fleming, 1828

Family **Lucinidae** Fleming, 1828

Subfamily **Codakiinae** Iredale, 1937

Genus **Ctena** Mörch, 1861

106. *Ctena bella* (Conrad, 1837)

Pl. 1, Figs. D-F

Synonyms: *Lucina divergens* Philippi, 1850; *Lucina ramulosa* Gould, 1850; *Lucina fibula* Reeve, 1850; *Epicodakia pygmaea* Hayami et Kase 1993.

Local distribution: Iho, Shinyang, Seongsan, Hwasoon, Yeongmeori, Jungmun, Sagyei, Gwakji, Yerae.

General distribution: Widely distributed Indo-Pacific

species (Melanesia, New Caledonia, Fiji, Micronesia, Polynesia, Hawaii, Philippines, South China Sea, East China Sea, Taiwan, Japan, and Korea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Glover and Taylor, 2007; Huber, 2015; Boutet *et al.*, 2020); **tropical-subtropical**. **Habitat:** Intertidal to subtidal species (to depth of 120 m), sandy sediments, shelly and coral sand, lagoons, coral reefs, subtidal caves (Glover and Taylor, 2007; Huber, 2015).

Comments: *C. bella* is a complex of morphologically similar species in the Indo-West Pacific based on a molecular (cytochrome b sequences) analysis (Glover and Taylor, 2016; Taylor *et al.*, 2016). Japanese and Chinese workers regard this and the following species as belonging to *Epicodakia* Iredale, 1930 (Xu, 2012; Okutani, 2017) while Glover and Taylor (2007, p. 134) provided differentiating characters: *Ctena* has irregular and bifurcating radial ribs compared to the more evenly spaced ribs that rarely bifurcate in *Epicodakia*; the commarginal lamellae are also lower, more evenly and regularly spaced in *Epicodakia*; *Ctena* has a short ligament in a more or less deeply inset resilifer on the hinge plate that differs from the mainly longer and external ligament of *Epicodakia*; the hinge plate of *Ctena* is always broader and more robust and the lunule is shorter and more heart-shaped.

Kwon O.K. *et al.* (2001, p. 238, fig. 953) and Min D.-K. *et al.* (2004, p. 416, fig. 1355) illustrate *C. bella* from Korea as “*Myrtea* (*Myrtea*) *delicatula*”. Additionally, Huber (2015) regarded *Ctena divergens* (Philippi, 1850) as a distinct species from the Red Sea and the Indian Ocean while Glover and Taylor (2007) regarded it as a synonym of *C. bella*.

107. *Ctena delicatula* (Pilsbry, 1904)

Pl. 1, Figs. A-C

Local distribution: Hwasoon, Yeongmeori, Seongsan, Sagyei.

General distribution: South China Sea, Thailand, Vietnam, Philippines, East China Sea, China, Korea to Japan (Higo *et al.*, 1999; Huber, 2015; Glover and Taylor, 2016); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 30 m);

rubbly rocky habitats on moderately exposed shores, coarse and coral sand (Huber, 2015).

Comments: This species is depicted in Kwon O.K. (2001, p. 238, fig. 949) and Min D.-K. *et al.* (2004, p. 416, fig. 1349) under the name “*Epicodakia bella* (Conrad, 1837)”, and mentioned as such in several Korean lists of mollusks (Lee J.-S. and Min D.K., 2002; Lee J.-S., 2015; 2016). Molecular studies show that *C. delicatula* from Thailand and Hong Kong is distinct from the *C. bella* group (Taylor *et al.*, 2016). Illustrations of “*Epicodakia bella*” in Chinese works (Xu and Zhang, 2008, fig. 341; Xu, 2012, fig. 16) represent instead *C. delicatula* (Glover and Taylor, 2016); true *C. delicatula* is illustrated from Hong Kong (Lutaenko and Volvenko, 2013, pl. 6, figs. I, J). *C. delicatula* is smaller than *C. bella*, higher than long, posteriorly truncated, and usually with fewer, more closely-spaced radial ribs; this species is associated with harder-substrate habitats compared to *C. bella* (Glover and Taylor, 2016). There are some doubts whether the south-east Asian populations are conspecific with Japanese specimens (Huber, 2015). A syntype is figured by Higo *et al.* (2001, p. 159, fig. B580).

Subfamily **Lucininae** Fleming, 1828

Genus ***Pillucina*** Pilsbry, 1921

108. *Pillucina pisidium* (Dunker, 1860)

Pl. 2, Figs. A, B

Synonyms: *Lucina* (*Codakia*) *parvula* Gould, 1861 (non Münster, 1835); *Sydlorina symbolica* Iredale, 1930.

Local distribution: Iho, Hamdeok, Gimnyeong, Wolpyeong, Sehwa, Udo (Sanhosa, Hagosudong), Jongdal-ri, Ojo-ri (Tongbatarl), Seongsan, Shinyang, Pyoseon, Yerae, Yongmeori, Sagyei, Keumneung, Hyeopjae, Gwakji, Jocheon; **other records:** Lee H.-J. *et al.* (2014) (Tongbatarl Lagoon).

General distribution: Probably, widely distributed Indo-West Pacific species, extending from Russian coast of the East/Japan Sea, Korea, Japan, and China to East Africa and Madagascar, including Kenya, Tanzania, Mozambique, Reunion, Mauritius,

Seychelles, Maldives, Andaman Islands, Thailand, Australia, Philippines, and New Caledonia (Glover and Taylor, 2001; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal species (to depth of 90 m), mud, muddy sand, and fine sand (Scarlato, 1981; Glover and Taylor, 2001; Huber, 2015).

Comments: For a long time, this species has been considered as subtropical (East China Sea to East/Japan Sea) but Glover and Taylor (2001) suggested that Japanese and Australian specimens are very similar, considered them as conspecific, and defined the species range as Indo-West Pacific. However, the northeast Asian specimens have a weaker and less-distinct sculpture and finer crenulation of the inner margin (Lutaenko and Noseworthy, 2019). *P. pisidium* is similar to *Pisidium neglecta* Habe, 1960 which is smaller, more inflated, with a strong anterior lateral tooth in the right valve, and fewer radial ribs, about 35-45, compared to more than 50 ribs on *P. pisidium* (Glover and Taylor, 2001). Recently, Glover and Taylor (2016) concluded from a study of larger samples of *P. pisidium*, and evidence from limited molecular data, that there is likely a complex of similar species.

109. *Pillucina neglecta* Habe, 1960

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: South China Sea, East China Sea, Korea, Japan (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu, 2012; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal species (to depth of 30 m) living on fine sandy mud (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 159, fig. B583).

Genus *Liralucina* Glover et Taylor, 2007

110. *Liralucina plicatula* (A. Adams, 1862)

Pl. 2, Figs. D, E

Synonyms: *Lucina yamakawai* Yokoyama, 1920.

Local distribution: Hwasoon, Sagyei, Ojo-ri (Tongbatarl).

General distribution: China (Fujian, Zhejiang), Korea and Japan including East/Japan Sea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004, in both as *Pillucina yamakawai*; Huber, 2015); **subtropical**.

Habitat: Subtidal species (depth of 5 to 150 m) living on sandy mud and fine sandy bottom (Huber, 2015).

Comments: Originally included in *Parvilucina* Dall, 1901 (Glover and Taylor, 2001; as *Parvilucina yamakawai*), this species was later reclassified as belonging to *Liralucina* Glover et Taylor, 2007 (Glover and Taylor, 2016, as *Liralucina yamakawai*; Huber, 2015). Huber (l.c.) additionally discovered that *L. yamakawai* is a synonym of *L. plicatula*, described from the East/Japan Sea, as type material for the latter species was discovered in the National Museum of Wales.

Genus *Chavania* Glover et Taylor, 2001

111. *Chavania striata* (Tokunaga, 1906)

Pl. 2, Figs. C, F

Synonyms: *Phacoides minutus* Thiele, 1930; *Lucina contraria* Dunker, 1882 (non *Lucina contraria* Dunker, 1846 = *Keletistes contrarius* (Dunker, 1846)); *Loripes* (*Wallucina*) *lamyi* Chavan, 1938 (nom. nov. pro *Lucina contraria* Dunker, 1882 non *L. contraria* Dunker, 1846).

Local distribution: Jongdal-ri, Seongsan, Shinyang, Pyoseon, Jungmun, Hwasoon, Yeongmeori, Udo (Hagosudong), Gwakji, Sagyei.

General distribution: Widely distributed Indo-West Pacific species: from southern India and Sri Lanka to Sulawesi, south-western and north-eastern Australia, Melanesia, Micronesia, Philippines, Thailand, South China Sea, Taiwan, Korea, and Japan (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Xu, 2012; Glover and Taylor, 2016; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to depth of 300 m, in fine sand and sandy mud, sand among seagrass, occasionally in mud and gravel (Huber, 2015; Okutani, 2017).

Comments: In Asian literature, this species is known as belonging to the genus *Wallucina* Iredale, 1930 (Min D.-K. *et al.*, 2004; Xu, 2012; Okutani, 2017).

Regional synonymy, including fossil records, is provided by Matsubara (1995).

Subfamily **Leucosphaerinae** Taylor et Glover, 2011

Genus **Leucosphaera** Taylor et Glover, 2005

112. *Leucosphaera oyamai* (Habe, 1962)

Local distribution: Min D.-K. *et al.* (2004; as *Leptaxinus oyamai*) (Shinyang, Sagyei).

General distribution: Japan (including East/Japan Sea), Korea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Subtidal species (depth of 10 to 100 m) living on sand and sandy mud (Huber, 2015).

Comments: This species originally described as *Leptaxinus oyamai* Habe, 1962 in Thyasiridae, and known for a long time in regional literature as such (Higo *et al.*, 1999; Okutani, 2000; 2017; Min D.-K. *et al.*, 2004; Lee J.-S., 2016) was recently assigned to *Leucosphaera* Taylor et Glover, 2005 (Huber, 2015; Glover and Taylor, 2016), the type genus of the Leucosphaerinae Taylor et Glover, 2011, (no radial shell sculpture, cardinal teeth usually small or absent, lateral teeth lacking, whereas the lunule is prominent and highly asymmetrical; “a distinct, well-supported clade in the molecular analysis, but there are no clear and consistent morphological characters that unite the group”: Taylor *et al.*, 2011, p. 28). Shells of *Leucosphaera* have usually been identified in museum collections as juvenile “*Anodontia* Link, 1807” but they can be separated by the ovoid shape, the regularly-spaced, fine, commarginal lamellae, the presence of the tooth-like central knob with anterior flange in the hinge, and the extremely short, slightly-detached, anterior adductor muscle scar (Taylor and Glover, 2005; Glover and Taylor, 2007; 2016). Illustration in Min D.-K. *et al.* (2004, p. 418, fig. 1365) is not this species and instead is an unguinid.

Genus **Gonimyrtia** Marwick, 1929

113. *Gonimyrtia japonica* (Habe, 1958)

Local distribution: Min D.-K. *et al.* (2004) (Seongsan);

Noseworthy *et al.*, 2007; Noseworthy (2015) (Bukchon-ri, Sagyei).

General distribution: East China Sea, Yellow Sea, Korea, and Japan (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal species (to depth of 20 to 200 m) living on sandy mud (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 160, fig. B607).

Superfamily **Thyasiroidea** Dal, 1900

Family **Thyasiridae** Dall, 1900

Genus **Thyasira** Lamarck, 1818

Subgenus **Thyasira** Lamarck, 1818

114. *Thyasira (Thyasira) tokunagai* Kuroda et Habe in Habe, 1951

Local distribution: Min D.-K. *et al.* (2004) (Shinyang, Hwasoon).

General distribution: Yellow Sea, Korea, and Japan (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Xu, 2012; Huber, 2015; Zhang *et al.*, 2016); **subtropical**.

Habitat: Subtidal species (depth of 5 to 300 m) living on muddy and fine sandy bottoms (Huber, 2015; Okutani, 2017); in Ulsan Bay (eastern Korea), at a depth range of 22-53 m, on mud and sandy mud (Lutaenko, 2014a).

Comments: Qi (2004) recorded this species from China as “*Thyasira tokamagai* Kuroda et Habe, 1951”, the name is obviously misspelling. According to Huber (2015), earlier Japanese authors misidentified this species as pan-Atlantic *Thyasira (Thyasira) gouldii* (Philippi, 1845) or European *Thyasira (Thyasira) flexuosa* (Montagu, 1803). *Th. gouldii* is an Arctic-Atlantic species known from northern Canada, Greenland, Jan Mayen, Spitsbergen, Norway to Chukchi Sea and from Nova Scotia to Denmark and Faroe Islands; synonyms of this species include *Thyasira hyalina* Mörch in Rink, 1857, *Cryptodon planus* Verrill et Bush, 1898, and *Cryptodon inequalis* Verrill et Bush, 1898 (Huber, 2015). However, Scarlato (1981) indicated that *Th. gouldii* inhabits

north-western Pacific, and Coan *et al.* (2000) regarded this species is a synonym of *Th. flexuosa* while later these authors excluded *Th. gouldii* from synonyms of the latter (Coan and Valentich-Scott, 2012). Scarlato (1981) and Huber (2010; 2015) considered both species valid. *Th. flexuosa* is a northern Atlantic species (Norway, Iceland, UK, North Sea and Belgium) (Huber, 2015). Lutaenko and Noseworthy (2012) and Kamenev (2013) identified “*Th. flexuosa*” from shallow-waters and deep-sea in the East/Japan Sea (560-1075 m); however, all Pacific records of this species belong instead to *Thyasira* (*Thyasira*) *barbarensis* (Dall, 1890), with a possible earlier synonym, *Cryptodon* (*Clausina*) *suborbicularis* A. Adams, 1862 (*nom. dub.*, type locality - Aniva Bay, Sakhalin) (Huber, 2015). *Th. tokunagai* is a close species endemic to north-eastern Asia. The lectotype of *Th. tokunagai* is figured by Sato *et al.* (2016, pl. 29, fig. 7).

115. *Thyasira* (*Thyasira*) *kawamurai* Habe, 1951

Local distribution: Min D.-K. *et al.* (2004) (Jeju).

General distribution: Japan (East China Sea, Honshu), Korea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Subtidal to bathyal species (depth of 50 to 523 m), on fine sand (Huber, 2015; Okutani, 2017).

Comments: The holotype is figured by Higo *et al.* (2001, p. 160, fig. B628).

Order **CARDITIDA** Dall, 1889

Superfamily **Carditoidea** Férussac, 1822

Family **Carditidae** Férussac, 1822

Subfamily **Carditinae** Férussac, 1822

Genus ***Cardita*** Bruguière, 1792

116. *Cardita leana* Dunker, 1860

Pl. 3, Figs. A, B

Synonyms: *Cardita cumingiana* Dunker, 1860.

Local distribution: Iho, Hamdeok, Bukchon-ri, Wolpyeong, Haengwon, Handong, Sehwa, Udo (Hagosudong), Udo (Sanhosa), Udo (Geomeollae),

Jongdal-ri, Seongsan, Seopjikoji, Shinyang, Pyoseon, Supseom, Seogwipo, Munseom, Seogundo, Gangjeong, Jungmun, Yerae, Daepyeong, Hwasoon, Yeongmeori, Sagyei, Songaksan, Gapado, Marado, Hamo, Chagwi-do, Keumneung, Biyangdo, Hyeopjae, Weoljeon, Daejeong, Suwon, Gwideok, Gwakji; **other records:** Lee J.J. *et al.* (1989); Lee J.J. (1990); Lee J.J. (1991) (Gapa-do); Lee J.J. and Hyun J.M. (1991) (Seogwipo); Kim H.S. *et al.* (1992); Lee J.J. and Hyun J.M. (1992) (Udo, Shinyang, Ojo-ri, Jongdal-ri, Hado); Lee J.J. and Kim J.C. (1993) (Biyangdo); Je J.-G. *et al.* (1994) (Munseom); Lee J.J. *et al.* (1995) (Jagwi-do); Lee J.J. and Hyun J.M. (1997) (Chujado); Lee J.J. *et al.* (2001) (Hwasoon); Je J.-G. *et al.* (2002) (Daejeong, Udo, Munseom, Beomseom); Lee J.J. and Hyun J.M. (2002) (Songaksan); Noseworthy *et al.* (2002) (Seongsan); Suzuki (2010) (Shinyang); Noseworthy and Choi (2010) (Seogundo); Ko J.-C. *et al.* (2011) (Sincheon, Aewol, Woljeong, Haengwon); Cho I.-Y. *et al.* (2014) (Munseom); Noseworthy *et al.* (2016) (Keumneung); Lee J.U. *et al.* (2017).

General distribution: Japan (western Kyushu, Honshu to south-western Hokkaido; East/Japan Sea), Korea, China including East China Sea and Taiwan to South China Sea, northern Vietnam (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Xu, 2012; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to depth of 20 m, byssally attached to stones, underside of rocks (Huber, 2015).

Subfamily **Venericardiinae** Chavan, 1969

Genus ***Megacardita*** Sacco, 1899

117. *Megacardita ferruginosa* (Adams et Reeve, 1850)

Synonyms: *Cardita kiiensis* G.B. Sowerby III, 1913; *Venericardia cipangoana* Yokoyama, 1920.

Local distribution: Noseworthy *et al.* (2007); Noseworthy (2015) (Hamo, Hyeopjae; unverified records).

General distribution: Japan (Honshu, Kyushu, East/Japan Sea), Korea, Yellow Sea, East China Sea, Taiwan (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical**.

Habitat: Subtidal (depth of 5 to 120 m), on sandy and muddy bottoms (Huber, 2015).

Comments: Xu and Zhang (2008) and Xu (2012) regarded *Megacardita kiiensis* (G.B. Sowerby III, 1913) as a distinct species. Fig. 407 (p. 134) in Xu and Zhang (2008) is not *M. ferruginosa*. According to Huber (2010), although Japanese species close to *M. ferruginosa* are placed in *Megacardita*, the large and rather inflated Australian species, with a stronger hinge, fits the original diagnosis of the genus, whereas a distinct genus for north-east Asian species will become necessary when molecular data are available. A syntype of *Cardita ferruginosa* Adams et Reeve, 1850 is figured by Higo *et al.* (2001, p. 165, fig. B743), and the holotype of *Cardita kiiensis* G.B. Sowerby III, 1913 (l.c.) (p. 165, fig. B743s).

Subfamily **Carditamerinae** Chavan, 1969

Genus ***Pleuromeris*** Conrad, 1867

118. ***Pleuromeris pygmaea*** (Kuroda et Habe, 1951)

Synonyms: *Cardita abbreviata* G.B. Sowerby III, 1903 (non *Cardita abbreviata* Conrad, 1841).

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: Japan (western Kyushu, Honshu; East/Japan Sea), Korea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Intertidal to depth of 100 m, byssally attached to stones and among rubble (Huber, 2015).

Genus ***Centrocardita*** Sacco, 1899

119. ***Centrocardita soyoae*** (Habe, 1958)

Local distribution: Min D.-K. *et al.* (2004; as *Pleuromeris soyoae*) (Seongsan).

General distribution: Japan (Shimane Prefecture, western Kyushu, East/Japan Sea), Korea, China, East China Sea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Subtidal (depth of 50 to 300 m), on coarse sand and stones (Huber, 2015).

Comments: This species was not recorded by Chinese malacologists (Xu, 2012). The illustration of *C. soyoae*

from Korea (Min D.-K. *et al.*, 2004, p. 426, fig. 1395; as *Pleuromeris soyoae*) is different from illustrations of this species in Huber (2010, p. 256) and Okutani (2017, pl. 504, fig. 13) by shell shape and radial ribbing. Several undescribed *Centrocardita* species in the Indo-West Pacific (Huber, 2015) and *Centrocardita donghaiensis* (Xu, 2012) from the East China Sea should be compared in the future with Korean material. A syntype is figured by Higo *et al.* (2001, p. 165, fig. 758).

Subfamily **Carditellinae** Kuroda, Habe et Oyama, 1971

Genus ***Carditellona*** Iredale, 1936

120. ***Carditellona pulchella*** (Lynge, 1909)

Synonyms: *Cardium* (*Cerastoderma*) *hanzawai* Nomura, 1933.

Local distribution: Min D.-K. *et al.* (2004; as *Carditella hanzawai*) (Hwasoon).

General distribution: Japan, East/Japan Sea, Korea, East China Sea, Taiwan, South China Sea, Vietnam, Gulf of Thailand, Borneo, Singapore (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu, 2012; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal (depth of 2 to 150 m), fine and coarse sand (Huber, 2015).

Genus ***Carditellopsis*** Iredale, 1936

121. ***Carditellopsis toneana*** (Yokoyama, 1922)

Local distribution: Supjikoji, Bomok, Munseom, Hwasoon, Ojo-ri (Tongbatarl).

General distribution: Japan (Kyushu, Honshu, East/Japan Sea), Korea, South China Sea, Vietnam (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal (depth of 15 to 150 m), on fine and coarse sand (Lutaenko, 2014a; Huber, 2015).

Comments: Chinese malacologists have not recorded this species (Xu, 2012).

Superfamily **Crassatelloidea** Férussac, 1822

Family **Crassatellidae** Férussac, 1822

Subfamily **Crassatellinae** Férussac, 1822

Genus **Indocrassatella** Chavan, 1952

122. *Indocrassatella oblongata* (Yokoyama, 1920)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Japan (Kyushu, Shikoku, Honshu, East/Japan Sea), Korea, Yellow Sea, East China Sea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu, 2012; Huber, 2015); **subtropical**.

Habitat: Subtidal (depth of 21 to 300 m), on sandy gravel with shell fragments (Huber, 2015; Okutani, 2017); in Yeongil Bay (eastern Korea), at 21 m deep, on coarse-grained sand (Lutaenko *et al.*, 2003).

Order **VENERIDA** Gray, 1854

Superfamily **Arcticoidea** Newton, 1891

Family **Trapezidae** Lamy, 1920

Genus **Trapezium** Megerle von Mühlfeld, 1811

Subgenus **Neotrapezium** Habe, 1951

123. *Trapezium (Neotrapezium) sublaevigatum* (Lamarck, 1819)

Pl. 3, Fig. C

Synonyms: *Cypricardia vellicata* Reeve, 1843; *Cypricardia solenoides* Reeve, 1843 (non *Cypricardia solenoides* J.C. Sowerby in Murchinson, 1839); *Cardita sinuosa* Potiez et Michaud, 1844; *Petricola esculpturata* Preston, 1915.

Local distribution: Jongdal-ri; **other records:** Kim H.S. *et al.* (1992; as *Trapezium (Neotrapezium) liratum*); Lee J.J. and Hyun J.M. (1992; as *Trapezium liratum*) (Udo); Je J.-G. *et al.* (1994; as *Trapezium (Neotrapezium) liratum*) (Munseom); Lee J.J. *et al.* (1995; as *Trapezium (Neotrapezium) liratum*) (Jagwi-do); Lee J.J. and Hyun J.M. (1997; as *Trapezium liratum*) (Chujado); Je J.-G. *et al.* (2002; as *Trapezium (Neotrapezium) liratum*).

General distribution: Widely distributed in the Indo-West Pacific from Red Sea and eastern Africa, Persian Gulf, Pakistan, India to north-western and north-eastern Australia, Polynesia, Philippines, Borneo, Thailand, Vietnam, South China Sea, Taiwan,

East China Sea, Okinawa and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal-subtidal (to depth of 10 m), including estuaries and low salinity areas, byssally attached to rocks or in rock crevices in coral reefs, also nestling among oysters in mangrove areas, often sheltered from strong wave action (Morton, 1979; Huber, 2015).

Comments: A record of “*Coralliophaga coralliophaga* (Gmelin, 1791)” from Jongdal-ri (Jeju) (Noseworthy *et al.*, 2007) is instead *T. sublaevigatum*. *C. coralliophaga* is known in Korea only from Pohang, Gyeongsangbuk-do (Lee J.-S., 2019). This is the first record of *T. sublaevigatum* in Jeju whereas this species is known from other areas of Korea (Lee J.-S., 2015; 2016); however, Lee J.-S. (2019) does not list nor illustrate this species. Tan and Low (2013) demonstrated significant variability of shell shape and coloration in this species. The second species of this genus in Korea, *Trapezium (Neotrapezium) liratum* (Reeve, 1843), occurs only in the continental part of Korea: Chungcheongnam-do, Jeollanam-do, Gyeongsangnamdo, Busan, Gyeongsangbukdo, Gangwon-do, and along the eastern coast of North Korea (Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; 2019; Lee J.-S., 2019); records of this species in Jeju (see above) seem to represent *T. sublaevigatum*.

Superfamily **Cardioidea** Lamarck, 1809

Family **Cardiidae** Lamarck, 1809

Subfamily **Trachycardiinae** Stewart, 1930

Genus **Acrosterigma** Dall, 1900

124. *Acrosterigma burchardi* (Dunker, 1877)

Pl. 4, Figs. A-H

Local distribution: Sehwa, Udo (Hagosudong), Udo (Sanhosa), Seongsan, Shinyang, Beophwan, Gangjeong, Jungmun, Yeongmeori, Yerae, Daepyeong, Hwasoon, Sagyei, Keumneung, Hyeopjae, Gwakji; **other records:** Choi K.-S. (1996; as *Vasticardium burchardi*); Choi K.-S. *et al.* (2000; as *Vasticardium burchardi*); Min D.-K. *et al.* (2004; as *Acrosterigma (Vasticardium)*

arenicola and *Acrosterigma (Vasticardium) burchardi* (Hyupjae, Sehwa, Seongsan, Hwasoon, Sagyei); Limpanont *et al.* (2010) (Kangjung); Le *et al.* (2010; as *Acrosterigma (Vasticardium) burchardi*) (east, west and south coasts of Jeju); Yang H.-S. and Choi K.-S. (2011); Ko J.-C. *et al.* (2012; as *Vasticardium burchardi*) (southern coast of Jeju).

General distribution: Japan (Honshu, Kyushu, East/Japan Sea), Korea (Higo *et al.*, 1999; Vidal, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Intertidal-subtidal (to depth of 48 m), in sandy bottoms (Vidal, 1999; Hylleberg, 2004; Huber, 2015); in Jeju, in subtidal sand flats at depths of 20-30 m (Limpanont *et al.*, 2010).

Comments: Although this species was believed to be endemic to Japan (Vidal, 1999), it was recorded and illustrated from Korea (Kwon O.K. *et al.*, 1993; Kwon O.K. and Lee J.S., 1999; as *Vasticardium burchardi*; Min D.-K. *et al.*, 2004; as *Acrosterigma (Vasticardium) burchardi*) and China, East China Sea (Xu and Zhang, 2008; Xu, 2012; as *Trachycardium burchardti*). Moreover, this species was also illustrated for Korea as “*Acrosterigma (Vasticardium) arenicola* (Reeve, 1845)” in Min D.-K. *et al.* (2004, p. 430, fig. 1407); the latter name is a synonym of *Acrosterigma maculosum* (Wood, 1815) (Poorten, 2007; 2009; Huber, 2015). Previous records of *A. maculosum* from Jeju (Noseworthy *et al.*, 2007) were based on juvenile specimens of *A. burchardi*, as confirmed by J.J. ter Poorten (pers. comm.), who examined our photographs. *A. maculosum* is much more inflated, more elongate, and more rounded. As all Korean records of “*A. maculosum*” are from Jeju, belonging instead to *A. burchardi*, the former species is excluded from the Korean fauna.

125. *Vasticardium subrugosum* (G.B. Sowerby II, 1839)
Pl. 3, Fig. D

Local distribution: Yeongmeori.

General distribution: Widely distributed Indo-West Pacific species, from Sri Lanka and eastern India, Andaman Sea to Indonesia, Philippines, Thailand, Malaysia, Vietnam, South China Sea, East China Sea,

Korea, Okinawa, and Amami Islands (Vidal, 1997; Higo *et al.*, 1999; Poorten, 2009; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 106 m), on coral reefs, coarse sand and rubble, also in fine sand; in the Philippines, depth range is 0-20 m (live specimens 0-5 m), mostly confined to non-exposed areas, occurring littorally (mainly low intertidal) on sand and muddy sand, often in association with seagrass and/or fringe mangrove (Poorten, 2009; Huber, 2015).

Comments: Cardiid malacologists previously regarded this species as a subspecies of the widely distributed *Vasticardium flavum* (L., 1758) (Vidal, 1997; Poorten, 2009) but Huber (2010) re-instated it as a distinct species. *V. subrugosum* differs from *V. flavum* by its generally lighter colour and, more important, by its more markedly ornamented and often crush-ridged ribs (Vidal, 1997). This is the first record of *V. subrugosum* for Korea and Jeju.

Subfamily **Fraginae** Keen, 1951

Genus ***Fragum*** Röding, 1798

126. *Fragum loochooanum* Kira, 1959
Pl. 3, Fig. F

Local distribution: Yeongmeori.

General distribution: Japan (Amami Islands), Korea (Jeju), Indonesia, Papua New Guinea, Melanesia (Kirkendale *et al.*, 2021); **tropical-subtropical**.

Habitat: Shallow sandy bottom.

Comments: *F. loochooanum* has been regarded as a synonym of *Fragum scruposum* (Deshayes, 1855) (Poorten, 2007; 2009; Huber, 2015), and also confused with *Fragum whitleyi* Iredale, 1929; *F. scruposum* is a short-range species confined to Thailand, Malaysia, China and Taiwan (Kirkendale *et al.*, 2021). *F. loochooanum* can be recognized by its strongly saw-toothed posterior margin on which 9 radial ribs are usually present; juveniles of *Fragum unedo* (L., 1758) known from Japan, have a much weaker radial keel and a more rounded shell (J.J. ter Poorten, pers. comm.). First record for Korea and Jeju.

Subfamily **Orthocardiinae** Schneider, 2002
Genus **Afrocardium** Tomlin, 1931

127. *Afrocardium richardi* (Audouin, 1826)
Pl. 3, Fig. E

Synonyms: *Cardium carditaeforme* Reeve, 1845; *Cardium arabicum* Issel, 1869; *Cardium skeeti* Hedley, 1906; *Cardium (Fragum) crenelloides* Melvill, 1909; *Cardium (Fragum) roseolum* Melvill, 1909; *Cardium (Fragum) rubescens* Smith, 1911; *Cardium euglyptum* G.B. Sowerby III, 1914; *Cardium ebaranum* Yokoyama, 1927.

Local distribution: Seongsan, Shinyang, Hwasoon, Yeongmeori, Yerae, Sagyei.

General distribution: Widely distributed Mediterranean (introduced) and Indo-West Pacific species, from Turkey, Lebanon, Israel; Red Sea, Arabian Sea, Mauritius, Oman, India, to eastern, northern and western Australia, Melanesia, Micronesia, Polynesia, Philippines, Thailand, Borneo, Vietnam, China, East China Sea, Okinawa, Korea, Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Poorten, 2009; Xu, 2012; Huber, 2015; Poorten *et al.*, 2017; Boutet *et al.*, 2020); **tropical-subtropical**.

Habitat: Subtidal (depth of 2 to 140 m), on reefs, coarse sand, coral rubble, known as an epifaunal nestler, byssally attached (Huber, 2015); in western Australia it was collected at a depth range of 90-137 m and found alive nestling in a crevice within a block of living coral on a rocky reef and attached to a nylon monofilament net inside pearl oyster spat-collecting bags, suspended 5 metres above clean sand substrate with sparse encrusting fauna (Poorten *et al.*, 2017); at Panglao Island (Philippines), depth ranges were 2-163 m (dead), 2-139 m (alive) (Poorten, 2009).

Comments: This species has an epifaunal nestling habit and a strongly-developed byssus (Poorten, 2009). The holotype of *C. carditaeforme* is figured by Higo *et al.* (2001, p. 166, fig. B808).

Subfamily **Laevicardiinae** Keen, 1951
Genus **Microcardium** Keen, 1937

128. *Microcardium aff. pseudocancellatum* Poorten, 2021

Local distribution: Min D.-K. *et al.* (2004; as *Trifaricardium nomurai*) (Hwasoon).

General distribution: South China Sea and possibly Korea (Poorten, 2021); **tropical-subtropical**.

Habitat: Subtidal to upper bathyal species (depth of 150 to 226 m), sandy and muddy bottoms (Poorten, 2021).

Comments: Korean records of “*Trifaricardium nomurai* Kuroda et Habe, 1951” (Lee J.-S. and Min D.-K., 2002; Min D.-K. *et al.*, 2004) most likely belong to this species but the depicted specimen differs from *M. pseudocancellatum* by being relatively slightly higher and by having a more quadrangular shape; the identity cannot be established with certainty because of the rather poor reproductions (Poorten, 2021).

129. *Microcardium sakurui* (Habe, 1961)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: North-western Australia, Indonesia, Melanesia, Solomon Islands, Philippines, South China Sea, East China Sea, China, Korea, Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Poorten, 2009; Huber, 2015; Poorten *et al.*, 2017); **tropical-subtropical**.

Habitat: Subtidal (depth of 100 to 200 m, or even down to 740 m), in sandy bottoms (Huber, 2015); the deepest live-taken specimen was collected from 487-541 m depth, Solomon Islands (Poorten *et al.*, 2017). The holotype is figured by Higo *et al.* (2001, p. 167, fig. B819).

Genus **Nemocardium** Meek, 1876

130. *Nemocardium australojaponicum* Poorten, 2013
Pl. 4, Figs. I, J

Local distribution: Choi K.-S. (1996; as *Nemocardium bechi*); Choi K.-S. *et al.* (2000; as *Nemocardium bechi*) (Seogwipo, Beopwhan, Gangjeong); Le *et al.* (2010; as *Nemocardium bechei*); Ko J.-C. *et al.* (2012; as *Nemocardium bechei*) (southern coast of Jeju).

General distribution: Korea, Japan (Kyushu, Shikoku,

Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Poorten, 2013; Huber, 2015); **subtropical**.
Habitat: Subtidal (depth of 10 to 70 m; 30 to 80 m (dead shells)), on sandy bottoms (Poorten, 2013; Huber, 2015); in Jeju, subtidally at 20-40 m deep (Le *et al.*, 2010).

Comments: This species has been known for a long time in regional Asian literature (Japan and Korea) as *Nemocardium bechei* (Reeve, 1847) (Kuroda *et al.*, 1971; Higo *et al.*, 1999; Kwon O.K. *et al.*, 2001; Min D.-K. *et al.*, 2004; Noseworthy *et al.*, 2007; see also synonymy in: Poorten, 2013) distributed in Taiwan, Philippines, and Indonesia (Poorten, 2013).

Genus *Fulvia* Gray, 1853

Subgenus *Fulvia* Gray, 1853

131. *Fulvia (Fulvia) mutica* (Reeve, 1844)

Synonyms: *Cardium japonicum* Dunker, 1860; *Cardium annae* Pilsbry, 1904.

Local distribution: Noseworthy (2015) (Hamdeok, Gapado, Marado); Min D.-K. *et al.* (2004) (Shinyang); Lee J.J. (1990); Lee J.J. (1991) (Gapa-do); Kim H.S. *et al.* (1992); Je J.-G. *et al.* (1994) (Munseom); Lee J.J. and Hyun J.M. (1997) (Chujado); Je J.-G. *et al.* (2002).

General distribution: Yellow Sea, East China Sea, China, Korea, Japan (Kyushu, Honshu, East/Japan Sea, southern Hokkaido) (Vidal, 1994; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Xu, 2012; Huber, 2015; Zhang *et al.*, 2016); **subtropical**.

Habitat: Subtidal (depth of 5 to 60 m), in bays, sheltered waters, muddy bottoms (Huber, 2015).

Comments: This species is easily distinguished from other *Fulvia* by its particular “diamond-shaped” outline, its colors, very particular ribbing and internal marginal ribbing (Vidal, 1994). Syntypes of *C. annae* are figured by Vidal (1994, pl. 1, figs. 12a, b) and Higo *et al.* (2001, p. 167, fig. B837s). A syntype of *F. mutica* is figured by Higo *et al.* (2001, p. 167, fig. B837).

Subgenus *Laevifulvia* Vidal, 1994

132. *Fulvia (Laevifulvia) hungerfordi* (G.B. Sowerby III, 1901)

Synonyms: *Fulvia (Laevifulvia) prashadi* Vidal, 1994.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Melanesia, Indonesia, Philippines, Thailand, Vietnam, South China Sea, East China Sea, China, Korea, Amami Islands, Japan (Kyushu, Honshu East/Japan Sea) (Vidal, 1994; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Poorten, 2007; Xu and Zhang, 2008; Xu, 2012; Huber, 2015; Poorten *et al.*, 2017); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 75 m or 100 m), in sheltered waters, muddy bottom (Poorten, 2007; Huber, 2015). It has a marked tolerance for turbid and polluted waters (Poorten *et al.*, 2017).

Comments: Syntypes of *Cardium hungerfordi* G.B. Sowerby III, 1901 are figured by Vidal (1994, pl. 2, figs. 12a, b) and Higo *et al.* (2001, p. 167, fig. B839); the holotype of *F. prashadi* is figured by Vidal (1994, pl. 3, figs. 8a, b).

133. *Fulvia (Laevifulvia) undatopicta* (Pilsbry, 1904)

Synonyms: *Cardium hungerfordi stigmaticum* Pilsbry, 1904.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon, Kwakji); Noseworthy (2015) (Sagyei).

General distribution: Widely distributed Indo-West Pacific species extending from Red Sea, eastern Africa, Madagascar to northern Australia, Melanesia, Indonesia, Philippines, Thailand, Vietnam, South China Sea, East China Sea, China, Korea, Japan (Kyushu, Honshu, East/Japan Sea) (Vidal, 1994; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Poorten, 2007; Xu and Zhang, 2008; Xu, 2012; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal (depth of 2 to 101 m, or to 120 m), on coral reefs, calcareous and coarse sandy bottoms, also on sandy mud (Huber, 2015).

Comments: Syntypes of *F. undatopicta* and *C. hungerfordi stigmaticum* are figured by Higo *et al.* (2001, p. 167, fig. B840 and fig. B840s, respectively).

Superfamily **Chamoidea** Lamarck, 1809

Family **Chamidae** Lamarck, 1809

Genus *Chama* L., 1758

134. *Chama dunkeri* Lischke, 1870

Pl. 5, Figs. C-E

Synonyms: *Chama semipurpurata* Lischke, 1870.

Local distribution: Daejeong, Weoljeong, Udo (Sanhosa), Udo (Geomeollae), Seongsan, Seopjikoji, Pyoseon, Wimi, Munseom, Yeongmeori, Jungmun, Yerae, Daepyeong, Hwasoon, Sagyei, Hamo, Keumneung; **other records:** Ko J.-C. *et al.* (2011) (Aewol, Jungmun); Cho I.-Y. *et al.* (2014) (Beomseom).

General distribution: South China Sea, East China Sea, Taiwan, Okinawa, Korea, Japan (western Kyushu, Nagasaki, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Subtidal (depth of 1 to 30, or 100 m), attached with left valve to rocks (Huber, 2015).

Comments: Uncommon species, shell is comparatively large, solid, elongate with rather short, irregularly placed spines, orange-red with purple traces, with finely crenulate margins. As compared to *Chama pacifica* Broderip, 1835 (Red Sea to Japan), the spines are shorter and specimens internally are white or only the dorsal border is colored whereas, in *Ch. pacifica*, typically half is deep red-purplish or rose red colored (Huber, 2010).

135. *Chama asperella* Lamarck, 1819

Pl. 5, Figs. G, H; Pl. 6, Fig. F

Synonyms: *Chama muricata* Röding, 1798 (non *Chama muricata* Poli, 1795 (Carditidae)); *Chama spinosa* Broderip, 1835; *Chama fibula* Reeve, 1846; *Chama planata* Reeve, 1846; *Chama obliquata* Reeve, 1846; *Chama exigua* Reeve, 1847; *Chama jukesii* Reeve, 1847; *Chama pellis-phocae* Reeve, 1847; *Chama hendersoni* Dall, Bartsch et Rehder, 1938.

Local distribution: Iho, Udo (Hagusodong), Seongsan, Seogwipo, Munseom, Sagyei, Gwakji; **other records:** Ko J.-C. *et al.* (2011; as *Chama japonica*) (Aewol); Cho I.-Y. *et al.* (2014; as *Chama japonica*) (Munseom).

General distribution: Widely distributed Indo-West Pacific species ranging from Mediterranean Sea

(introduced), South Africa, Red Sea, eastern Africa, Arabian and Persian gulfs to India, Sri Lanka, north-western and eastern Australia, Melanesia, Polynesia, Philippines, Thailand, Malaysia, South China Sea, East China Sea, Okinawa, Korea, Japan (Kyushu to southern Hokkaido) and Midway Island (Delsaerdt, 1986; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 150 m), shore rocks and coral reefs, cemented to corals, rocks and shells, in rock crevices (Huber, 2015).

Comments: The lectotype of *Ch. asperella* is figured by Delsaerdt (1986, pl. 1, fig. 1). Japanese authors (e.g., Okutani, 2000, pl. 470, fig. 4; Okutani, 2017, pl. 519 fig. 11) and Korean authors (Kwon O.K. *et al.*, 2001, p. 242, fig. 970; Min D.-K. *et al.*, 2004, p. 414, fig. 1344) figured this species under the name *Chama japonica* Lamarck, 1819. The holotype of *Ch. japonica* is in poor condition (completely abraded single upper valve) and cannot be properly determined, hence the species must be understood as *nom. dub.* (Huber, 2010). Syntypes of *Chama spinosa* Broderip, 1835 and *Chama pellisphocae* Reeve, 1847 are illustrated by Delsaerdt (1986, pl. 1, fig. 3 and pl. 1, fig. 2, respectively).

136. *Chama cerinorhodon* Hamada et Matsukuma, 2005

Pl. 5, Figs. A, B

Local distribution: Iho, Wolpyeong, Haengwon, Handong, Hado, Udo (Sanhosa), Udo (Geomeollae), Seongsan, Seopjikoji, Shinyang, Bomok, Munseom, Seogundo, Gangjeong, Jungmun, Yerae, Hwasoon, Yeongmeori, Sagyei, Hamo, Keumneung, Biyangdo, Hyeopjae, Gwakji, Gwideok, Iho; **other records:** Je J.-G. *et al.* (2002; as *Chama fragum*) (Munseom, Beomseom); Noseworthy and Choi (2010; as *Chama fragum*) (Seogundo); Ko J.-C. *et al.* (2011; as *Chama fraga*) (Daepo, Sincheon, Haengwon); Cho I.-Y. *et al.* (2014; as *Chama fragum*) (Munseom, Beomseom); Noseworthy *et al.* (2016) (Keumneung).

General distribution: East China Sea, Japan (Amami Islands, Kyushu, Honshu, southern Hokkaido) and Korea (Min D.-K. *et al.*, 2004, as *Chama fraga*;

Hamada and Matsukuma, 2005; Huber, 2015); **subtropical**.

Habitat: Subtidal species, cemented to hard substrate (Huber, 2015).

Comments: This species had been known previously as *Chama fragum* Reeve, 1847, the type is lost and possible syntype in the Natural History Museum (London) is of unknown origin and does not conform to Reeve's species; thus, *Ch. fragum* is regarded as *nom. dub.* (Huber, 2010). "*Chama fraga*" from Busan (Lutaenko and Noseworthy, 2012, pl. 30, figs. A, B) is *Ch. cerinorhodon*.

137. *Chama limbula* Lamarck, 1819

Pl. 6, Fig. E

Synonyms: *Chama aeruginosa* Lamarck, 1819; *Chama producta* Broderip 1835; *Chama iostoma* Conrad, 1837; *Chama nivalis* Reeve, 1846; *Chama bülowiana* Clessin, 1889; *Chama porosa* Clessin, 1889.

Local distribution: Udo (Sanhosa), Seongsan, Shinyang, Pyoseon, Munseom, Jungmun, Hwasoon, Yeongmeori, Sagyei, Keumneung; **other records:** Je J.-G. *et al.* (2002; as *Chama iostoma*) (Beomseom, Jigwido); Ko J.-C. *et al.* (2011) (Gwakji, Sincheon, Jungmun); Cho I.-Y. *et al.* (2014) (Munseom); Noseworthy *et al.* (2016) (Keumneung).

General distribution: Widely distributed Indo-West Pacific species extending from Red Sea, eastern Africa, Andaman Sea to Indonesia, north-western and eastern Australia, Melanesia, Micronesia, Polynesia, Philippines, South China Sea, East China Sea, China, Amami and Ogasawara islands, Korea, Japan (Kyushu, Honshu), and Hawaiian Islands (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal (down to 20 or 100 m), found on exposed beaches, attached in tide pools, reef flats and coral reefs, cemented to rocks and corals (Huber, 2015).

Comments: This is a difficult and variable species, rather heavy, quite large, often encrusted, usually strongly furrowed, with smooth, purplish margins; large, rather ovate, weakly furrowed, strong scaled

forms with whitish or yellowish-purple margins may also occur (Huber, 2010).

Genus *Pseudochama* Odhner, 1917

138. *Pseudochama retroversa* (Lischke, 1870)

Pl. 6, Figs. A-D

Local distribution: Weoljeong, Gimnyeong, Udo (Sanhosa), Seongsan, Seopjikoji, Shinyang, Pyoseon, Munseom, Jungmun, Hwasoon, Yeongmeori, Yerae, Sagyei, Hamo, Iho; **other records:** Je J.-G. *et al.* (2002) (Munseom, Beomseom); Ko J.-C. *et al.* (2011) (Daepo, Jungmun, Hacheon); Cho I.-Y. *et al.* (2014) (Munseom, Beomseom).

General distribution: East China Sea, Taiwan, China, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical**.

Habitat: Intertidal to subtidal (to depth of 20 m), cemented by right valve to rocks (Huber, 2015).

Comments: Species of *Pseudochama* are exclusively or largely attached by the right valve with the apex pointing to the left.

Genus *Amphichama* Habe, 1964

139. *Amphichama argentata* (Kuroda et Habe in Habe, 1958)

Pl. 5, Fig. F

Local distribution: Supseom, Munseom, Keumneung; **other records:** Je J.-G. *et al.* (2002) (Munseom).

General distribution: East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Subtidal to bathyal (50 to 300 m), cemented to rocks, pebbles and corals (Huber, 2015).

Comments: Possible type specimen is figured by Higo *et al.* (2001, p. 159, fig. B575).

Superfamily *Galeommatoidea* Gray, 1840

Family *Galeonmatidae* Gray, 1840

Genus *Scintilla* Deshayes, 1856

140. *Scintilla violescens* Kuroda et Iw. Taki, 1961
Pl. 7, Figs. A, B

Synonyms: *Scintilla ione* Kuroda et Iw. Taki in Kuroda, Habe et Oyama, 1971.

Local distribution: Pyoseon, Munseom, Hwasoon, Sincheon, Gwakji.

General distribution: Western Thailand, Philippines, South China Sea, China, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 30 m); free-living species, under rocks (Huber, 2015).

Comments: Japanese specimens may have violet rather than whitish shells and an uncoloured interior siphonal tentacle whereas specimens from Phuket (western Thailand) are whitish and opaque (Lützen and Nielsen, 2005). The holotype of *S. violescens* is figured by Higo *et al.* (2001, p. 162, fig. B668).

141. *Scintilla timoriensis* Deshayes, 1856

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon, Sagyei); Noseworthy (2015) (Yeongmeori).

General distribution: Indonesia, Melanesia, South China Sea, East China Sea, Korea, Okinawa, Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 10 m); under rocks and in sand (Huber, 2015).

142. *Scintilla nitidella* Habe, 1962
Pl. 7, Figs. C, D, F, G

Synonyms: *Scintilla vitrea* Habe, 1961 (non *Scintilla vitrea* Quoy et Gaimard, 1832).

Local distribution: Seongsan, Munseom, Hwasoon, Sagyei, Hamo, north coast.

General distribution: Western Thailand, southern China (Hong Kong), Korea, and Japan (Kyushu, Shikoku, Honshu) (Morton and Scott, 1989; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lützen and Nielsen, 2005;

Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 20 m), among gravel and fine sandy bottoms (Huber, 2015).

Comments: In contrast to Phuket (western Thailand) specimens, the soft parts of Japanese specimens have reddish to orange tentacles. If this is not a variation, specimens from Thailand and southern China (Hong Kong) (Morton and Scott, 1989) might represent a different species. Also, from their shell characters, *S. nitidella*, *S. violescens* and *Scintilla imperatoris* Lützen et Nielsen, 2005 (Japan, Hong Kong, Phuket) are difficult to distinguish (Lützen and Nielsen, 2005). Possible paratype of *S. nitidella* is figured by Higo *et al.* (2001, p. 162, fig. B674).

143. *Scintilla* sp.
Pl. 7, Fig. I

Local distribution: Yeongmeori.

Comments: This species can be compared with *Scintilla rugata* (Kuroda et Habe in Kuroda, Habe et Oyama, 1971) or *Scintilla striatina* Deshayes, 1856.

Genus *Pseudogaleomma* Habe, 1964

144. *Pseudogaleomma japonica* (A. Adams, 1862)
Pl. 7, Fig. L

Synonyms: *Solecardia vitrea japonica* Pilsbry, 1904.

Local distribution: Gongchon Port, Yerae.

General distribution: Western Thailand, Philippines, South China Sea, East China Sea, Korea, Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lützen and Nielsen, 2005; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 50 or 115 m), under stones, among gravel or under rocks, in mud and sand with gravel (Huber, 2015).

Comments: This is the first record for Jeju.

Family **Basterotiidae** Cossmann, 1909

Genus **Basterotia** Hörnes, 1859

145. *Basterotia reclusi* (A. Adams, 1864)

Synonyms: *Basterotia trapezium* Yokoyama, 1920.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: East China Sea, Yellow Sea, Okinawa, East/Japan Sea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Zhang *et al.*, 2012; Huber, 2015); **subtropical.**

Habitat: Subtidal (depth of 5 to 50 m), in bays, in fine sand and sandy mud bottoms (Zhang *et al.*, 2012; Huber, 2015); it lives in the burrows of the thalassematid echiuran species, *Ikedosoma gogoshimense* (Ikeda, 1904) and *Arhynchite hayaoi* Tanaka et Nishikawa, 2013, in intertidal flats in the Seto Inland Sea, Japan; embedded in the burrow wall with its short siphons protruding into the host burrow lumen for respiration and filter feeding (Goto *et al.*, 2017).

Comments: Molecular analysis showed that “*Paramya reclusi* (A. Adams, 1864)” belongs not to the family Myidae, as suggested by Habe (1977), but to the genus *Basterotia* and, additionally, morphological examination of this species revealed that it has many similarities with *Basterotia* (a single cardinal tooth on each valve, short siphons surrounded by tentacles) (Goto *et al.*, 2017).

Family **Lasaeidae** Gray, 1842

Genus **Lasaea** Brown, 1827

146. *Lasaea undulata* (Gould, 1861)

Pl. 7, Fig. E

Local distribution: Udo (Sanhosa), Seongsan, Ojo-ri (Tongbatarl), Munseom, Hyeopjae, Gwakji; **other**

records: Je J.-G. *et al.* (1994) (Munseom); Je J.-G. *et al.* (2002) (Munseom, Beomseom, Supseom, Jigwido).

General distribution: South China Sea (Hong Kong), China, Korea, and Japan (Kyushu to Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Intertidal, on rocky shores, attached to or between byssus of *Septifer* (Mytilidae) and *Isognomon*

(Malleidae) (Huber, 2015).

Comments: One of the smallest bivalves found in Jeju Island. The holotype is figured by Higo *et al.* (2001, p. 162, fig. B682).

Genus **Melliteryx** Iredale, 1924

147. *Melliteryx puncticulata* (Yokoyama, 1924)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: East China Sea, Taiwan, Yellow Sea, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical.**

Habitat: Subtidal (depth of 5 to 80 m), in fine sandy and sandy mud bottoms (Huber, 2015).

Genus **Kellia** Turton, 1822

148. *Kellia porculus* Pilsbry, 1904

Pl. 6, Fig. G

Local distribution: Iho, Hamdeok, Handong, Sehwa, Udo (Sanhosa), Seongsan, Shinyang, Yeongmeori.

General distribution: Yellow Sea, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Intertidal to subtidal (to depth of 20 or 125 m), byssally attached to shells and stones, in dead corals in crevices (Huber, 2015).

Comments: Some authors believe that this species may be a thickened form of *Kellia japonica* Pilsbry, 1895. The former possesses much heavier teeth and a thicker, more inflated shell (Morton and Scott, 1989); however, Huber (2015) regarded these species as distinct. The holotype is figured by Higo *et al.* (2001, p. 163, fig. B689).

Genus **Nesobornia** Dall, Bartsch et Rehder, 1938

149. *Nesobornia bulla* (Gould, 1861)

Pl. 7, Fig. K

Local distribution: Udo (Sanhosa), Yeongmeori, Sagyei, Keumneung; **other records:** Noseworthy *et al.* (2016) (Keumneung).

General distribution: Polynesia, Pitcairn Island, East China Sea, Okinawa, Amami Islands, and Korea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical.**

Habitat: Subtidal (depth of 7 to 100 m), in sand and mud (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 163, fig. B703).

Genus *Borniopsis* Habe, 1959

150. *Borniopsis tsurumaru* Habe, 1959

Local distribution: Min D.-K. *et al.* (2004) (Munseom); Lee H.-J. *et al.* (2014; as *Pseudopythina tsurumaru*) (Tongbatarl Lagoon); Noseworthy (2015) (Hwasoon).

General distribution: South China Sea (Hong Kong), East China Sea, Yellow Sea, Korea, East/Japan Sea, and Japan (Kyushu, Honshu) (Morton and Scott, 1989; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Subtidal (depth of 5 to 30 m), solitary commensal with sea cucumber *Protankyra bidentata* (Woodward et Barrett, 1858) in bays, mud and fine sandy bottoms (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 163, fig. B699).

151. *Borniopsis subsinuata* (Lischke, 1871)

Pl. 6, Fig. H

Local distribution: Handong, Hwasoon, Yeongmeori.

General distribution: South China Sea (Hong Kong), East China Sea, China, Korea, and Japan (Kyushu, Shikoku, and Honshu) (Morton and Scott, 1989; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Intertidal to subtidal (to depth of 52 m), byssally attached to stomatopod crustacean *Oratosquilla oratoria* (de Haan, 1844) and other related species, in mud and sandy mud (Morton, 1972; Huber, 2015).

Comments: This species was previously assigned to *Squillaconcha* Kuroda et Habe in Kuroda, Habe et Oyama, 1971; this genus was synonymized with

Borniopsis (Huber, 2015).

Genus *Nipponomysella* Yamamoto et Habe, 1959

152. *Nipponomysella oblongata* (Yokoyama, 1922)

Pl. 7, Fig. J

Local distribution: north coast of Jeju; **other records:** Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: East China Sea, Yellow Sea, China, Korea, East/Japan Sea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Subtidal (depth of 7 to 300 m); commensal with bristle star *Ophioplocus japonicus* Clark, 1911, in river mouths and bays, fine sand and mud (Huber, 2015); in Yeongil Bay (eastern Korea), empty shells were collected at a depth range of 18 to 24 m, on sand (Lutaenko *et al.*, 2003).

Genus *Montacutona* Yamamoto et Habe, 1959

153. *Montacutona japonica* (Yokoyama, 1922)

Pl. 7, Fig. H

Local distribution: Pyoseon.

General distribution: Japan (Kyushu to Honshu, East/Japan Sea) (Higo *et al.*, 1999; Huber, 2015; Okutani, 2017); **subtropical.**

Habitat: Intertidal and subtidal (depth of 5 to 70 m), on fine sand and mud, host unknown (Higo *et al.*, 1999; Huber, 2015; Okutani, 2017).

Comments: First record for Jeju and Korea.

Superfamily *Glossoidea* Gray, 1847

Family *Glossidae* Gray, 1847

Genus *Meiocardia* H. Adams et A. Adams, 1857

154. *Meiocardia hawaiiiana* Dall, Bartsch et Rehder, 1938

Local distribution: Min D.-K. *et al.* (2004); Lee J.-S. (2019) (Hwasoon).

General distribution: Widely distributed Indo-West Pacific species ranging from Reunion Island to Indonesia, north-eastern Australia, Coral Sea, Melanesia, Polynesia, Philippines, Vietnam, South

China Sea, Korea, Japan (Kyushu, Honshu), and Hawaiian Islands (Matsukuma and Habe, 1995; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Boutet *et al.*, 2020); **tropical-subtropical**.

Habitat: Subtidal to bathyal (depth of 30 to 600 m), on sand and mud bottoms, also on gravelly bottoms with corals (Huber, 2015).

Family **Kelliellidae** P. Fischer, 1887

Genus ***Alveinus*** Conrad, 1865

155. *Alveinus ojanus* (Yokoyama, 1927)

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: Yellow Sea, Korea, Japan (Kyushu, Honshu), north-western East/Japan Sea, south Kurile Islands (Higo *et al.*, 1999; Evseev, 2000; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical-lowboreal**.

Habitat: Subtidal (to depth of 2 to 150 m), sandy mud and fine sand, byssally attached to sand grains (Scarlato, 1981; Huber, 2015).

Comments: Lee J.-S. (2019) enumerated only Gangwon-do, Gyeongsangbuk-do, and Gyeongsangnam-do as regions where this species is found in Korea. Specimens identified as “*A. ojanus*” from the Gulf of Thailand (Robba *et al.*, 2002, pl. 16, fig. 8) belong to another species, perhaps, undescribed: they have high, prominent beaks and a rather high shell with elongated-rounded ventral margin. The anatomy and early development stages of the shell of *A. ojanus* were described in detail by Evseev *et al.* (2004a; b).

Superfamily **Mactroidea** Lamarck, 1809

Family **Mactridae** Lamarck, 1809

Subfamily **Mactrinae** Lamarck, 1809

Genus ***Mactra*** L., 1767

Subgenus ***Mactra*** L., 1767

156. *Mactra (Mactra) chinensis* Philippi, 1846

Pl. 8, Figs. A-F; Pl. 9, Fig. L

Synonyms: *Mactra sulcataria* Deshayes in Reeve, 1854;

Mactra carneopicta Pilsbry, 1904.

Local distribution: Iho, Samyang, Hamdeok, Gimnyeong, Wolpyeong, Handong, Sehwa, Hado, Udo (Hagosudong), Jongdal-ri, Seongsan, Seopjikoji, Shinyang, Pyoseon, Jungmun, Hwasoon, Yeongmeori, Sagyei, Keumneung, Hyeopjae, Gwakji, Weoljeong; **other records:** Je J.-G. *et al.* (2002) (Hyeopjae); Noseworthy *et al.* (2002) (Seongsan); Le *et al.* (2010); Suzuki (2010) (Hamdeok, Shinyang, Jungmub, Hwasoon, Gwakji); Yang H.-S. and Choi K.-S. (2011).

General distribution: East China Sea, Taiwan, China, Yellow Sea, Korea, North-western East/Japan Sea (Russia), western, southern, and south-eastern Sakhalin (Sea of Okhotsk), South Kurile Islands (Kunashir, Shikotan), Japan (Hokkaido) (Scarlato, 1981; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical-lowboreal**.

Habitat: Intertidal to upper subtidal (to depth of 30 m), in sand and muddy sand (Scarlato, 1981; Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: A photograph of a probable syntype of *Mactra sulcataria* Deshayes in Reeve, 1854 was published by Lutaenko (2014b), along with a discussion on the taxonomic history of this species. Records in South China Sea and Vietnam (Huber, 2010; 2015) are doubtful and may represent a close cryptic species. *Mactra* sp. from Hong Kong (Lutaenko and Volvenko, 2013, pl. 8, figs. A, D) and “*Mactra chinensis*” from Vietnam (Thach, 2007, pl. 64, fig. 1090) bear resemblance to *M. chinensis* but represent another, perhaps undescribed, species. Genetic discontinuity was observed between distant populations of *M. chinensis* in China across the Changjiang (Yangtze) River estuary but also between adjacent northern populations, reflecting the influence of multiple driving forces (Ni *et al.*, 2015). Preliminary morphological observations show that, in the northern part of the East/Japan Sea, a regional morph of *M. chinensis* is distributed with brownish-purple shell and, depending on post-mortem changes, bright brown or purple radial rays on the shell surface clearly observed in color photographs (Habe, 1970; Lutaenko, 2005; Evseev and Yakovlev, 2006; Dulenina, 2013;

Lutaenko and Noseworthy, 2012; Yavnov, 2016); radial rays are visible even on fossil shells (Ogasawara *et al.*, 1986, pl. 64, fig. 10). In the southern part of the sea, two morphs are found: the brownish-purple one and a morph with pale yellowish outer color, and a complete absence of brown or violet rays (Reunov *et al.*, 2021; discussion on shell coloration). The latter morph is depicted in a number of Korean and Chinese works (Kwon O.K. *et al.*, 2001; Qi, 2004; Xu and Zhang, 2008) and occurring in Jeju Island (Pl. 8, Fig. D). Huber (2010, p. 439) placed photographs of both morphs side by side, but no comments were given. Reunov *et al.* (2014) showed that three variants of spermatozoa in *M. chinensis* are present along with three clades of this species in Yellow and East/Japan seas based on the analysis of the nucleotide sequence of the mitochondrial gene *COI*. These data may be indicative of the existence of a cryptic species close to *M. chinensis*. The holotype of *M. carneopicta* is figured by Higo *et al.* (2001, p. 167, fig. B848s).

157. *Maetra (Maetra) achatina* Holten, 1802
Pl. 9, Fig. C; Pl. 10, Figs. A-D

Synonyms: *Maetra maculosa* Lamarck, 1818; *Maetra ornata* Gray, 1837; *Maetra adspersa* Dunker, 1849.

Local distribution: Daejeong, Seongsan, Pyoseon, Jungmun, Hwasoon, Yongmeori, Sagyei, Gwakji; **other records:** Je J.-G. *et al.* (2002) (Beomseom); Ko J.-C. *et al.* (2012) (southern coast of Jeju).

General distribution: Widely distributed Indo-West Pacific species ranging from the Red Sea, eastern Africa, Seychelles, Reunion Island, Sri Lanka, India, Myanmar, to eastern Australia, Philippines, Thailand, South China Sea, Vietnam, East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Subtidal (depth of 5 to 60 m), shelly and fine sandy bottoms (Huber, 2015).

158. *Maetra (Maetra) iridescens* Kuroda et Habe in Habe, 1958

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon,

Sagyei).

General distribution: East China Sea, China, Okinawa, Korea, Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Subtidal (depth of 20 to 250 m), in fine sand (Huber, 2015).

Comments: The holotype of is figured by Higo *et al.* (2001, p. 168, fig. B857).

Genus *Oxyperas* Mörch, 1853

159. *Oxyperas bernardi* (Pilsbry, 1904)

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: East China Sea, China, Taiwan, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical.**

Habitat: Subtidal (depth of 6 to 100 m), in coarse and shelly sand (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 168, fig. B867).

Subfamily *Lutrariinae* Gray, 1853

Genus *Lutraria* Lamarck, 1799

Subgenus *Lutraria* Lamarck, 1799

160. *Lutraria (Lutraria) maxima* Jonas, 1844

Pl. 9, Fig. D

Synonyms: *Lutraria larga* Reeve, 1854 (nom. nov. pro *Lutraria maxima* Jonas, 1844 non *Lutraria maxima* Middendorff, 1849).

Local distribution: Hwasoon, Gwakji, Shinyang; **other records:** Kim H.S. *et al.* (1992; as *Lutraria (Psammophila) maxima*); Je J.-G. *et al.* (1994; as *Lutraria (Psammophila) maxima*) (Munseom); Je J.-G. *et al.* (2002).

General distribution: Thailand, South China Sea, Vietnam, East China Sea, China, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 14 m), in

fine sand and mud (Huber, 2015).

Comments: *Lutraria larga* Reeve, 1854 (Reeve, 1844, in Erratum, no pagination) was an unnecessary replacement name (*nom. nov.*) for *Lutraria maxima* Middendorff, 1849; the latter species is a synonym of the North American *Tresus capax* (Gould, 1850) (Alaska to California) (Coan *et al.*, 2000). Coan and Valentich-Scott (2012) corrected the previous erroneous synonymizing of *L. maxima* of Jonas with the western American *Tresus nuttallii* (Conrad, 1837) by Bernard (1983) and Coan *et al.* (2000), probably, based on the synonymy of *T. nuttallii* by Lamy (1917-1918, p. 379). However, Lamy (l.c.) clearly meant *L. maxima* of Middendorff. The second species of this genus in Korea, *Lutraria (Psammophila) sieboldii* Reeve, 1854, known from China and Japan as far south as the South China Sea, was first recorded for Busan by Lutaenko and Noseworthy (2012, pl. 54, figs. C, D) but missed in subsequent Korean lists of mollusks (Lee J.-S., 2015; 2016).

Family **Mesodesmatidae** Gray, 1840

Subfamily **Mesodesmatinae** Gray, 1840

Genus **Coecella** Gray, 1853

161. *Coecella chinensis* Deshayes, 1855

Pl. 14, Figs. A-D

Synonyms: *Caecella zebuensis* Deshayes, 1855; *Caecella convexa* Deshayes, 1855; *Caecella lata* Deshayes, 1855; *Ervilia otsuensis* Yokoyama, 1920.

Local distribution: Iho, Hamdeok, Gimnyeong, Haengwon, Handong, Sehwa, Jongdal-ri, Ojo-ri, Seongsan, Shinyang, Pyeoseon, Hwasoon, Sagyei, Yongnak, Geumneung, Hyeopjae, Haengwon-ri; **other records:** Lee J.J. *et al.* (1989); Kim H.S. *et al.* (1992); Je J.-G. *et al.* (1994); (Munseom); Je J.-G. *et al.* (2002) (Pyeoseon); Yang H.-S. and Choi K.-S. (2011).

General distribution: Philippines, South China Sea, Vietnam, East China Sea, Taiwan, China, Korea, Yellow Sea, and Japan (Kyushu, Shikoku, Honshu, southern Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical.**

Habitat: Intertidal, cobble beaches, coarse sand and stones, also muddy sand (Huber, 2015); often obtained live in sandy bottoms in tidepools in Jeju.

Comments: Although Huber (2010; 2015) mentioned Russia in the geographical distribution of this species, no museum or literature records are available for Russian Far Eastern areas. A syntype of *C. chinensis* is figured by Higo *et al.* (2001, p. 168, fig. B884).

Superfamily **Tellinoidea** Blainville, 1814

Family **Tellinidae** Blainville, 1814

Subfamily **Tellininae** Blainville, 1814

Genus **Nitidotellina** Scarlato, 1965

162. *Nitidotellina valtonis* (Hanley, 1844)

Pl. 11, Figs. C, D, H

Synonyms: *Tellina iridella* Martens, 1865.

Local distribution: Hado, Udo (Hagosudong), Seongsan, Shinyang, Jungmun, Hwasoon, Sagyei, Yeongmeori, Keumneung, Hyeopjae, Gwakji; **other records:** Je J.-G. *et al.* (2002; as *Nitidotellina iridella*) (Munseom, Beomseom); Suzuki (2010; as *Nitidotellina iridella*) (Gwakji).

General distribution: East China Sea, Yellow Sea, China, Taiwan, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; 2018; Huber, 2015); **subtropical.**

Habitat: Intertidal to subtidal (to depth of 40 m), fine sand and mud (Huber, 2015).

Comments: The type locality for *Tellina valtonis* Hanley, 1844 was unknown but it is corrected as Japan, Honshu (Huber, 2015).

Genus **Pharaonella** Lamy, 1918

163. *Pharaonella sieboldii* (Deshayes, 1855)

Pl. 12, Figs. D-F

Synonyms: *Tellina perrieri* Bertin, 1878; *Tellina consanguinea* G.B. Sowerby III, 1903.

Local distribution: Hado, Seongsan, Pyeoseon, Jungmun, Hwasoon, Jongdal-ri, Sagyei, Gwakji; **other records:** Suzuki (2010) (Gwakji); Ko J.-C. *et al.* (2012)

(southern coast of Jeju).

General distribution: Korea and Japan (Kyushu, Shikoku, Honshu, south-western Hokkaido, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Intertidal to upper subtidal (to depth of 20 m), in fine sand (Huber, 2015).

Comments: Recently described from sand banks around Amami Islands, the Ryukyu Archipelago, a new species, *Pharaonella amanyu* Kato et Ohsuga in Kato, Yamamori, Goto, Tsubaki et Ohsuga, 2017, is closely related to *P. sieboldii* based on a molecular phylogenetic analysis; *P. amanyu* is distinguished from the other Japanese *Pharaonella* species (*Pharaonella aurea* (Perry, 1811) and *P. sieboldii*) by their much narrower shells with longer rostrations, orange shell color with many pale umbonal rays (pink in *P. sieboldii*), moderate pallial sinus, and commarginally ridged shell surface sculpture only in posterior beak in right valve (Kato *et al.*, 2017). Possible syntypes of *P. sieboldii* are figured by Higo *et al.* (2001, p. 169, fig. B924).

Genus *Pristipagia* Iredale, 1936

164. *Pristipagia ojiensis* (Tokunaga, 1906)

Pl. 13, Figs. A-C

Local distribution: Supseom, Hwasoon, Yeongmeori.

General distribution: East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Huber, 2015); **subtropical**.

Habitat: Subtidal (depth of 3 to 250 or 300 m), on fine sandy bottoms (Huber, 2015).

Comments: This species has long been known in Japanese literature as *Merisca (Pistris) subtruncata* (Hanley, 1844) (Higo *et al.*, 1999), *Pistris subtruncata* (Hanley, 1844) (Okutani, 2017) or *Serratina subtruncata* (Hanley, 1844) (Ujino and Matsukuma, 2013) (originally described as *Tellina subtruncata* Hanley, 1844); a syntype is figured by Higo *et al.* (2001, p. 170, fig. B944)). The latter species is known only from the tropical areas (Philippines, South China Sea, and north-eastern Borneo) whereas another,

endemic to the Japan-Korea region species was described from the Pleistocene deposits of Tokyo and as living in Hakodate (Hokkaido), *Tellina ojiensis* Tokunaga, 1906 (Tokunaga, 1906, p. 44, pl. 2, figs. 34a, a', b), and all records of “*subtruncata*” in Japan are misidentifications representing, in fact, *P. ojiensis* (Huber, 2015). *P. ojiensis* has a consistently more extended posterior shape as compared to a stunted one in *P. subtruncata*, with no strongly inaequilateral valves (l.c.). “*Merisca (Pistris) subtruncata*” from Korea figured by Min D.-K. *et al.* (2004, p. 442, fig. 1454) is an unknown species of *Pristipagia* or *Serratina* Pallary, 1922. “*Merisca (Pistris) subtruncata* (Hanley, 1844)” in the catalogue of Noseworthy *et al.* (2007) is *P. ojiensis*. *Merisca* Dall, 1900 is a monospecific American genus, with *Merisca cristallina* (Spengler, 1798) (Huber, 2015). Xu and Zhang (2018) suggested that the morphological characters of *M. cristallina* are very similar to those of Chinese species and regarded *Serratina* Pallary, 1920 as a synonym of *Merisca*.

Genus *Jactellina* Iredale, 1929

165. *Jactellina clathrata* (Deshayes, 1835)

Pl. 13, Figs. D-F

Synonyms: *Tellina rhomboides* Quoy et Gaimard, 1835 (non *Tellina rhomboides* Gmelin, 1791 nec *Tellina rhomboides* Poli, 1791 (Hiatellidae)); *Tellina obliquilineata* Conrad, 1837; *Tellina lauta* Gould, 1850; *Tellina compta* Gould, 1850; *Tellina silicula* Deshayes, 1855; *Tellina caseus* G.B. Sowerby II, 1867; *Tellina cerasum* G.B. Sowerby II, 1868; *Tellina erythraea* Issel, 1869; *Tellina (Peronaea) erythraeensis* H. Adams, 1871; *Tellina bifaria* Baird in Brencley, 1873; *Tellina retiarius* Salisbury, 1934 (nom. nov. pro *Tellina reticulata* G.B. Sowerby II, 1868 non *Tellina reticulata* L., 1767 (nom. dub.); non *Tellina retiaria* Hutton, 1885 (Semelidae)).

Local distribution: Gimnyeong, Seongsan, Pyoseon, Bomok, Jungmun, Hwasoon, Yeongmeori, Sagyei, Hyeopjae, Gwakji; **other records:** Je J.-G. *et al.* (2002; as *Loxoglypta clathrata*) (Beomseom, Supseom).

General distribution: Widely distributed Indo-Pacific species ranging from Red Sea, eastern Africa,

Madagascar, Persian Gulf, Arabian Sea, India to Thailand, Indonesia, northern Australia, Micronesia, Melanesia, Polynesia, Philippines, South China Sea, East China Sea, China, Taiwan, Okinawa, Korea, Japan (Kyushu, Shikoku, Honshu), Hawaiian Islands, and Galapagos Islands (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; 2018; Huber, 2015; Boutet *et al.*, 2020); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 180 m), in coral and coarse and fine sandy bottoms (Huber, 2015).

Comments: This species was previously associated with the genus *Loxoglypta* Dall, Bartsch et Rehder, 1938 (Higo *et al.*, 1999; Kwon O.K. *et al.*, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008) which is a synonym of *Jactellina* Iredale, 1929.

Subfamily **Moerellinae** Huber, Langleit et Kreipl in Huber, 2015

Genus ***Cadella*** Dall, Bartsch et Rehder, 1938

166. ***Cadella narutoensis*** Habe, 1960

Pl. 12, Figs. A-C

Local distribution: Jungmun, Hwasoon, Yeongmeori, Sagyei.

General distribution: Philippines, South China Sea, Vietnam, East China Sea, China, Taiwan, Okinawa, Yellow Sea, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; 2018; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal (depth of 10 to 100 m), reefs, in sand and coral rubble (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 170, fig. B952).

167. ***Cadella nucleolus*** (Deshayes, 1855)

Synonyms: *Tellina (Arcopagia) smithi* Lynge, 1909; *Tellina delta* Yokoyama, 1922.

Local distribution: Min D.-K. *et al.* (2004; as *Cadella delta*) (Hwasoon, Sagyei).

General distribution: Northern Australia, Philippines, South China Sea, Thailand, Vietnam, East China Sea,

China, Taiwan, Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; 2018; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 160 m), in sandy and sandy mud bottoms (Huber, 2015).

Comments: *Cadella delta hainanensis* Scarlato, 1965, described from Hainan Island (South China Sea) (Scarlato, 1965), is instead a distinct species, *Cadella hainanensis*, now known from the Gulf of Thailand to Okinawa (Huber, 2015).

Subfamily **Aenigmatellinae** Huber, Langleit et Kreipl in Huber, 2015

Genus ***Herouvalia*** Cossmann in Harris et Burrows, 1891
168. ***Herouvalia caelata*** (A. Adams, 1854)

Synonyms: *Tellina euglypta* Gould, 1861; *Gari erasmia* Melvill, 1898; *Tellina fabrefacta* Pilsbry, 1904.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Widely distributed Indo-West Pacific species extending from the Persian Gulf, Arabian Sea, Mauritius to Indonesia, north-eastern Australia, Melanesia, Polynesia, Philippines, South China Sea, Thailand, Vietnam, East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal to depth of 300 m); in fine sand and sandy gravel (Huber, 2015).

Comments: In Japanese and Korean literature, this species was previously associated with *Elliptotellina* Cossmann, 1886 (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Okutani, 2017). The holotype of *Tellina euglypta* Gould, 1861 is figured by Higo *et al.* (2001, p. 170, fig. B966); a syntype of *Tellina fabrefacta* Pilsbry, 1904 is figured in the same work (l.c., p. 170, fig. 966s).

Subfamily **Gastraninae** Huber, Langleit et Kreipl in Huber, 2015

Genus ***Heteromacoma*** Habe, 1952

169. *Heteromacoma irus* (Hanley, 1845)

Pl. 11, Figs. A, B, E, F

Synonyms: *Fragilia yantaiensis* Crosse et Debeaux, 1863.**Local distribution:** Iho, Hamdeok, Gimnyeong, Wolpyeong, Haengwon, Handong, Sehwa, Hado, Udo (Sanhosa), Jongdal-ri, Supjikoji, Seongsan, Shinyang, Pyoseon, Munseom, Seogundo, Jungmun, Daepyeong, Hamo, Geumneung, Gwakji, Hyopchae, Gangeong Harbour, Daejong, Yeongmeori; **other records:** Noseworthy and Choi (2010) (Seogundo); Suzuki (2010) (Sehwa); Yang H.-S. and Choi K.-S. (2011).**General distribution:** Yellow Sea, northern China, Korea, north-western East/Japan Sea (Russia) and Japan (Kyushu, Shikoku, Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; 2018; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016); **subtropical.****Habitat:** Intertidal to upper subtidal (to depth of 20 m), in mud, muddy sand with gravel and stones, also nestling in holes, among eelgrass (Scarlato, 1981; Huber, 2015; Ivanova and Tsurpalo, 2019).**Comments:** For a long time there was confusion in the literature regarding the status and conspecificity of *H. irus* and *Macoma (Limecola) contabulata* (Deshayes, 1855) arising from a review by Salisbury (1934) that synonymized these species. Kafanov and Lutaenko (1996) provided a synonymy and detailed analysis of taxonomy and nomenclature of *M. contabulata*. These two unrelated species live in different habitats: *H. irus* prefers open bays and areas, often among eelgrass, with normal salinity whereas *M. contabulata* is a semi-estuarine species inhabiting enclosed bays and lagoons. Synonyms of *M. contabulata* are *Lucina corrugata* Dunker, 1882 (non *Lucina corrugata* Deshayes, 1843, Lucinidae), *Macoma anser* Oyama, 1950 and *Macoma sicca* Scarlato et Ivanova in Scarlato, 1981 (Kafanov and Lutaenko, 1996; Huber, 2015). Son M.-H. and Hong S.-Y. (2005) figured *H. irus* from Busan under the heading “*M. contabulata*”. Kwon O.K. *et al.* (1993, p. 133, fig. 91-5), Kwon O.K. *et al.* (2001, p. 256, fig. 1041), Min D.-K. *et al.* (2004, p. 446, fig. 1469) correctly illustrated *H. irus* from Korea.“*Macoma (Macoma) contabulata*” in Kwon O.K. *et al.* (2001, p. 256, fig. 1047); “*Macoma tokyoensis*” in Kwon O.K. *et al.* (1993, p. 133, figs. 91-9-1 and 91-9-2); and “*Macoma contabulata*” in Hong S.Y. (2006, p. 255, right text-fig.) are all *M. irus*. A correct illustration and identification of *M. contabulata* from Korea is in Kwon O.K. *et al.* (1993, p. 133, fig. 91-8-1 and 91-8-2). The lectotype of *Tellina irus* Hanley, 1845 is figured by Higo *et al.* (2001, p. 171, fig. B984). Huber (2015) confirmed the validity of the second species in this genus, *Heteromacoma oyamai* Kira, 1954 (Japan endemic, Honshu only) synonymized with *H. irus* by other Japanese authors, e.g., Higo *et al.* (1999) or treated it as a subspecies (Habe, 1977). The former differs by shape, broadly rounded in *H. oyamai*, with a higher postero-dorsal flange vs. more or less acutely rostrate in *H. irus*. Also, the umbones are usually opistogyrate rather than prosogyrate in *H. irus*, and anterior muscle scars in *H. oyamai* are very elongate and nearly twice as large as compared to those in *H. irus*. *H. irus* is locally harvested for food in Jeju. The annual reproductive cycle of *H. irus* was investigated for the first time by Limpanont *et al.* (2011) from the northern coast of Jeju Island.Subfamily **Macominae** Olsson, 1961Genus **Macoma** Leach, 1819Subgenus **Macoma** Leach, 1819**170. *Macoma (Macoma) incongrua*** (Martens, 1865)

Pl. 11, Fig. G

Synonyms: *Tellina nasuta truncata* Middendorff, 1851 (non *Tellina truncata* L., 1767 (Psammobiidae) nec *Tellina truncata* Jonas in Philippi, 1843 (Tellinidae)); *Tellina nasuta brevior* Schrenck, 1867.**Local distribution:** Seongsan, Jongdal-ri.**General distribution:** Yellow Sea, northern China, Korea, northern East/Japan Sea (Russia, including Primorye and Sakhalin), Japan (Kyushu, Honshu, East/Japan Sea, Hokkaido), southern Sea of Okhotsk, southern Kurile Islands (Kunashir, Shikotan) (Scarlato, 1981; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; 2018; Lutaenko and

Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016); **subtropical-lowboreal**.

Habitat: Intertidal to subtidal (to depth of 50 m), in bays, muddy and muddy sand bottoms (Huber, 2015; Ivanova and Tsurpalo, 2019); in Ulsan Bay, at 43 m (empty shell) (Lutaenko, 2014a).

Comments: Data on distribution of this species in Bering Sea, Alaska, and Canada (Higo *et al.*, 1999) are erroneous; it appears that they refer, in fact, to *Macoma golikovi* Scarlato and Kafanov, 1988 (see Kafanov (1999); Lutaenko and Noseworthy (2012)). The lectotype of *M. incongrua* is figured by Coan (1971, pl. 6, fig. 32). *Tellina truncata* Jonas in Philippi, 1843 (= *Tellina praerupta* Salisbury, 1934, unnecessary nom. nov. non L., 1767) is a synonym of *Macoma (Psammacoma) gubernaculum* (Hanley, 1844). Although *M. incongrua* is believed to be an opportunistic species living in harbor and semi-enclosed areas with enriched organic matter and summer hypoxia (Golikov and Scarlato, 1967; Seo J.-Y. *et al.*, 2013), it is found also on open sandy beaches (Lutaenko and Noseworthy, 2019) including Jeju. Regional synonymy, including fossil records, is provided by Matsubara (1995). This is a new record for Jeju Island.

Family **Donacidae** Fleming, 1828

Genus **Donax** L., 1758

Subgenus **Latona** Schumacher, 1817

171. **Donax (Latona) cuneatus** L., 1758

Pl. 18, Fig. J

Synonyms: *Latona variabilis* Schumacher, 1817; *Donax australis* Lamarck, 1818; *Donax granosa* Lamarck, 1818; *Donax obscura* Deshayes, 1830; *Donax deshayesii* Dunker, 1853.

Local distribution: Hwasoon.

General distribution: Widely distributed Indo-West Pacific species ranging from Mauritius, Reunion Island, Arabian Sea to Indonesia, northern Australia, Papua New Guinea, Melanesia, Philippines, Thailand, South China Sea, Vietnam, China, East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu,

Honshu) (Higo *et al.*, 1999; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical**.

Habitat: Mainly intertidal species living on exposed beaches, in coarse to fine sand (Huber, 2015).

Comments: New species record for Jeju Island and Korea. Noseworthy *et al.* (2002, pl. 9, fig. D) recorded and illustrated “*Latona cuneata*” from Jeju (Seongsan), however, this represents most likely *Gomphina neastartoides* (Yokoyama, 1922) (Veneridae). Lee J.-S. (2015; 2016) listed two species of this family from Korea: *Donax semigranosus* Dunker, 1877 and *Donax veneriformis* Lamarck, 1818; they had not been illustrated in previous books (Yoo J.-S., 1976; Kwon O.K. *et al.*, 1993; 2001; Min D.-K. *et al.*, 2004). The former species is a member of the Asian fauna distributed from South China to Japan whereas *D. veneriformis* is a synonym of the tropical *Donax (Latona) trifasciatus* (L., 1758) distributed from the Red Sea and eastern Africa to Indonesia and the Philippines but not known from China or Japan (Huber, 2015). The only Donacidae species known from the Chinese part of the Yellow Sea is *Donax (Tentidonax) kiuisiensis* Pilsbry, 1901 (Zhang *et al.*, 2016). Raven (2021) excludes *Donax bicolor* Gmelin, 1791 from the synonymy of *D. cuneatus* and provides differentiating characters: whereas in *D. cuneatus* the posterior area is wide with more numerous and finer radial ribs, clearly delimited by a carina, in *D. bicolor* the posterior area is narrower, with coarser radial ribs, gently rounded (without a carina) and has various radial ribs further to the anterior; in *D. cuneatus* the umbo is generally positioned somewhat further forward and the ventral margin is rather straight, in *D. bicolor* more convex.

Family **Psammobiidae** Fleming, 1828

Genus **Heteroglypta** Martens in Möbius, 1880

172. **Heteroglypta contraria** (Deshayes in Maillard, 1863)

Synonyms: *Heteroglypta avecta* Iredale, 1929; *Heteroglypta saltatrix* Iredale, 1929; *Heteroglypta hedleyi* Iredale, 1929; *Heteroglypta pansa* Iredale, 1929; *Heteroglypta nipponica* Kuroda, 1934.

Local distribution: Min D.-K. *et al.* (2004) (Sagyei).

General distribution: Widely distributed Indo-West Pacific species ranging from Red Sea, eastern Africa, Madagascar, Reunion Island, Arabian Sea to Indonesia, Papua New Guinea, southwestern and eastern Australia, Melanesia, Philippines, South China Sea, Vietnam, East China Sea, Taiwan, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Willan *et al.*, 2007; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 35 m), on coral reefs, shallowly buried in sand or nestling among coral rubble, also in coarse sand (Huber, 2015).

Comments: The holotype of *H. nipponica* is figured by Higo *et al.* (2001, p. 173, fig. B1060s).

Genus *Hiatula* Modeer, 1793

173. *Hiatula atrata* (Reeve, 1857)

Pl. 16, Fig. A; Pl. 17, Figs. A, B

Synonyms: *Hiatula jousseameana* Bertin, 1880.

Local distribution: Gimnyeong, Udo (Hagosudong), Jungmun, Hwasoon, Gwakji.

General distribution: Philippines, South China Sea, Vietnam, East China Sea, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Willan *et al.*, 2007; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal (depth of 5 to 100 m), deeply burrowed in fine sandy mud and clean sand (Huber, 2015).

Comments: Willan *et al.* (2007) believe that *Psammobia* (*Psammotaea*) *connectens* Martens, 1865 and *Psammobia ecolorata* Preston, 1914 are synonyms of *H. atrata* while Willan (1993) previously regarded the former as a distinct species (*Soletellina connectens*) with a synonym *P. ecolorata*. Huber (2010; 2015) takes *Hiatula connectens* as a valid tropical species distributed in Malaysia, Indonesia, northern Australia, Papua New Guinea, and Philippines. Matsubara (2013) showed that *Hiatula* Modeer, 1793, is a valid name, with *Solen diphos* Linnaeus, 1771, as its type species (by subsequent designation), and it cannot be considered a junior synonym of *Mya* L., 1758; the two

senior homonyms, *Hiatula* Martini, 1774, and *Hiatula* Schröter, 1784, are unavailable; *Soletellina* Blainville, 1824, which has the same type as *Hiatula* Modeer, 1793, is a junior objective synonym, and should not be used as a valid name.

174. *Hiatula boeddinghausi* Lischke, 1870

Local distribution: Suzuki (2010; as *Soletellina boeddinghausi*) (Pyeoson, Hwasoon); Noseworthy (2015) (Hyeopjae).

General distribution: Taiwan, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Willan *et al.*, 2007; Huber, 2015); **subtropical**.

Habitat: Intertidal to subtidal (to depth of 50 m), on sandflats, deeply buried in clean fine sand (Huber, 2015).

Comments: New species record for Jeju Island. Syntypes are figured by Higo *et al.* (2001, p. 173, fig. B1063).

Genus *Nuttallia* Dall, 1900

175. *Nuttallia japonica* (Reeve, 1857)

Pl. 15, Figs. A-C

Local distribution: Iho, Gimnyeong, Hado, Haengwon, Geumneung, Sehwa, Jongdal-ri, Ojo-ri, Seongsan, Shinyang, Pyeoson, Hwasoon, Hyeopjae, Gwakji; **other records:** Je J.-G. *et al.* (2002); Noseworthy *et al.* (2002) (Seongsan); Yang H.-S. and Choi K.-S. (2011).

General distribution: Korea, Japan (Kyushu, Honshu, southern Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Intertidal to subtidal (to depth of 10 m), in sand and sandy mud (Huber, 2015).

Comments: *N. japonica* is distinguished from the similar *Nuttallia ezonis* Kuroda et Habe in Habe, 1955 by its smaller size and deeper pallial sinus (Roth, 1978). The former species has been misreported by several authors as *Nuttallia olivacea* (Jay, 1857) (= *Nuttallia obscurata* (Reeve, 1857)) and, in turn, *N. olivacea* has been figured as *N. japonica* in some Japanese works (see Roth (1978) for details). The distribution of *N. japonica* in Korea is unclear

(Lutaenko and Noseworthy, 2012). Specimens figured in Min D.-K. *et al.* (2004, fig. 1490) are atypical in not having a deep pallial sinus and, based on shell shape, may belong to *N. obscurata*. Roth (1978) and Huber (2010; 2015) mentioned north-western East/Japan Sea, southern Kurile Island, and Sakhalin in the distribution of this species but regional authors have never indicated its presence in Russian waters of north-eastern Asia (Scarlato, 1981; Lutaenko and Noseworthy, 2012; Dulenina, 2013). Specimens similar to *N. japonica* are known from the Chinese part of the Yellow Sea (Lutaenko *et al.*, 2020, fig. 3J, K). The lectotype of *N. japonica* is figured by Roth (1978, figs. 1-4) and Higo *et al.* (2001, p. 173, fig. B1067).

176. *Nuttallia obscurata* (Reeve, 1857)

Synonyms: *Psammobia olivacea* Jay, 1857; *Nuttallia solida* Kira, 1953.

Local distribution: Min D.-K. *et al.* (2004; as *Nuttallia olivacea*) (Hyeopjae, Hwasoon, Shinyang, Seongsan); Le *et al.* (2010; as *Nuttallia olivacea*); Suzuki (2010; as *Nuttallia olivacea*) (Gimnyeong, Sehwa, Hwasoon, Hyeopjae); Noseworthy (2015) (Hado, Jongdal-ri, Seongsan, Shinyang, Pyoseon, Hwasoon, Geumneung, Hyeopjae).

General distribution: East China Sea, Taiwan, China, Korea, Japan (Kyushu, Shikoku, Honshu, southern Hokkaido), Russian part of the East/Japan Sea, southern Sea of Okhotsk (Sakhalinsky Bay), British Columbia to Oregon (introduced) (Scarlato, 1981; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical**.

Habitat: Intertidal to upper subtidal (to depth of 10 m), on sandy mud bottoms (Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: *Psammobia olivacea* Jay, 1857 is a junior synonym of *N. obscurata* (Roth, 1978; Huber, 2010; 2015). Valves of *N. obscurata* are more equally convex than those of *N. japonica*, the pallial sinus does not extend anterior to the umbo in either valve; the sinus is less arched, more uniform in width than in *N. japonica*, and bluntly rounded at its anterior end; the posterior end of the short ligamental nymph slopes

obliquely to the posterior dorsal margin of the valve, and low, concentric corrugations are present on the posterior dorsal slope and less strongly on the rest of the valve (Roth, 1978). Specimens figured as *N. olivacea* by Min D.-K. *et al.* (2004, fig. 1491) seem to represent *Nuttallia ezonis* Kuroda and Habe in Habe, 1955. Typical *N. obscurata* is figured by Lutaenko and Noseworthy (2019, fig. 16B, C) from Gangwon-do, eastern Korea. Willan *et al.* (2007), contrary to most authors (Habe, 1977; Roth, 1978; Scarlato, 1981; Higo *et al.*, 1999; Coan *et al.*, 2000; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2010; 2015) believe that *Soletellina japonica* Reeve, 1857, *Psammobia olivacea* Jay, 1857, *Nuttallia solida* Kira, 1953, and *Nuttallia ezonis* Kuroda and Habe in Habe, 1955 are all synonyms of *N. obscurata* but no evidence is provided.

177. *Nuttallia ezonis* Kuroda et Habe in Habe, 1955
Pl. 16, Figs. B, C

Local distribution: Handong, Shinyang, Weoljeong, north coast of Jeju.

General distribution: Yellow Sea, Korea, Russian coast of the East/Japan Sea, Japan (northern Honshu, East/Japan Sea, Hokkaido), southern Sakhalin, southern Kurile Islands (Scarlato, 1981; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical-lowboreal**.

Habitat: Intertidal to upper subtidal (to depth of 6 m), in fine sand and sandy mud (Scarlato, 1981; Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: “*N. ezonis*” from Yellow Sea (Zhang *et al.*, 2016, p. 323, fig. 401) seems to represent *N. japonica*. New species record for Jeju Island. The holotype is figured by Higo *et al.* (2001, p. 173, fig. B1069).

Family **Semelidae** Stoliczka, 1870

Subfamily **Semelinae** Stoliczka, 1870

Genus ***Abra*** Lamarck, 1818

178. *Abra philippinensis* (Smith, 1885)

Synonyms: *Syndesmya maxima* G.B. Sowerby III, 1894.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Widely distributed Indo-West Pacific species ranging from eastern Africa, Arabian Sea, Pakistan, India to Indonesia, Philippines, South China Sea, East China Sea, Taiwan, Korea, and Japan (Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Xu and Zhang, 2018); **tropical-subtropical.**

Habitat: Bathyal (depth of 412 to 1240 m, or 235 to 2376 m), in sandy mud.

Comments: A syntype of *A. philippinensis* is figured by Higo *et al.* (2001, p. 172, fig. B1029).

179. *Abra kinoshitai* (Kuroda et Habe in Habe, 1958)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Yellow Sea, northern China, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016; Xu and Zhang, 2018); **subtropical.**

Habitat: Subtidal to bathyal (depth of 50 to 500 m), in sandy mud (Huber, 2015).

Comments: Xu and Zhang (2018) retain this species in the genus *Abrina* Habe, 1952, as originally described, whereas Huber (2010; 2015) synonymized the latter with *Abra*.

180. *Abra lunella* (Gould, 1861)

Synonyms: *Macoma hakushatonensis* Nomura, 1933; *Abra kanamarui* Kuroda, 1951.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Philippines, East China Sea, Taiwan, Yellow Sea, northern China, Korea, East/Japan Sea, Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016; Xu and Zhang, 2018); **tropical-subtropical.**

Habitat: Subtidal (to depth of 10 to 250 or 400 m), in fine sand and mud (Huber, 2015).

Comments: Xu and Zhang (2018) regard *Abrina kanamarui* (Kuroda, 1951) as a distinct species. The holotypes of *A. lunella* and *A. kanamarui* are figured

by Higo *et al.* (2001, p. 172, fig. 1034 and fig. B1034s, respectively).

181. *Leptomya minuta* Habe, 1960

Local distribution: Je J.-G. *et al.* (1991) (north coast of Jeju).

General distribution: East China Sea, China, Yellow Sea, Korea, East Sea/Sea of Japan, and Japan (Kyushu, Honshu) (Je J.-G. *et al.*, 1991; Higo *et al.*, 1999; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016; Xu and Zhang, 2018); **subtropical.**

Habitat: Subtidal (depth of 5 to 30 m), in soft mud (Huber, 2015).

Comments: Je *et al.* (1991) included this species among the seven most abundant soft bottom species of mollusks in the Southern Sea of Korea, including the area around Jeju Island; an illustration was given by Je (1993, pl. 13, figs. 10, 11). This species was not listed in the previous checklist of bivalves of Jeju (Noseworthy *et al.*, 2007).

Family **Solecurtidae** d'Orbigny, 1846

Genus ***Solecurtus*** Blainville, 1824

182. *Solecurtus divaricatus* (Lischke, 1869)

Pl. 17, Figs. C, D

Synonyms: *Solecurtus dunkeri* Kira, 1959.

Local distribution: Jeju-shi, Hamdok, Gimnyeong, Seongsan, Ojo-ri, Shinyang, Pyoseon, Hyeopjae; **other records:** Kim H.S. *et al.* (1992); Je J.-G. *et al.* (1994); Je J.-G. *et al.* (2002); Le *et al.* (2010).

General distribution: East China Sea, Taiwan, Okinawa, Yellow Sea, Korea, and Japan (East/Japan Sea, Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016); **subtropical.**

Habitat: Intertidal to subtidal (to depth of 80 or 135 m), in fine sand and sandy mud (Huber, 2015).

Comments: The holotype of *S. divaricatus* is figured by Higo *et al.* (2001, p. 174, fig. B1071).

Superfamily **Ungulinoidea** Gray, 1854

Family **Ungulinidae** Gray, 1854

Genus **Zemysina** Finlay, 1926

183. **Zemysina lunaris** (Yokoyama, 1927)

Local distribution: Min D.-K. *et al.* (2004) (Shinyang).

General distribution: Yellow Sea, northern China, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016); **subtropical**.

Habitat: Subtidal to bathyal (depth of 5 to 500 m), in bays and offshore, on fine sandy and muddy bottoms (Huber, 2015).

Comments: Specimens from Korea figured by Min D.-K. *et al.* (2004, p. 420, fig. 1369; as *Cycladicama lunaris*) and Lutaenko (2014a; as *Cycladicama* cf. *lunaris*) look similar to *Zemysina gouldi* Yokoyama, 1920. Records of “*C. lunaris*” in the previous list of Jeju mollusks (Noseworthy *et al.*, 2007) belong instead to young specimens of *Phlyctiderma japonicum* (Pilsbry, 1895). *Z. lunaris* has been assigned to *Cycladicama Valenciennes* in Rousseau, 1854 (*nom. dub.*; = *Joannisiella* Dall, 1895) in regional literature (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Okutani, 2017). The true identity of *Cycladicama* and its type species is unknown due to a lack of original material (Huber, 2015).

184. **Zemysina gouldi** Yokoyama, 1920

Pl. 18, Figs. E-H

Local distribution: Haengwon, Hamdeok, Handong, Jongdal-ri, Ojo-ri (Tongbatarl), Seongsan, Shinyang, Munseom, Hwasoon, Yongmeori, Geumneung; **other records:** Cho I.-Y. *et al.* (2014) (Munseom; as *Diplodonta gouldi*); Lee H.-J. *et al.* (2014; as *Diplodonta gouldi*) (Tongbatarl Lagoon).

General distribution: Korea, East Japan Sea, Japan (Kyushu, Honshu, Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical**.

Habitat: Subtidal (to depth of 10 to 50, or 150 m), in fine sand (Huber, 2015).

Comments: This species has been associated with *Diplodonta* Bronn, 1831 in regional literature (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Okutani, 2017). In the 19th century, it was known for the Japanese fauna as the Californian “*Diplodonta orbella* Gould, 1851” (Lischke, 1871; Lutaenko and Chaban, 2016).

Genus **Felaniella** Dall, 1899

185. **Felaniella sowerbyi** Kuroda et Habe, 1952

Pl. 18, Figs. A, B

Synonyms: *Felania minor* G.B. Sowerby III, 1903 (non *Diplodonta (Felaniella) minor* Dall, 1900).

Local distribution: Hamdeok, Hado, Udo (Sanhosa), Ojo-ri (Tongbatarl), Pyeosen, Munseom, Yeongmeori, Keumneung, Gwakji; **other records:** Lee H.-J. *et al.* (2014) (Tongbatarl Lagoon); Noseworthy *et al.* (2016) (Keumneung).

General distribution: South China Sea, East China Sea, Taiwan, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical**.

Habitat: Intertidal to subtidal (to depth of 33 m), in sandy mud, fine sand, and silt (Huber, 2015).

Comments: WoRMS takes *Felania minor* G.B. Sowerby III, 1903 as *taxon inquirendum* (<http://www.marinespecies.org/aphia.php?p=taxdetails&id=1307175>).

Genus **Phlyctiderma** Dall, 1899

Subgenus **Phlyctiderma** Dall, 1899

186. **Phlyctiderma (Phlyctiderma) japonicum** (Pilsbry, 1895)

Pl. 18, Figs. C, D, I

Local distribution: Iho, Sehwa, Udo (Hagosudong), Weoljeon, Seongsan, Jungmun, Yeongmeori, Hwasoon, Kwakji, Sagyei, Yerae, Hyeopjae, Daejeong; **other records:** Suzuki (2010) (Hwasoon).

General distribution: Korea, East/Japan Sea, and Japan (Kyushu, Shikoku, Honshu, southern Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical**.

Habitat: Intertidal to upper subtidal (to depth of 20 or

87 m), in hard mud and mudstone (Huber, 2015).

Comments: A syntype is figured by Higo *et al.* (2001, p. 161, fig. B655).

Superfamily **Veneroidea** Rafinesque, 1815

Family **Veneridae** Rafinesque, 1815

Subfamily **Venerinae** Rafinesque, 1815

Genus **Venus** L., 1758

Subgenus **Ventricoloidea** Sacco, 1900

187. **Venus (Ventricoloidea) cassinaeformis** (Yokoyama, 1926)

Pl. 19, Figs. A, B

Synonyms: *Venus foveolata* Reeve, 1863 (*nom. dub.*) (non *Venus foveolata* G.B. Sowerby II, 1853); *Chione cassinaeformis tanta* Yokoyama, 1926.

Local distribution: Seongsan, Shinyang, Sagyei; **other records:** Lee J.-S. (2019) (Sagyei).

General distribution: East China Sea, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **subtropical.**

Habitat: Subtidal (depth of 5 to 200 or 300 m deep), in sand and coarse sand, also in muddy bottoms (Huber, 2015).

Comments: This species has long been known as *V. foveolata*; no type material is available and thus it is regarded as a *nom. dub.* (Huber, 2010).

Genus **Globivenus** Coen, 1934

188. **Globivenus toreuma** (Gould, 1850)

Pl. 19, Fig. C

Synonyms: *Venus sculpta* Deshayes, 1853; *Venus jukesi* Deshayes, 1853 (*nom. nov. pro Venus crebrisulca* G.B. Sowerby II, 1853 non *Venus crebrisulca* Lamarck, 1818); *Venus hawaiiensis* Dall, Bartsch et Rehder, 1938.

Local distribution: Pyoseon, Sagyei, Yerae; **other records:** Lee J.-S. (2019) (Sagyei).

General distribution: India, Sri Lanka, Andaman Sea, northern Australia, Melanesia, Polynesia, Indonesia,

Philippines, Malaysia, South China Sea, Thailand, Vietnam, East China Sea, Taiwan, Korea, Japan (East/Japan Sea, Kyushu, Honshu) and Hawaiian Islands (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 100 or 500 m), in coarse sand and fine gravel, on coral reefs, in coral sand around rocks (Huber, 2015).

Genus **Placamen** Iredale, 1925

189. **Placamen lamellatum** (Röding, 1798)

Synonyms: *Venus tiara* Dillwyn, 1817; *Venus thiara* G.B. Sowerby I, 1834 (*nom. van.*); *Venus calophyllum* Philippi, 1836; *Bassina (Callanatis) hayasakai* Kotaka, 1977; *Bassina (Callanatis) javana* Kotaka, 1977.

Local distribution: Min D.-K. *et al.* (2004); Lee J.-S. (2019) (Seongsan).

General distribution: Andaman Sea, Thailand, Malaysia, Philippines, Indonesia, South China Sea, Vietnam, China, East China Sea, Taiwan, Korea, and Japan (Kyushu) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 100 m), in various sandy and muddy substrata (Huber, 2015).

Genus **Timoclea** Brown, 1827

190. **Timoclea marica** (L., 1758)

Pl. 19, Fig. D

Synonyms: *Leukoma japonica* Kira, 1954.

Local distribution: Iho, Udo (Hagosudong), Daejeong, Jongdal-ri, Seongsan, Pyoseon, Hwasoon, Yeongmeori, Sagyei, Keumneung, Hyeopjae, Gwakji; **other records:** Noseworthy *et al.* (2002; as *Glycydonta marica*) (Seongsan); Lee J.-S. (2019) (Seongsan, Sagyei, Hwasoon).

General distribution: Widely distributed Indo-West Pacific species ranging from Tanzania, Mozambique, Madagascar, Seychelles to Indonesia, north-eastern Australia, Melanesia, Micronesia, Philippines, Thailand, South China Sea, Vietnam, East China Sea,

Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Subtidal to bathyal (depth of 10 to 390 or 535 m), in fine sand and muddy sand (Huber, 2015).

191. *Timoclea costellifera* (Adams et Reeve, 1850)

Synonyms: *Chione hizenensis* Pilsbry, 1904.

Local distribution: Min D.-K. *et al.* (2004); Lee J.-S. (2019) (Hwasoon).

General distribution: Widely distributed Indo-West Pacific species ranging from South Africa, eastern Africa, Persian Gulf, Arabian Sea, India to northern Australia, Melanesia, Polynesia, Philippines, South China Sea, Vietnam, East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 80 or 150 m), in coarse sand, among coral and rubble (Huber, 2015).

Genus *Leukoma* Römer, 1857

192. *Leukoma jedomensis* (Lischke, 1874)

Pl. 20, Fig. A

Synonyms: *Venus hirasei* Pilsbry, 1901; *Venus jedomensis* var. *alta* Grabau et King, 1928 (non *Venus alta* G.B. Sowerby II, 1853).

Local distribution: Jeju-shi, Jongdal-ri, Yeongmeori, Daejeong, Seongsan; **other records:** Lee J.-S. (2019) (Seongsan).

General distribution: Yellow Sea, northern China, Korea, Japan (Kyushu to Honshu, Hokkaido), north-western East/Japan Sea (Russia) (Scarlato, 1981; Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); **subtropical**.

Habitat: Intertidal to subtidal species (usually to depth of 20 m, but also found in 112 m), coarse sand with stones, also sandy mud bottoms (Scarlato, 1981;

Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: This species has long been known as belonging to *Protothaca* Dall, 1902, later synonymized with *Leukoma* by Huber (2010). The holotype of *L. jedomensis* is figured by Higo *et al.* (2001, p. 176, fig. B1147), a syntype of *V. hirasei*, by Higo *et al.* (2001, p. 176, fig. B1147s), and a syntype of *V. jedomensis* var. *alta* (misspelling; = *jedomensis*), by Coan *et al.* (2015, p. 196, fig. 13A-D). Both specimens from Chinese seas figured by Xu and Zhang (2008) as “*Protothaca jedomensis* (Lischke, 1874)” (l.c., p. 226, fig. 717) and “*Protothaca euglypta* (Sowerby, 1914)” (l.c., p. 226, fig. 718) are *L. jedomensis*; “*P. euglypta*” from the Yellow Sea (Zhang *et al.*, 2016, p. 336, fig. 418) is most likely a morph of *L. jedomensis*. Good images of *Leukoma euglypta* (G.B. Sowerby III, 1914) are provided by Scarlato (1981, photo 399), Min D.-K. *et al.* (2004, p. 460, fig. 1518), Lutaenko and Noseworthy (2012, pl. 38, fig. A-D) and Okutani (2017, p. 582, fig. 10); *L. euglypta* has cancellate surface sculpture with fine radial and commarginal riblets of equal thickness, and rather deep and subtriangular pallial sinus, whereas *L. jedomensis* has a thicker shell with strong radial ribs and fine radial riblets, pallial sinus is small and triangular. Therefore, we exclude *L. euglypta* from the Chinese fauna as did Scarlato (1981) but it occurs in Korea. “*Callithaca staminea* (Conrad, 1837)” (= *Leukoma staminea* (Conrad, 1837)) (Zhuang, 2001; Lee J.-S. and Min D.-K., 2002, fig. 328; Min D.-K. *et al.*, 2004, fig. 1516) from China is *L. jedomensis*; *L. staminea* is a widely distributed boreal species penetrating into the Arctic Ocean (Beaufort Sea) but in the western Pacific it is known as far south as the Kurile Islands (Scarlato, 1981) and is not recorded from Japan (Higo *et al.*, 1999), although it was mentioned for Hokkaido in non-Japanese works (Coan *et al.*, 2000; Huber, 2010; 2015).

Genus *Protocallithaca* Nomura, 1937

193. *Protocallithaca adamsii* (Reeve, 1863)

Pl. 20, Fig. B

Local distribution: Seongsan, Jungmun, Sagyei, Hagwi, Hamo; **other records:** Lee J.-S. (2019) (Seongsan).

General distribution: Yellow Sea, Korea, Japan (Honshu, Hokkaido), northwestern East/Japan Sea (Russia), southern Sakhalin Island, southern Kurile Islands (Scarlato, 1981; Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); lowboreal.

Habitat: Intertidal to subtidal species (to depth of 160 m), in fine and muddy sand (Scarlato, 1981; Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: This species has been known in South Korea from Gangwon-do, Gyeongsangbuk-do, Ulsan, and Busan (Lutaenko and Noseworthy, 2012; Lutaenko, 2014a; Lee J.-S., 2019). This is a new record for Jeju Island. Possible syntype is figured by Higo *et al.* (2001, p. 176, fig. B1146).

Subfamily **Callocardiinae** Dall, 1895

Genus ***Pitar*** Römer, 1857

Subgenus ***Pitar*** Römer, 1857

194. ***Pitar (Pitar) inflatus*** (G.B. Sowerby II, 1851)

Synonyms: *Dione philippii* Deshayes, 1853 (nom. nov. pro *Cytherea modesta* Philippi, 1845 non Broderip et G.B. Sowerby I, 1835; *Caryatis kingii* Römer, 1862; *Pitar (Pitarina) variegatum* Kuroda et Habe in Kuroda, Habe et Oyama, 1971).

Local distribution: Min D.-K. *et al.* (2004; as *Pitar affine*) (Shinyang, Hwasoon); Lee J.-S. (2019; as *Pitar affine*) (Hwasoon, Shinyang).

General distribution: Indonesia, western and north-eastern Australia, Melanesia, Polynesia, Philippines, South China Sea, Thailand, Vietnam, East China Sea, Korea, Japan (Kyushu, Shikoku, Honshu, and East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Intertidal to upper subtidal species (to depth of 40 m), sandy mud with coral debris (Huber, 2015).

Comments: Korean, Chinese, and Japanese workers identified this species as “*Pitar affine*” (= *Pitar (Proropitar) affinis* (Gmelin, 1791)) (see references above). According to Huber (2010; 2015), *P. affinis* is

an Indian Ocean species distributed from eastern Africa to Mauritius, Rodrigues Island, Seychelles, and Reunion.

Genus ***Aphrodora*** Jukes-Browne, 1914

195. ***Aphrodora kurodai*** (Matsubara, 2007)

Synonyms: *Pitar (Agriopoma) japonicus* Kuroda et Kawamoto in Kawamoto et Tanabe, 1956 (non *Pitar japonica* Ando, 1953).

Local distribution: Lee J.-S. (2019) (Sageyi).

General distribution: South China Sea, northern Borneo, China, East China Sea, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Matsubara, 2007; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Subtidal (depth of 5 to 50 m), on silty and fine sand (Huber, 2015).

Genus ***Callocardia*** A. Adams, 1864

196. ***Callocardia guttata*** A. Adams, 1864

Synonyms: *Cytherea (Caryatis) isocardia* G.B. Sowerby III, 1888; *Callocardia thorae* Vokes, 1985.

Local distribution: Adams (1864b) (Jeju (“off Quelpaart, 48 fathoms”)).

General distribution: Widely distributed Indo-West Pacific species: Australia, Philippines, Thailand, Vietnam, South China Sea, Taiwan, China, East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Huber, 2015; Lee J.-S., 2015); **tropical-subtropical**.

Habitat: Subtidal to upper bathyal (depth of 88 to 300 m), in sand and muddy sand (Huber, 2015); in Jeju, at depth of 88 m (Adams, 1864b).

Comments: *Cytherea (Caryatis) isocardia* G.B. Sowerby III, 1888 is an unnecessary replacement name for *C. guttata*, as G.B. Sowerby (1888) believed that Adams’ species belongs to *Cytherea* Lamarck, 1805 (preoccupied by *Cytherea* Fabricius, 1794 (Diptera) and *Cytherea* Röding, 1798 (Bivalvia)), now *Meretrix* Lamarck, 1799), although 19th century malacologists placed various venerids in *Cytherea*. This species was

recently listed for Korea by Lee J.-S. (2015; 2016). The holotype of *C. guttata* is figured by Higo *et al.* (2001, p. 177, fig. B1186).

Genus *Callista* Poli, 1791

Subgenus *Callista* Poli, 1791

197. *Callista (Callista) chinensis* (Holten, 1802)

Pl. 30, Figs. D, E

Synonyms: *Venus pacifica* Dillwyn, 1817 (non *Venus pacifica* Röding, 1798); *Cytherea erycina* var. *violacea* Chenu, 1843; *Cytherea sinensis* G.B. Sowerby II, 1851; *Cytherea albodorsata* G.B. Sowerby II, 1854; *Chione roscida* Gould, 1861.

Local distribution: Hwasoon, Yerae, Gwakji; **other records:** Ko J.-C. *et al.* (2012) (southern coast of Jeju); Lee J.-S. (2019) (Hwasoon).

General distribution: South China Sea, Vietnam, China, East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Subtidal (depth of 3 to 50 or 150 m), on fine sandy bottoms (Huber, 2015).

Comments: The holotype of *Ch. roscida* is figured by Higo *et al.* (2001, p. 177, fig. B1188s).

198. *Callista (Callista) pilsbryi* Habe, 1960

Synonyms: *Callista amamiensis* Habe, 1960.

Local distribution: Je J.-G. *et al.* (2002) (Munseom, Supseom); Min D.-K. *et al.* (2004); Lee J.-S. (2019) (Supseom, Seogwipo, Hwasoon).

General distribution: South China Sea, Borneo, Philippines, East China Sea, China, Taiwan, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Subtidal (depth of 5 to 100 m), among coral rubble, coarse sandy bottoms (Huber, 2015).

Comments: In Korea, it is known only from Jeju Island (Lee J.-S., 2019). This species was not recorded by Chinese workers (Zhuang, 2001; Xu and Zhang,

2008). A record of “*Callista brevisiphonata* (Carpenter, 1864)” from southern coastal waters of Jeju (Ko J.-C. *et al.*, 2012) may represent this species.

Genus *Saxidomus* Conrad, 1837

199. *Saxidomus purpurata* (G.B. Sowerby II, 1852)

Pl. 20, Fig. C

Local distribution: Seongsan, south coast; **other records:** Je J.-G. *et al.* (1994) (Munseom); Choi K.-S. *et al.* (2000) (Ojo-ri); Je J.-G. *et al.* (2002); Le *et al.* (2010); Lee J.-S. (2019).

General distribution: Yellow Sea, northern China, Korea, Japan (Kyushu to southern Hokkaido, East/Japan Sea, Russian part of the East/Japan Sea) (Scarlato, 1981; Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); **subtropical**.

Habitat: Intertidal to subtidal (to depth of 50 m), in mud and sandy mud, often with gravel (Scarlato, 1981; Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: Extensive synonymy, taxonomic comments, and evolutionary history of this species are provided by Amano and Nemoto (2020).

Family *Sunettinae* Stoliczka, 1870

Genus *Sunetta* Link, 1807

Subgenus *Sunemeroe* Iredale, 1930

200. *Sunetta (Sunemeroe) kirai* Huber, 2010

Pl. 20, Fig. D

Local distribution: Jongdal-ri, Hwasoon.

General distribution: Vietnam, Taiwan, Korea, and Japan (Ryukyu Islands, Kyushu, and Honshu) (Huber, 2015; Fukuda *et al.*, 2021); **tropical-subtropical**.

Habitat: In Japan, this species is rather common in fine sandy bottoms from lower intertidal to subtidal zones (to depth of 50 m) facing open seacoast, and it does not occur in inner bays (Fukuda *et al.*, 2021).

Comments: This species has long been misidentified by Japanese authors as *Sunetta concinna* Dunker, 1865, known only from Indonesia and the Philippines until it

was re-described as *S. kirai* by Huber (2010). Although Huber (2010) included the China mainland in the distribution of this species, this was based on misidentifications of the records of “*Sunetta concinna*” (= *Sunetta sunettina* (Jousseaume, 1891), a widely distributed Indo-West Pacific species: from the northeastern coast of Africa to southern China), by Chinese workers (Fukuda *et al.*, 2021). Other Korean records of *Sunetta* belong to two species. Specimens from the western coast of South Korea (Yellow Sea) were illustrated as “*Sunetta menstrualis* (Menke, 1843)” (Yoo J.-S., 1976; Kwon O.-K. *et al.*, 1993; Min D.-K. *et al.*, 2004; Lee J.-S., 2019), but they have a more sharply truncate posterior end and narrower escutcheon than those of the Japanese specimens of true *S. menstrualis*; the shell shape is more similar to *Sunetta cumingii* Smith, 1891 but the shell size is much larger (about 60–70 mm in length) than the latter species; Korean specimens have distinct radial rays of bright rose pink on an external surface which is glossier than that of *S. menstrualis* from Japan; thus, the Korean records may refer to an undescribed species (Fukuda *et al.*, 2021). Another species collected from Busan and identified as “*Cyclosunetta menstrualis*” (Lutaenko and Noseworthy, 2012, pl. 35, figs. G, H) is the newly described *Sunetta* (*Sunemeroe*) *beni* Fukuda, Ishida, Watanabe, Yoshimatsu et Haga, 2021 (Fukuda *et al.*, 2021). *S. kirai* is a new record for Korea and Jeju.

Subfamily **Dosiniinae** Deshayes, 1853

Genus ***Dosinia*** Scopoli, 1777

Subgenus ***Asa*** Bastérot, 1825

201. *Dosinia* (*Asa*) *japonica* (Reeve, 1850)

Pl. 21, Figs. A, B

Local distribution: Ojo-ri, Hwasoon, Gwakji; **other records:** Le *et al.* (2010; as *Phacosoma japonicum*); Lee J.-S. (2019).

General distribution: East China Sea, China, Yellow Sea, Korea, Japan (Kyushu to southern Hokkaido) and Russian part of the East/Japan Sea (Scarlato, 1981; Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004;

Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); **subtropical**.

Habitat: Intertidal to subtidal (to depth of 70 m), on sand (Scarlato, 1981; Huber, 2015).

Comments: A syntype is figured by Higo *et al.* (2001, p. 178, fig. B1200).

202. *Dosinia* (*Asa*) *trosccheli* Lischke, 1873

Pl. 22, Figs. A–C

Local distribution: Seongsan, Shinyang, Beophwan, Gangjeong, Yeongmeori, Hwasoon, Sagyei, Kwakji; **other records:** Le *et al.* (2010; as *Phacosoma trosccheli*); Lee J.-S. (2019) (Seongsan, Sagyei, Hwasoon).

General distribution: South China Sea, China, East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu, southern Hokkaido, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical**.

Habitat: Subtidal (depth of 10 to 35 or 160 m), on sand (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 1200, fig. B1201).

Subgenus ***Dosinella*** Dall, 1902

203. *Dosinia* (*Dosinella*) *cf. orbiculata* Dunker, 1877

Pl. 21, Fig. C; Pl. 25, Fig. C

Local distribution: Jungmun, Seongsan, Sagyei, Gwakji, Daejeong; **other records:** Sagyei, Gwakji (Min D.-K. *et al.*, 2004, as *Pardosinia amphidesmoides*; Lee J.-S., 2019, as *Dosinia amphidesmodes*).

General distribution: China, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **subtropical**.

Habitat: Subtidal (depth of 20 to 160 m), on fine sand and mud (Huber, 2015).

Comments: This species has been identified by Korean workers as *Dosinia*/*Pardosinia amphidesmodes* (Reeve, 1850) including Jeju Island (Min D.-K. *et al.*, 2004, p. 465, fig. 1532; Lee J.-S., 2019, p. 80, fig. 33). Huber

(2010; 2015) gives a range for this species from East Africa to the southwestern Pacific and East China Sea and Amami Islands, and Okutani (2017) extends it to the Kii Peninsula, Pacific side of Honshu. Our specimens are white and glossy, with light brownish spots in the umbonal area and very fine commarginal riblets, whereas true *D. amphidesmoides* has sharp commarginal riblets lamellate at both extremities, and well-colored with wide brown radial stripes (Kubo and Kurozumi, 1995, p. 200, fig. 10; Okutani, 2017, pl. 541, fig. 3). At the same time, a figured syntype of *Artemis amphidesmoides* Reeve, 1850 is white, only with brown umbones, and does not bear any colored stripes (Higo *et al.*, 2001, p. B1200, fig. B1218). Our species most closely matches *Dosinia (Dosinella) orbiculata* Dunker, 1877 (Dunker, 1882, p. 204, pl. 8, figs.12-14; Oyama, 1961, p. 291, text-figs. 7, 8; Okutani, 2017, pl. 541, fig. 7, as *Dosinella subalata*). A similar tropical-subtropical, subtidal (2-12 m) species, white with reddish umbones, *Dosinia (Dosinella) subalata* Smith, 1916 is distributed from the Philippines to Japan and perhaps Korea (Lee J.-S., 2019, fig. 38). It was misidentified as *D. amphidesmoides* in some Japanese works (Huber, 2015). Specimens of both species illustrated by Oyama (1961) are quite similar. More material is needed to correctly identify Jeju specimens.

Subgenus *Bonartemis* Iredale, 1929

204. *Dosinia (Bonartemis) histrio* (Gmelin, 1791)

Pl. 23, Fig. C; Pl. 24, Fig. A

Synonyms: *Cytherea obsoleta* Röding, 1798; *Venus australis* Quoy et Gaimard, 1835 non *Venus australis* G.B. Sowerby I, 1835; *Artemis variegata* Gray, 1838; *Artemis scabra* Philippi, 1849; *Artemis lirata* G.B. Sowerby II, 1852; *Artemis lenticularis* G.B. Sowerby II, 1852; *Pardosinia alma* Iredale, 1929.

Local distribution: Daejeong, Sehwa, Udo (Hagosudong), Seongsan, Shinyang, Jungmun, Yerae, Hwasoon, Yeongmeori, Sagyei, Hamo; **other records:** Je J.-G. *et al.* (2002; as *Bonartemis histrio histrio*) (Supseom); Ko J.-C. *et al.* (2012; as *Bonartemis histrio*) (southern coast of Jeju); Lee J.-S. (2019) (Sagyei, Shinyang).

General distribution: Widely distributed Indo-West Pacific species ranging from Red Sea, eastern Africa, Arabian Gulf, Persian Gulf, India to Indonesia, northern Australia, Melanesia, Philippines, South China Sea, China, East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Subtidal (depth of 3 to 60 m), on sand and coarse sand, often in coral reefs (Huber, 2015).

Comments: This species and *Dosinia (Bonartemis) iwakawai* Oyama et Habe in Habe, 1961 have often been regarded as subspecies in regional literature (Min D.-K. *et al.*, 2004; Okutani, 2017), while currently they are accepted as distinct species (Huber, 2010; Lee J.-S., 2019). They are quite different by shell shape, internal coloration (red spots in *D. histrio*, white in *D. iwakawai*), and shell sculpture (regularly spaced commarginal lamellae in *D. iwakawai*, rather commarginal ribs with wider interspaces in *D. histrio*).

205. *Dosinia (Bonartemis) iwakawai* Oyama et Habe in Habe, 1961

Pl. 23, Fig. A, B; Pl. 24, Figs. B, C; Pl. 25, Figs. A, B

Local distribution: Seongsan, Shinyang, Bomok, Jungmun, Yerae, Hwasoon, Yeongmeori, Sagyei, Daejeong; **other records:** Je J.-G. *et al.* (2002; as *Bonartemis histrio iwakawai*) (Beomseom); Suzuki (2010; as *Bonartemis histrio iwakawai*) (Jungmun); Lee J.-S. (2019) (Sagyei, Hwasoon).

General distribution: Philippines, East China Sea, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 50 or 115 m deep), on coarse sand and coral sand bottoms (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. B1200, fig. B1222).

Genus *Pelecypora* Dall, 1902

Subgenus *Pelecypora* Dall, 1902

206. *Pelecypora (Pelecypora) corculum* (Römer, 1870)

Local distribution: Min D.-K. *et al.* (2004) (Seongsan; as *Pitar sulfureus*); Lee J.-S. (2019; as *Pitar sulfureus*) (Seongsan).

General distribution: East China Sea, Yellow Sea, northern China, and Korea (Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); **subtropical**.

Habitat: Subtidal (depth of 10 to 40 m), in mud and sand (Huber, 2015).

Comments: Identification and taxonomic history of this species is complicated, and it has been cited in regional literature as “*Dosinia gibba*” (Grabau and King, 1928), “*Pelecypora trigona*” (Xu and Zhang, 2008) and “*Pitar sulfureus*” (Min D.-K. *et al.*, 2004; Lee J.-S., 2019). Finally, Huber (2010) established that this northern China species is *P. corculum*. *Dosinia derupta* Römer, 1860 (type locality: Malaysia) and *Dosinia gibba* A. Adams, 1869 (type locality: Honshu, Tateyama) are synonyms of the **tropical-subtropical** *Pelecypora (Pelecypora) nana* (Reeve, 1850) distributed from South China Sea to Japan (Honshu); the Yellow Sea species, *P. corculum*, is shorter, more inflated and more pronounced anteriorly; the lunule is large, broader and incised by a sharp line (Huber, 2010). This is, in fact, a first record for Korea and Jeju, as it was previously misidentified.

Subfamily **Tapetinae** Gray, 1851

Genus ***Venerupis*** Lamarck, 1818

Subgenus ***Ruditapes*** Chiamenti, 1900

207. *Venerupis (Ruditapes) philippinarum* (A. Adams et Reeve, 1850)

Pl. 26, Figs. A-D; Pl. 27, Figs. A-D; Pl. 29, Figs. A, B

Synonyms: *Venus tessellata* A. Adams et Reeve, 1850; *Tapes denticulata* G.B. Sowerby II, 1852; *Tapes indica* G.B. Sowerby II, 1852; *Tapes violascens* Deshayes, 1853; *Tapes japonica* Deshayes, 1853; *Tapes biradiata* Deshayes, 1853; *Tapes semidecussata* Reeve, 1864; *Tapes ducalis* Römer, 1870; *Tapes philippinarum* okupi Bryan, 1919; *Paphia bifurcata* Quayle, 1938.

Local distribution: Iho, Jeju-shi, Samyang, Hamdeok, Gimnyeong, Wolpyeong, Haengwon, Handong, Sehwa, Udo (Sanhosa), Jongdal-ri, Ojo-ri (Tongbatarl), Seongsan, Seopjikoji, Shinyang, Pyeosen, Bomok, Munseom, Seogundo, Gangjeong, Jungmun, Yerae, Daepyeong, Hwasoon, Yeongmeori, Sagyei, Hyungjaeseom, Hamo, Keumneung, Hyeopjae, Gangneon Harbor, Weoljeong, Hado, Gwakji; **other records:** Kim H.S. and Rho B.J. (1971; as *Tapes (Amygdala) philippinarum*) (Jungmun); Lee J.J. *et al.* (1989; as *Tapes (Amygdala) philippinarum*); Kim H.S. *et al.* (1992; as *Ruditapes philippinarum*); Je J.-G. *et al.* (1994; as *Ruditapes (Amygdala) philippinarum*) (Munseom); Lee J.J. and Hyun J.M. (2002; as *Ruditapes philippinarum*) (Songacksan); Je J.-G. *et al.* (2002; as *Ruditapes philippinarum*) (Pyeosen, Shinyang, Udo, Hado); Noseworthy *et al.* (2002; as *Ruditapes philippinarum*) (Seongsan); Silina (2009; as *Ruditapes philippinarum*) (Seongsan); Le *et al.* (2010; as *Ruditapes philippinarum*); Noseworthy and Choi (2010; as *Ruditapes philippinarum*) (Seogundo); Silina (2010; as *Ruditapes philippinarum*) (Seongsan, Tongbatarl Lagoon, Geumneung, Hamo); Suzuki (2010; as *Ruditapes philippinarum*) (Gimnyeong, Sehwa, Shinyang, Hyeopjae, Gwakji); Silina (2011; as *Ruditapes philippinarum*) (Seongsan); Yang H.-S. and Choi K.-S. (2011; as *Ruditapes philippinarum*); Lee H.-J. *et al.* (2014; as *Ruditapes philippinarum*) (Tongbatarl Lagoon); Lee J.-S. (2019; as *Ruditapes philippinarum*).

General distribution: Widely distributed Indo-Pacific species ranging from the Red Sea (introduced) to South China Sea, Vietnam, East China Sea, China, Taiwan, Yellow Sea, Korea, Japan (Kyushu to northern Hokkaido), Russian part of the East/Japan Sea, southern Kurile Islands, Sakhalin; introduced to the Atlantic Ocean, Mediterranean Sea, Hawaii, Pacific coast of North America (Scarlato, 1981; Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **subtropical-lowboreal**.

Habitat: Intertidal to upper subtidal (to depth of 20 m), in estuaries and protected coasts, in coarse sand, mud with gravel (Huber, 2015; Ivanova and Tsurpalò, 2019).

Comments: No true *V. philippinarum* has been found in the Philippine Islands, and many records of “*V. philippinarum*” in tropical areas represent instead the allied *Venerupis (Ruditapes) aspera* (Quoy et Gaimard, 1835) (Huber, 2010). The holotype of *V. philippinarum* is figured by Higo *et al.* (2001, p. 178, fig. B1228).

208. *Venerupis (Ruditapes) aspera* (Quoy et Gaimard, 1835)

Pl. 28, Figs. A-D; Pl. 29, Fig. C

Synonyms: *Tapes variegata* G.B. Sowerby II, 1852; *Tapes punicea* Deshayes, 1853; *Tapes cinerea* Deshayes, 1853.

Local distribution: Iho, Jeju-shi, Samyang, Gimnyeong, Wolpyeong, Haengwon, Handong, Sehwa, Hado, Udo (Hagosudong), Udo (Sanhosa), Jongdal-ri, Ojo-ri, Seongsan, Shinyang, Pyoseon, Wimi, Munseom, Seogwipo Harbor, Seogundo, Gangjeong, Jungmun, Yerae, Daepyeong, Hwasoon, Yeongmeori, Songaksan, Gapado, Hamo, Sinchang, Geumneung, Biyangdo, Hyeopjae, Weoljeong, Hamo, Daejeong, Sagyei, Gangneon Harbor, Gwackji; **other records:** Lee J.J. *et al.* (1989; as *Tapes variegata*); Kim H.S. *et al.* (1992; as *Ruditapes variegata*); Lee J.J. and Hyun J.M. (1992; as *Tapes variegata*) (Udo, Hado); Lee J.J. and Kim J.C. (1993; as *Ruditapes variegata*) (Biyangdo); Je J.-G. *et al.* (1994; as *Ruditapes variegata*) (Munseom); Lee J.J. and Hyun J.M. (1997) (Chujado; as *Ruditapes variegata*); Lee J.J. and Hyun J.M. (2002; as *Ruditapes variegata*) (Songaksan); Je J.-G. *et al.* (2002; as *Ruditapes variegata*) (Hyeopjae, Hado); Noseworthy *et al.* (2002; as *Ruditapes variegatus*) (Seongsan); Noseworthy and Choi (2010; as *Ruditapes bruguieri*) (Seogundo); Yang H.-S. and Choi K.-S. (2011; as *Ruditapes bruguieri*); Silina (2014; as *Ruditapes bruguieri*); Lee J.-S. (2019; as *Venerupis bruguieri*) (Sagyei).

General distribution: Widely distributed Indo-West Pacific species ranging from India, Sri Lanka to Indonesia, Papua New Guinea, western and north-eastern Australia, Melanesia, Polynesia, Philippines, Malaysia, South China Sea, Thailand, Vietnam, East China Sea, Taiwan, Okinawa, Korea,

and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Intertidal to upper subtidal (to depth of 5 m), on fine to coarse sandy and gravelly bottoms (Huber, 2015).

Comments: This species has long been known in Asian literature as “*Ruditapes bruguieri* (Hanley, 1845)” (Higo *et al.*, 1999; Lee J.-S. and Min D.-K., 2002; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012), “*Ruditapes variegata* (or *variegatus*) (G.B. Sowerby, 1852)” (Kuroda *et al.*, 1971; Habe, 1977; Kwon O.-K. *et al.*, 1993; 2001; Higo *et al.*, 1999; Okutani, 2000; 2017; Xu and Zhang, 2008; Zhuang, 2001), “*Tapes (Amygdala) variegata* (G.B. Sowerby, 1852)” (Yoo J.-S., 1976). The earliest available name for *Tapes variegata* G.B. Sowerby II, 1852 is *Venus aspera* Quoy et Gaimard, 1835 (Huber, 2010). *Venerupis (Ruditapes) bruguieri* (Hanley, 1845) is a distinct species restricted to the Indian Ocean (Arabian Gulf, Oman, India, Sri Lanka to western Sumatra); the pallial sinus of *V. bruguieri* is generally deeper than in *V. aspera*, extending to or surpassing the midline; the shell is generally more elongate (Huber, 2010).

Genus *Paphia* Röding, 1798

209. *Paphia euglypta* (Philippi, 1847)

Synonyms: *Paphia lischkei* Fischer-Piette et Métivier, 1971.

Local distribution: Choi K.-S. *et al.* (2000) (Beophwan, Gangjeong, Biyangdo); Le *et al.* (2010); Lee J.-S. (2019) (Hwasoon).

General distribution: South China Sea, Vietnam, East China Sea, Korea, and Japan (Kyushu to Hokkaido, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Subtidal (depth of 10 to 40 m), on fine sand and mud (Huber, 2015).

210. *Paphia schnelliana* (Dunker, 1865)

Local distribution: Choi K.-S. *et al.* (2000) (Ojo-ri); Le *et al.* (2010); Ko J.-C. *et al.* (2012) (southern coast of Jeju).

General distribution: East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **subtropical.**

Habitat: Subtidal (depth of 10 to 160 m), on fine sand and mud (Huber, 2015).

Comments: Lee J.-S. (2019) does not list Jeju among the localities where this species is distributed in Korea.

211. *Paphia amabilis* (Philippi, 1847)

Pl. 30, Fig. A

Local distribution: Seongsan, Bomok, Hwasoon; **other records:** Yang H.-S. and Choi K.-S. (2011); Lee J.-S. (2019) (Hwasoon, Seongsan).

General distribution: East China Sea, Korea and Japan (Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **subtropical.**

Habitat: Subtidal (depth of 10 to 80 m), on fine sandy bottoms (Huber, 2015).

212. *Paphia vernicosa* (Gould, 1861)

Pl. 30, Figs. B, C

Synonyms: *Tapes greeffei* Dunker, 1877.

Local distribution: Min D.-K. *et al.* (2004) (Seongsan, Sagyei); Ko J.-C. *et al.* (2012) (southern coast of Jeju); Lee J.-S. (2019) (Sagyei).

General distribution: Yellow Sea, Korea, and Japan (Kyushu to southern Hokkaido, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Lee J.-S., 2019); **subtropical.**

Habitat: Subtidal (depth of 5 to 50 m), in coarse sandy bottoms (Huber, 2015).

Comments: Chinese workers (Zhuang, 2001; Xu and Zhang, 2008; Zhang *et al.*, 2016) do not include this species in the Chinese fauna. Instead, they list and illustrate *Paphia papilionacea* (Lamarck, 1818) for the

Yellow Sea; this is treated as a synonym of *Paphia rotundata* (L. 1758), an Indian Ocean species (Huber, 2010; 2015). Some records of “*P. papilionacea*” in China and Japan may represent *Paphia lirata* (Philippi, 1848) (Huber, 2015).

Genus *Macridiscus* Dall, 1902

213. *Macridiscus melanaegis* (Römer, 1861)

Pl. 31, Figs. A, B; Pl. 32, Figs. A-D; Pl. 33, Figs. A-D; Pl. 34, Figs. A, B

Local distribution: Jungmun, Kwakji, Weoljeong, Jongdal-ri, Hwasoon, Hamdeok, Hado, Pyeonsoon.

General distribution: Northern China, Yellow Sea, Korea, Japan (Kyushu, Honshu, Hokkaido, East/Japan Sea) (Lutaenko, 2001; Min D.-K. *et al.*, 2004; Kong *et al.*, 2012); **subtropical.**

Habitat: Intertidal to subtidal (to depth of 50 m), in sandy bottoms (Kong *et al.*, 2012).

Comments: The shell form of small individuals of *M. melanaegis* is very similar to those of *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012, however, the interior colour of *M. melanaegis* is usually white and that of *M. multifarius* is usually yellowish; the anterodorsal margin of *M. melanaegis* is usually slightly concave but that of *M. multifarius* is usually straight; also, *M. multifarius* usually has obvious posterodorsal ridges but these are not present in *M. melanaegis* (Kong *et al.*, 2012). Large species formerly assigned to *Gomphina* Mörch, 1853 belong, in fact, to *Macridiscus* Dall, 1902 (Tapetinae).

214. *Macridiscus multifarius* Kong, Matsukuma et Lutaenko in Kong, Matsukuma, Hayashi, Takada et Li, 2012

Pl. 31, Figs. C, D; Pl. 34, Figs. C, D; Pl. 35, Figs. A-D; Pl. 36, Figs. A-D

Synonyms: *Donax aequilatera* G.B. Sowerby I, 1825 (nom. dub.).

Local distribution: Pyeonsoon, Jungmun, Hyopjae, Hamo, Hwasoon, Hado, Jongdal-ri, Weoljeong, Seongsan, Shinyang; **other records:** Kim H.S. and Rho B.J. (1971; as *Gomphina* (*Macridiscus*) *veneriformis*) (Jungmun);

Kim H.S. *et al.* (1992; as *Gomphina (Macridiscus) veneriformis*); Je J.-G. *et al.* (1994); as *Gomphina (Macridiscus) veneriformis* (Munseom); Je J.-G. *et al.* (2002; as *Gomphina veneriformis veneriformis*) (Hyopjae, Pyeosen); Lee J.J. and Hyun J.M. (2002; as *Gomphina veneriformis*) (Songacksan); Le *et al.* (2010); Suzuki (2010; as *Gomphina aequilatera*) (Hamdeok, Gimnyeong, Sehwa, Pyeosen, Jungmun, Hwasoon, Hyeopjae, Gwakji); Yang H.-S. and Choi K.-S. (2011); Lee J.-S. (2019; as *Macridiscus aequilatera*) (Hwasoon).

General distribution: Northern China, Yellow Sea, Korea, Japan (Kyushu, Honshu, East/Japan Sea), and Russian part of the East/Japan Sea (Lutaenko, 2001; Min D.-K. *et al.*, 2004; Kong *et al.*, 2012); **subtropical.**
Habitat: Intertidal to subtidal (to depth of 50 m), in sandy bottoms (Kong *et al.*, 2012).

Comments: This species has long been known under the names “*Gomphina aequilatera* (G.B. Sowerby I, 1825)” or “*Gomphina veneriformis* (Lamarck, 1818). The former name is a nomen dubium or nomen nudum, and the latter one is based on a specimen of Donacidae (Lutaenko 2001). In regional literature, this species was often confused or synonymized with *Macridiscus melanaegis* (Römer, 1860), although Yoo (1976) and Lutaenko (2001) clearly separated them. After molecular confirmation, it was redescribed as *M. multifarius* (Kong *et al.*, 2012). Huber (2015) insisted on the synonymy of *M. aequilatera* and *M. melanaegis* and, at the same time, accepted *M. multifarius* as a distinct species. Huber (l.c.) ignored evidence that the “type material” of *D. aequilatera* of Sowerby does not belong to the Tankerville collection, sold in 1825, and belongs instead to the Cuming collection which first arrived in London in 1831 (see discussion in Lutaenko (2001, p. 470)).

Genus *Irus* Schmidt, 1818

Subgenus *Irus* Schmidt, 1818

215. *Irus (Irus) irus* (L., 1758)

Pl. 39, Figs. A-E

Synonyms: *Tellina cornubiensis* Pennant, 1777; *Cuneus foliatus* da Costa, 1778; *Venerupis macrophylla* Deshayes, 1853; *Venerupis chinensis* Deshayes, 1854;

Venerupis derelicta Deshayes, 1854; *Venerupis pulcherrima* Deshayes, 1854; *Venerupis digona* Deshayes, 1854; *Venerupis attenuata* Sowerby II, 1854; *Venerupis irusianus* Locard, 1892; *Venerupis multicosata* Turton, 1932.

Local distribution: Iho, Hamdeok, Gimnyeong, Wolpyeong, Haengwon, Handong, Sehwa, Hado, Udo (Hagosudong), Udo (Sanhosa), Jongdal-ri, Seongsan, Shinyang, Pyoseon, Bomok, Munseom, Seogundo, Gangjeong, Jungmun, Yerae, Hwasoon, Yeongmeori, Sagyei, Songaksan, Hamo, Keumneung, Hyeopjae, Gwakji; **other records:** Je J.-G. *et al.* (2002; as *Irus macrophyllus*) (Munseom); Noseworthy *et al.* (2002; as *Irus macrophyllus*) (Seongsan); Noseworthy and Choi (2010) (Seogundo); Suzuki (2010; as *Irus macrophyllus*) (Shinyang, Hwasoon); Ko J.-C. *et al.* (2011) (Daepo); Cho I.-Y. *et al.* (2014; as *Irus macrophyllus*) (Munseom); Noseworthy and Choi (2018) (Hamo); Lee J.-S. (2019) (Seongsan, Hwasoon).

General distribution: Northern Atlantic Ocean and Mediterranean, Black Sea, western Africa, widely distributed in the Indo-West Pacific, from southern Africa, Red Sea, Arabian Gulf, Persian Gulf, Oman to India, Sri Lanka, northern Australia, Melanesia, Micronesia, Philippines, South China Sea, Thailand, Vietnam, Borneo, East China Sea, Yellow Sea, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Intertidal to subtidal (to depth of 40 or 50 m), nestling or byssally attached in crevices, coral heads, and holes in rocks (Huber, 2015).

216. *Irus (Irus) mitis* (Deshayes, 1853)

Pl. 39, Figs. F, G

Synonyms: *Rupellaria semipurpurea* Dunker, 1882; *Rupellaria pechiliensis* Grabau et King, 1928.

Local distribution: Hamo, Hamdeok, Jongdal-ri, Daejeong, Daepyoeng, Wolpyeong, Udo (Hagosudong), Seongsan, Yeongmeori, Yerae, Sagyei, Weoljeong, Songaksan, Gwakji; **other records:** Kim H.S. *et al.*

(1992); Je J.-G. *et al.* (1994) (Munseom); Je J.-G. *et al.* (2002) (Munseom); Yang H.-S. and Choi K.-S. (2011); Cho I.-Y. *et al.* (2014) (Munseom); Lee J.-S. (2019) (Seongsan, Hwasoon).

General distribution: East China Sea, Taiwan, Yellow Sea, Korea, and Japan (Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Lee J.-S., 2019); **subtropical.**

Habitat: Intertidal to upper subtidal (to depth of 1 m), nestling in holes bored by pholadids in soft rocks, sand- and mudstone (Huber, 2015).

Comments: Possible syntype of *I. mitis* is figured by Higo *et al.* (2001, p. 179, fig. B1248); two syntypes of *R. pechiliensis* are figured by Coan *et al.* (2015, fig. 14A-F).

217. *Irus (Irus) ishibashianus* Kuroda et Habe, 1952

Pl. 39, Figs. H, I

Synonyms: *Asaphis kussakini* Ivanova, 1985.

Local distribution: Wolpyeong, Jongdal-ri, Yerae, Yeongmeori, Seongsan, Bomok, Munseom, Hwasoon, Sagyei; **other records:** Lee J.-S. (2019) (Hwasoon).

General distribution: East China Sea, Okinawa, Korea, Japan (Kyushu, Honshu, East/Japan Sea), Russian waters of East/Japan Sea (south-western Sakhalin) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015; Lee J.-S., 2019); **subtropical-lowboreal.**

Habitat: Intertidal to upper subtidal (to depth of 6 m), nestling in holes in soft rock, mudstone, and coral stones (Huber, 2015).

Subfamily **Meretricinae** Gray, 1847

Genus ***Gomphina*** Mörch, 1853

218. *Gomphina neastartoides* (Yokoyama, 1922)

Pl. 37, Figs. A-D; Pl. 38, Figs. A-D

Local distribution: Iho, Handong, Yeongmeori, Hado, Seongsan, Bomok, Jungmun, Hwasoon, Sagyei, Hamo, Biyangdo, Gwakji; **other records:** Lee J.-S. (2019)

(Biyangdo, Sagyei, Hwasoon).

General distribution: East China Sea, Okinawa, Korea, and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Lee J.-S., 2019); **subtropical.**

Habitat: Subtidal (depth of 10 to 70 m), in sand (Huber, 2015).

Comments: *Gomphinella* Marwick, 1927 is a synonym of *Gomphina*.

Subfamily **Cyclininae** Frizzell, 1936

Genus ***Cyclina*** Deshayes, 1850

219. *Cyclina sinensis* (Gmelin, 1791)

Pl. 29, Figs. D, E

Synonyms: *Cyprina tenuistria* Lamarck, 1818; *Cyclina bombycina* Römer, 1860; *Cyclina pectunculus* Römer, 1860; *Cyclina intumescens* Römer, 1861.

Local distribution: Hado, Hamdeok, Jongdal-ri, Ojo-ri (Tongbatarl), Shinyang, Yongmeori, Hamo; **other records:** Lee J.J. and Hyun J.M. (1992) (Shinyang, Jongdal-ri, Hado); Je J.-G. *et al.* (1994) (Munseom); Je J.-G. *et al.* (2002); Le *et al.* (2010); Yang H.-S. and Choi K.-S. (2011).

General distribution: South China Sea, Vietnam, China, East China Sea, Taiwan, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Zhuang, 2001; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Lee J.-S., 2019); **tropical-subtropical.**

Habitat: Subtidal (to depth of 15 to 30 or 60 m), on fine sand and muddy bottoms (Huber, 2015).

Comments: An allied species, not mentioned in modern Asian literature, is *Cyclina flavida* Deshayes, 1853, known from the Yellow Sea, both Korea and China coasts. This species is distinct, white, without purplish traces, inflated, with a yellowish periostracum in juveniles and dark brown in adults, it has a strongly ribbed commarginal sculpture, radials are weak or absent (Huber, 2010). According to Huber (2010), *C. flavida* is illustrated by Qi (2004, pl. 169, fig. K; as *C. sinensis*) from China. *Cyclina orientalis* (G.B. Sowerby II, 1852) was listed for Japan and Korea (Kamada,

1952) but it is a misidentification of *C. sinensis*. True *C. orientalis* inhabits the South China Sea, Borneo and the Philippines (Huber, 2010; 2015). *C. orientalis* differs from *C. sinensis* by shape, huge size, narrow trigonal pallial sinus, and the characteristic orange periostracum (l.c.). Lee J.-S. (2019) has not listed Jeju among provinces where *C. sinensis* lives in Korea.

Subfamily **Petricolinae** d'Orbigny, 1840

Genus ***Petricola*** Lamarck, 1801

220. *Petricola (Petricola) habei* Huber, 2010

Local distribution: Min D.-K. *et al.* (2004; as *Pseudoirus mirabilis*) (Shinyang); Lee J.-S. (2019; as *Petricola carditoides*).

General distribution: Yellow Sea, Korea, and Japan (Kyushu, Shikoku, Honshu, southern Hokkaido (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Lutaenko and Noseworthy, 2019; Lee J.-S., 2019); **subtropical**.

Habitat: Intertidal to upper subtidal (to depth of 20 m), burrowing in soft mudstone and coral debris (Huber, 2015).

Comments: Coan (1996) showed that *Petricola mirabilis* Deshayes, 1853, described from Monterey, California is a synonym of *Petricola (Petricola) carditoides* (Conrad, 1837), an American species. Japanese and Korean authors, following Lischke (1871), used “*mirabilis*” for an Asian *Petricola until* Huber (2010) redescribed it as *P. habei*; see more comments in Lutaenko and Noseworthy (2019).

Order **MYIDA** Stoliczka, 1870

Superfamily **Myoidea** Lamarck, 1809

Family **Myidae** Lamarck, 1809

Genus ***Sphenia*** Turton, 1822

221. *Sphenia coreanica* Habe, 1951

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: South China Sea, China, Korea, Yellow Sea, and Japan (Kyushu, Honshu), Hawaiian Islands (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu

and Zhang, 2008; Zhang *et al.*, 2012; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to upper subtidal (to depth of 20 m), among holdfasts of seaweed on rocks (Huber, 2015).

Comments: *Sphenia elongata* Zhang, Xu et Liu, 2012 is another species of this genus in Asia, described from Beibu Gulf (South China Sea), based on a single specimen (Zhang *et al.*, 2012). The holotype of *S. coreanica* is figured by Higo *et al.* (2001, p. 180, fig. B1286).

Family **Corbulidae** Lamarck, 1918

Subfamily **Corbulinae** Lamarck, 1818

Genus ***Corbula*** Bruguière, 1797

Subgenus ***Varicorbula*** Grant et Gale, 1931

222. *Corbula (Varicorbula) rotalis* Hinds, 1843

Synonyms: *Corbula bifrons* A. Adams, 1860; *Corbula substriata* Yokoyama, 1922.

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: North-eastern Australia, Melanesia, Polynesia, Philippines, South China Sea, Borneo, Vietnam, East China Sea, Taiwan, Korea, Okinawa, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal to bathyal (depth of 20 to 450 m), in coarse sandy bottoms (Huber, 2015).

Comments: The holotype of *V. bifrons* originated from “Straits of Korea” is figured by Higo *et al.* (2001, p. 180, fig. B1298s).

223. *Corbula (Varicorbula) yokoyamai* (Habe, 1949)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Borneo, East China Sea, Korea, Yellow Sea, and Japan (Seto Inland Sea, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016); **tropical-subtropical**.

Habitat: Subtidal depth of (5 to 112 m), in sandy mud (Huber, 2015).

Superfamily **Pholadoidea** Lamarck, 1809

Family **Pholadidae** Lamarck, 1809

Subfamily **Pholadinae** Lamarck, 1809

Genus **Barnea** Risso, 1826

Subgenus **Anchomasa** Leach in Gray, 1852

224. *Barnea (Anchomasa) manilensis* (Philippi, 1847)

Pl. 40, Fig. D

Synonyms: *Pholas manillae* G.B. Sowerby II, 1849; *Barnia erythraea* Gray, 1851; *Pholas manilensis inornata* Pilsbry, 1895; *Martesia delicatula* Preston, 1910; *Barnea labordei* Jousseume in Lamy, 1923; *Barnea spica* Jousseume in Lamy, 1923; *Barnea durbanensis* van Hoepen, 1941; *Barnea (Anchomasa) elongata* Tchang, Tsi et Li, 1960.

Local distribution: Hamo.

General distribution: South Africa, Red Sea, eastern Africa, Andaman Sea, Philippines, Thailand, South China Sea, East China Sea, Okinawa, Yellow Sea, Korea, Japan (Kyushu, Honshu, East/Japan Sea, Hokkaido), southern Sakhalin, and Russian waters of the East/Japan Sea (Scarlato, 1981; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to upper subtidal ((to depth of 20 m), boring in soft rock, hard mud, clay, or shale (Huber, 2015; Ivanova and Tsurpalo, 2019).

Comments: Additional comments on taxonomy and variability of this species are provided by Huber (2010) and Lutaenko and Noseworthy (2012). New species record for Jeju Island. A syntype of *B. manilensis inornata* is figured by Higo *et al.* (2001, p. 181, fig. B1319s).

Subfamily **Martesiinae** Grant et Gale, 1931

Genus **Martesia** G.B. Sowerby I, 1824

225. *Martesia striata* (L., 1758)

Pl. 40, Figs. A-C, E, F

Synonyms: *Pholas pusillus* L., 1758; *Pholas conoides* Parsons, 1765; *Pholas lignorum* Spengler, 1779; *Pholas nanus* Pulteney, 1799; *Pholas falcata* Wood, 1815; *Pholas clavata* Lamarck, 1818; *Pholas tenuistriata*

Blainville, 1826; *Pholas decussata* Bory de Saint-Vincent, 1827; *Pholas atomus* Bory de Saint-Vincent, 1827; *Penitella xilophaga* Valenciennes in Du Petit-Thouars, 1846; *Pholas teredinaeformis* G.B. Sowerby II, 1849; *Pholas corticaria* G.B. Sowerby II, 1849; *Pholas rosea* C.B. Adams, 1850; *Pholas beauiana* Récluz, 1853; *Pholas hornbeckii* Orbigny in Sagra, 1853; *Penitella incisa* Lamy, 1921; *Penitella lignivora* Lamy, 1921; *Penitella larvata* Lamy, 1921; *Penitella phaseolina* Lamy, 1921; *Penitella pisum* Lamy, 1921; *Penitella silicula* Lamy, 1921; *Penitella stillata* Lamy, 1921; *Pholas cupula* Yokoyama, 1924; *Martesia striata* var. *tokyoensis* Yokoyama, 1927; *Martesia pulchella* Yokoyama, 1932; *Hiata infelix* Zetek et McLean, 1936; *Martesia hawaiiensis* Dall, Bartsch et Rehder, 1938; *Martesia (Diploplax) americana* Bartsch et Rehder, 1945; *Martesia (Diploplax) funisicola* Bartsch et Rehder, 1945; *Mesopholas intusgranosa* Taki et Habe, 1945; *Mesopholas nucicola* Taki et Habe, 1945.

Local distribution: Gwakji; **other records:** Min D.-K. *et al.* (2004) (Jeju).

General distribution: Almost cosmopolitan in tropical and subtropical waters; Atlantic Ocean and Mediterranean; in the Indo-Pacific, widely ranging from the Red Sea, Arabian Gulf, Oman, Persian Gulf, India to northern Australia, Melanesia, Polynesia, Philippines, South China Sea, Thailand, Vietnam, East China Sea, China, Korea, Japan (Kyushu, Honshu), Hawaiian Islands, Panama, Peru (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015); **tropical-subtropical**.

Habitat: Intertidal to upper subtidal ((to depth of 20 m), wood borer in old pilings, waterlogged tree trunks, also in driftwood, rarely in asteroid corals or in soft rocks or mangroves (Huber, 2015).

Comments: Many specimens, juvenile to adult, burrowed into a piece of palm log were found at Gwakji Beach.

Family **Xylophagidae** Purchon, 1941

Genus **Xylophaga** Turton, 1822

226. *Xylophaga rikuzenica* Taki et Habe, 1945

Local distribution: Kwon O.-K. *et al.* (1993) (Jeju).

General distribution: East China Sea, Okinawa, Korea, and Japan (Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **subtropical**.

Habitat: Bathyal (depth of 183 to 1400 m), boring in wood (Huber, 2015).

Comments: Kwon O.-K. *et al.* (1993) list only “Jejudo”, with no specific locality.

Family **Teredinidae** Rafinesque, 1815

Subfamily **Teredininae** Rafinesque, 1815

Genus **Teredora** Bartsch, 1921

227. *Teredora princesae* (Sivickis, 1928)

Synonyms: *Teredo petersi* Moll, 1928; *Teredo gazellae* Roch, 1929; *Teredo diderichseni* Roch, 1929; *Teredo sparcki* Roch, 1931; *Teredo (Teredora) gregoryi* Dall, Bartsch et Rehder, 1938; *Teredo alfredensis* van Hoepen, 1941; *Teredo (Teredora) minori* Nair, 1958; *Teredo (Teredothyra) palauensis* Edmondson, 1959; *Teredo (Teredothyra) remiformis* Li, 1965.

Local distribution: Min D.-K. *et al.* (2004) (Sagyei).

General distribution: Widely distributed Indo-Pacific species ranging from South Africa, eastern Africa to India, Malaysia, Indonesia, Papua New Guinea, north-western Australia, Philippines, South China Sea, Thailand, East China Sea, Korea, Japan (Kyushu, Honshu), and Hawaiian Islands (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical**.

Habitat: Subtidal (depth of 1 to 150 m), in exposed wood, in floating wood and coconuts, in boat hulls (Huber, 2015).

Comments: *Teredora malleolus* (Turton, 1822) listed for Sagyei, Jeju (Min D.-K. *et al.*, 2004) is a Caribbean, west African, and Mediterranean species and, therefore, is excluded from the Korean fauna.

Genus **Uperotus** Guettard, 1770

228. *Uperotus clava* (Gmelin, 1791)

Synonyms: *Teredo nucivorus* Spengler, 1792; *Fistulana cornicula* Lamarck, 1801; *Fistulana gregata* Lamarck, 1801; *Fistulana corniformis* Lamarck, 1818; *Serpula*

retorta Mawe, 1823; *Teredo foliiformis* Laurent, 1848; *Teredo plumiformis* Laurent, 1848; *Glumebra elegans* Iredale, 1936; *Glumebra shionomisakiensis* Habe, 1953.

Local distribution: Min D.-K. *et al.* (2004) (Sagyei).

General distribution: Widely distributed Indo-West Pacific species ranging from South Africa, Mozambique to India, Sri Lanka, Indonesia, Australia, Papua New Guinea, Philippines, South China Sea, Thailand, Korea, and Japan (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015); **tropical-subtropical**.

Habitat: Mainly shallow waters, in exposed wood, floating *Xylocarpus* nuts, floating mangrove seeds, in bamboo stakes, living also in hadal zone (Huber, 2015).

Superfamily **Hiatelloidea** Gray, 1824

Family **Hiatellidae** Gray, 1824

Genus **Hiatella** Bosc, 1801

229. *Hiatella orientalis* (Yokoyama, 1920)

Pl. 40, Fig. G

Local distribution: Udo (Geomeollae), Jungmun, Yeongmeori, Yerae, Sagyei; **other records:** Je J.-G. *et al.* (2002) (Munseom).

General distribution: East China Sea, Taiwan, Yellow Sea, China, Korea, Japan (Hokkaido and southwards), possibly Russian part of the East/Japan Sea (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Okutani, 2017); **subtropical-lowboreal**.

Habitat: Intertidal to upper subtidal (to depth of 30 m), in crevices and seaweed holdfasts (Higo *et al.*, 1999).

Comments: Japanese, Korean, and Chinese authors usually use *Hiatella orientalis* (Yokoyama, 1920) when referring to this species (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Zhang *et al.*, 2016; Okutani, 2017) whereas both the highly variable *Hiatella arctica* (L., 1767) s.l. and *H. orientalis* may co-occur in north-eastern Asia. High cryptic diversity is known for the *H. arctica* complex, with 13 possible main species-level lineages, provisionally recognized with mtDNA. Six principal species were recognized from the North Pacific and the bordering sector of the Arctic

Ocean (Laakkonen *et al.*, 2015). A full list of synonyms of *H. arctica* complex is provided by Huber (2015), Asian type localities include Taiwan (*Saxicava macrodon* Philippi, 1851), Hong Kong (*Saxicava flaccida* Gould, 1861), Japan, both fossil (*Saxicava orientalis* Yokoyama, 1920 and *Petricola awana* Yokoyama, 1924), and Sakhalin, fossil (*Saxicava sakhalinensis* Takeda, 1953). Kolotukhina and Kulikova (2017), based on larval morphology, breeding seasons, and depth preference, recognized two species of *Hiatella* in Peter the Great Bay, north-western East/Japan Sea.

Superfamily **Solenioidea** Lamarck, 1809

Family **Solenidae** Lamarck, 1809

Genus ***Solen*** L., 1758

Subgenus ***Solen*** L., 1758

230. *Solen (Solen) strictus* Gould, 1861

Pl. 41, Figs. A, B

Synonyms: *Solen gouldii* Conrad, 1867 (nom. nov. pro *Solen gracilis* Gould, 1861 non *Solen gracilis* J. de C. Sowerby, 1844); *Solen incertus* Clessin, 1887; *Solen corneus* var. *pechiliensis* Grabau et King, 1928.

Local distribution: Gimnyeong, Jongdal-ri, Ojo-ri (Tongbatarl), Pyoseon; **other records:** Kim H.S. and Rho B.J. (1971; as *Solen gouldii*) (Seongsan); Kim H.S. *et al.* (1992); Je J.-G. *et al.* (1994) (Munseom); Je J.-G. *et al.* (2002; as *Solen corneus*) (Udo); Le *et al.* (2010); Yang H.-S. and Choi K.-S. (2011); Lee H.-J. *et al.* (2014) (Tongbatarl Lagoon).

General distribution: East China Sea, Yellow Sea, Korea, Japan (Kyushu to southern Hokkaido), Russian coast of the East/Japan Sea (Scarlato, 1981; Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Okutani, 2017); **subtropical.**

Habitat: Intertidal to upper subtidal (to depth of 3 m), in bays, in sand, on sandflats (Huber, 2015).

Comments: Once moderately common at Ojo-ri (Tongbatarl Lagoon), this species has now become quite rare because of over collecting (Lee H.-J. *et al.*, 2014). Kurile Islands (Huber, 2015) is an incorrect

locality for this species. This species was long known in regional literature as “*Solen corneus*” (Scarlato, 1981 and Japanese papers cited therein). Syntypes of *Solen corneus* var. *pechiliensis* Grabau et King, 1928 are figured by Coan *et al.* (2015, fig. 16A-D).

Subgenus ***Ensisolen*** Habe, 1977

231. *Solen (Ensisolen) krusensternii* Schrenck, 1867

Pl. 41, Figs. C, D

Local distribution: Jeju.

General distribution: Japan (Kyushu to Hokkaido, East/Japan Sea), Korea, Russian part of the East/Japan Sea, Sakhalin, southern Kurile Islands (Scarlato, 1981; Higo *et al.*, 1999; Evseev, 2000; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015); **subtropical-lowboreal.**

Habitat: Mainly subtidal (3 to 51 m); on fine sandy and muddy bottoms (Huber, 2015).

Superfamily **Gastrochaenoidea** Gray, 1840

Family **Gastrochaenidae** Gray, 1840

Genus ***Gastrochaena*** Spengler, 1783

232. *Gastrochaena cuneiformis* Spengler, 1783

Synonyms: *Gastrochaena gigantea* Deshayes 1830; *Gastrochaena mauritiana* Orbigny in Sagra, 1853; *Gastrochaena indistincta* Deshayes, 1855; *Gastrochaena lamellosa* Deshayes, 1855; *Gastrochaena grandis* Dunker 1882; *Rocellaria hawaiiensis* Dall, Bartsch et Rehder, 1938.

Local distribution: Seopjikoji, Supseom, Munseom, Keumneung; **other records:** Je J.-G. *et al.* (2002) (Munseom); Ko J.-C. *et al.* (2011) (Jungmun); Cho I.-Y. *et al.* (2014) (Munseom); Noseworthy *et al.* (2016) (Keumneung).

General distribution: Widely distributed Indo-Pacific species ranging from the Red Sea, eastern Africa, Seychelles, Arabian Gulf, Oman, Persian Gulf to India, Andaman Sea, Thailand, Indonesia, northern Australia, Melanesia, Micronesia, Polynesia, Philippines, South China Sea, Vietnam, East China Sea, Korea, Japan (Kyushu, Honshu), and Hawaiian

Islands (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Okutani, 2017); **tropical-subtropical**.

Habitat: Intertidal to subtidal (to depth of 58 or 120 m), in coral reefs, chemically boring in dead corals (*Porites* sp.) or shells (Huber, 2015).

Comments: This species was found at Keumneung, Jeju, in crevices of the encrusting coral *Alveopora japonica* Eguchi, 1968.

Genus *Cucurbitula* Gould, 1861

233. *Cucurbitula cymbium* (Spengler, 1793)

Synonyms: *Fistulana lagenula* Lamarck, 1801; *Gastrochaena pupina* Deshayes, 1855; *Gastrochaena aequabilis* Sluiter 1890; *Gastrochaena deshayesi* Sturany, 1899.

Local distribution: Je J.-G. *et al.* (2002) (Beomseom, Jigwido); Min D.-K. *et al.* (2004) (Udo, Supjikoji, Hwasoon).

General distribution: Widely distributed Indo-West Pacific species ranging from the Red Sea, eastern Africa, Arabian Gulf, Oman, Persian Gulf to India, Indonesia, north-western and eastern Australia, Philippines, South China Sea, Thailand, Vietnam, East China Sea, Okinawa, Yellow Sea, Korea, and Japan (Kyushu, Honshu); introduced to Mediterranean (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Okutani, 2017); **tropical-subtropical**.

Habitat: Mainly subtidal (depth of 2 to 91 m), calcareous igloo-tube containing the shell fixed to other shells or sand dollars (Huber, 2015).

Order ANOMALODESMATA Dall, 1889

Superfamily Myochamoidea Carpenter, 1861

Family Myochamidae Carpenter, 1861

Genus *Myadora* Gray, 1840

234. *Myadora fluctuosa* Gould, 1861

Pl. 42, Fig. A

Synonyms: *Myodora proxima* Smith, 1881; *Myadora triangularis* Dunker, 1882; *Myadora japonica* Habe,

1950; *Myadora yokoyamai* Habe, 1950.

Local distribution: Hwasoon, Jongdal-ri, Sagyei.

General distribution: East China Sea, Yellow Sea, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Subtidal to bathyal (depth of 10 to 990 m), on fine sand and mud (Huber, 2015).

Comments: Whereas Japanese authors (Okutani, 2017) regard *Myadora japonica* Habe, 1950 as a distinct species, Huber (2010; 2015) synonymized it with *M. fluctuosa*. The holotypes of both species are figured by Higo *et al.* (2001, p. 183, fig. B1402, *M. fluctuosa*; fig. B1402s, *M. japonica*); a syntype of *M. proxima*-l.c. (p. 183, fig. B1402s, right figure).

235. *Myadora cf. soyoae* Habe, 1950

Pl. 42, Fig. B

Local distribution: Hwasoon, Yeongmeori, Sagyei.

General distribution: East China Sea, Korea, and Japan (Shikoku, Kyushu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 50 to 300 m), on coarse sand and stones (Huber, 2015).

Comments: Relationships between this species and *Myadora reeveana* Smith, 1881 (China, Korea, and Japan, 5 to 300 m deep) are not clear. A specimen of *M. reeveana* figured by Huber (2010, p. 505) from Japan is almost identical to *M. soyoae* figured by Okutani (2017, pl. 507, fig. 2). Lutaenko and Noseworthy's (2012, pl. 63, figs. K-N) *M. reeveana* is close to Jeju specimens.

Beu (2006) and Huber (2010) have placed this species in the genus *Hunkydora* Fleming, 1948, due to differences in the resiliifer and pallial sinus. The holotype of *M. soyoae* is figured by Higo *et al.* (2001, p. 183, fig. B1404); syntypes of *M. reeveana*-l.c. (p. 183, fig. B1406).

Genus *Myadoropsis* Habe, 1960

236. *Myadoropsis transmontana* (Yokoyama, 1922)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon, Sagyei).

General distribution: Korea and Japan (East/Japan Sea, Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Lutaenko and Noseworthy, 2012; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 10 to 300 m), in sand (Huber, 2015).

237. *Myadoropsis dissimilis* Habe, 1960

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon, Sagyei).

General distribution: Korea and Japan (Kyushu, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 10 to 30 m), in fine sand (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 183, fig. B1408).

238. *Myadoropsis brevispinosa* Habe, 1962

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon, Sagyei).

General distribution: Korea and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 10 to 300 m), in sand (Huber, 2015).

Superfamily **Pandoroidea** Rafinesque, 1815

Family **Pandoridae** Rafinesque, 1815

Genus ***Pandora*** Hwass, 1795

Subgenus ***Pandorella*** Conrad, 1863

239. *Pandora (Pandorella) otukai* Habe, 1952

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: Yellow Sea, northern China, Korea, and Japan (Kyushu, Shikoku, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 10 to 300 m), on fine sand (Huber, 2015).

Family **Lyonsiidae** P. Fischer, 1887

Genus ***Entodesma*** Philippi, 1845

240. *Entodesma navicula* (A. Adams et Reeve, 1850)

Pl. 42, Figs. C, D

Synonyms: *Lyonsia saxicola* Baird, 1863; *Entodesma saxicola cylindracea* Carpenter, 1864; *Entodesma scammoni* Dall, 1871; *Entodesma truncatissima* Pilsbry, 1895; *Entodesma naviculoides* Yokoyama, 1922.

Local distribution: Seongsan, Jungmun, Yerae, Hwasoon, Yeongmeori, Sagyei; **other records:** Ko J.-C. *et al.* (2011; as *Agriodesma navicula*) (Haengwon).

General distribution: Yellow Sea, northern China, Korea, Japan (Kyushu, Shikoku, Honshu, Hokkaido), Russian part of the East/Japan Sea, Kurile Islands, Sea of Okhotsk, Bering Sea, Alaska, eastern Pacific south to California (Scarlato, 1981; Higo *et al.*, 1999; Coan *et al.*, 2000; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Lutaenko and Noseworthy, 2012; Huber, 2015; Zhang *et al.*, 2016; Okutani, 2017); **widely distributed boreal/amphiboreal**, extending to subtropical waters.

Habitat: Intertidal to subtidal (to depth of 60 m), exposed foreshores, nestling in rock crevices and coarse rubble, in kelp holdfasts (Huber, 2015).

Comments: The holotype of *E. navicula* is figured by Lutaenko and Noseworthy (2012, fig. 52); a syntype of *E. truncatissima* is figured by Higo *et al.* (2001, p. 182, fig. B1395s).

Family **Periplomatidae** Dall, 1895

Genus ***Pendaloma*** Iredale, 1930

241. *Pendaloma otohimeae* (Habe, 1952)

Synonyms: *Periploma plane* Ozaki 1958; *Periploma japonicum* Bernard, 1989 (*nom. nov.* pro *Periploma ovata* Kuroda et Horikoshi, 1958 non d'Orbigny, 1846).

Local distribution: Je J.-G. *et al.* (1991; as *Periploma*

otohimeae); Je J.-G. (1993; as *Periploma plane*) (western coast of Jeju).

General distribution: East China Sea, Yellow Sea, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016).

Habitat: Subtidal to bathyal (depth of 27 to 1250 m), in muddy bottoms (Huber, 2015).

Comments: This species was figured from Korea as *Periploma otohimeae* (Je J.-G., 1993, pl. 15, fig. 2), *Periploma plane* (l.c., pl. 15, fig. 3), *Periploma japonicum* (Kwon O.K. *et al.*, 2001, p. 284, fig. 1166) and *Takashima plane* (Min D.-K. *et al.*, 2004, p. 482, fig. 1597; misspelling - *Takashia*). This family and species were not recorded in the catalogue of Noseworthy *et al.* (2007).

Superfamily **Thracioidea** Stoliczka, 1870

Family **Thraciidae** Stoliczka, 1870

Genus *Trigonothracia* Yamamoto et Habe, 1959

242. *Trigonothracia pusilla* (Gould, 1861)

Synonyms: *Thracia* (*Trigonothracia*) *nomurai* Yamamoto et Habe, 1959.

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Yellow Sea, Korea, and Japan (Kyushu, Honshu, southern Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Zhang *et al.*, 2016; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 7 to 80 or 200 m), in fine sand, sandy mud, and silty-clay bottoms (Huber, 2015).

Genus *Parvithracia* Finlay, 1926

Subgenus *Pseudoasthenothaerus* Kamenev, 2002

243. *Parvithracia* (*Pseudoasthenothaerus*) *sematana* (Yokoyama, 1922)

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: Yellow Sea, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Subtidal (depth of 20 to 300 m), on fine sand (Huber, 2015).

Superfamily **Cuspidarioidea** Dall, 1886

Family **Cuspidariidae** Dall, 1886

Subfamily **Cuspidariinae** Dall, 1886

Genus *Cardiomya* A. Adams, 1864

244. *Cardiomya kashimana* Okutani and Sakurai, 1964

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: Korea and Japan (Honshu, southern Hokkaido) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Okutani, 2017); **subtropical**.

Habitat: Bathyal (depth of 100 to 1030 m), on sandy mud (Huber, 2015).

Comments: The holotype is figured by Higo *et al.* (2001, p. 186, fig. B1461).

Genus *Cuspidaria* Nardo, 1840

245. *Cuspidaria nobilis* (A. Adams 1864)

Synonyms: *Cuspidaria* (*Cuspidaria*) *consimilis* Habe, 1961.

Local distribution: Adams (1864a) (Jeju (“Quelpart; 52 fathoms”)).

General distribution: East China Sea, Taiwan, Korea, and Japan (Kyushu, Shikoku, Honshu) (Higo *et al.*, 1999; Xu and Zhang, 2008; Huber, 2015).

Habitat: Subtidal (depth of 50 to 200 m), on sandy mud (Huber, 2015); in Jeju, at a depth of 95 m (Adams, 1864a).

Comments: This species has not been recorded in Korean publications (Lee J.-S. and Min D.-K., 2002; Min D.-K. *et al.*, 2004; Lee J.-S., 2015; 2016) although Higo *et al.* (1999) mentioned Korea in its distribution. This genus and species were not recorded in the catalogue of Noseworthy *et al.* (2007). The holotype is figured by Higo *et al.* (2001, p. 184, fig. B1430s).

Genus *Plectodon* Carpenter, 1865

246. *Plectodon ligula* (Yokoyama, 1922)

Local distribution: Min D.-K. *et al.* (2004) (Hwasoon).

General distribution: East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu, Honshu, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Huber, 2015; Okutani, 2017).

Habitat: Subtidal (depth of 10 to 300 m), in sandy mud (Huber, 2015).

Superfamily **Poromyoidea** Dall, 1886

Family **Poromyidae** Dall, 1886

Genus **Poromya** Forbes, 1844

247. *Poromya flexuosa* Yokoyama, 1922

Synonyms: *Poromya sinica* Xu, 1999.

Local distribution: Min D.-K. *et al.* (2004) (Seongsan).

General distribution: South China Sea, northern Borneo, East China Sea, Taiwan, Okinawa, Korea, and Japan (Kyushu, Shikoku, Honshu, southern Hokkaido, East/Japan Sea) (Higo *et al.*, 1999; Min D.-K. *et al.*, 2004; Xu and Zhang, 2008; Huber, 2015; Okutani, 2017); **tropical-subtropical**.

Habitat: Subtidal to bathyal (depth of 20 to 350 m), in fine sand and sandy mud (Huber, 2015).

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Plates

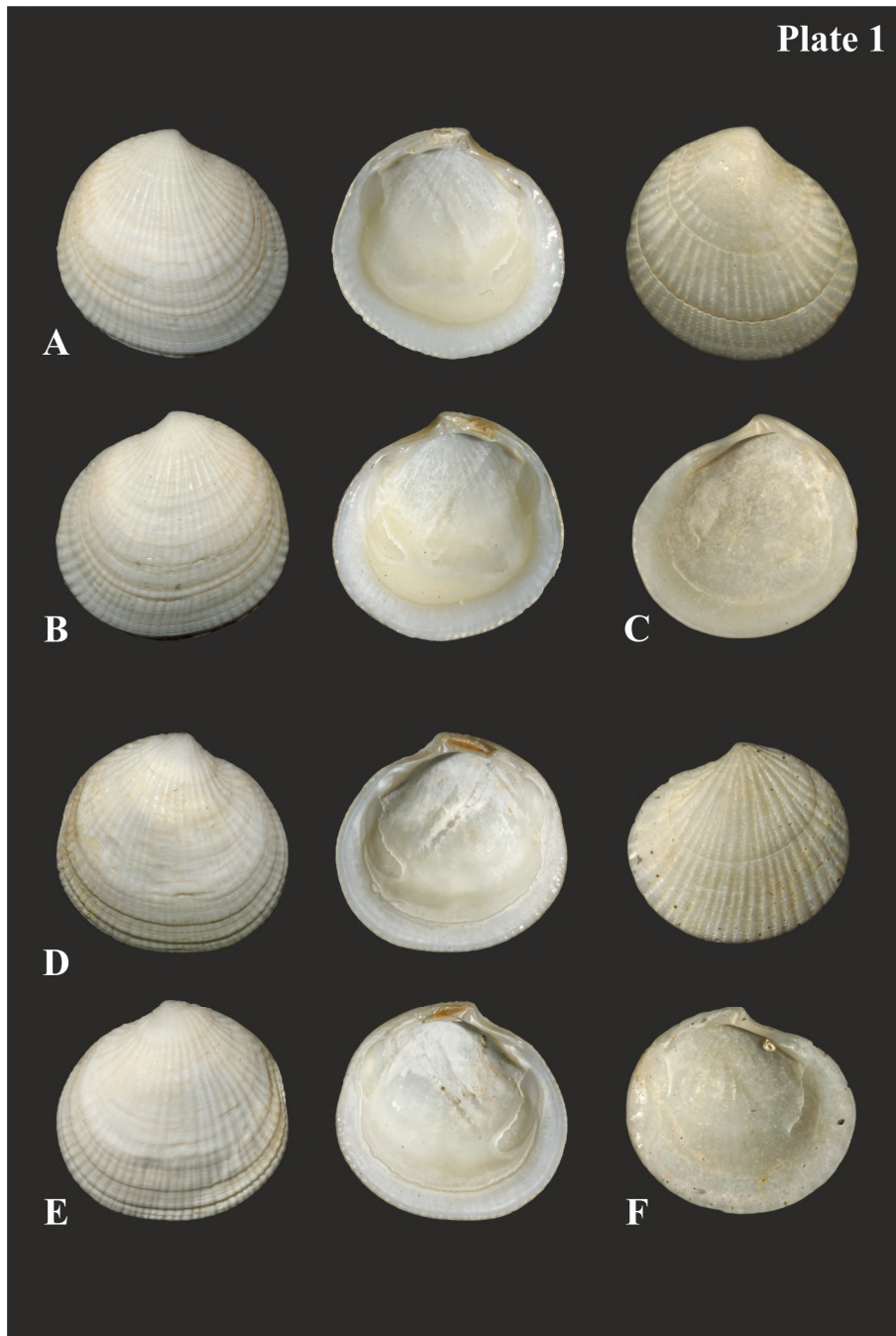


Plate 1. Figs. A, B *Ctena delicatula* (Pilsbry, 1904): Jeju-do, Seongsan, ZMFU no. 53805/Bv-8715, shell length 14.1 mm; **Fig. C** *Ctena delicatula* (Pilsbry, 1904): Jeju-do, Yeongmeori, ZMFU no. 53806/Bv-8716, shell length 11.1 mm; **Figs. D, E** *Ctena bella* (Conrad, 1837): Jeju-do, Yerae, ZMFU no. 53811/Bv-8721, shell length 16.8 mm; **Fig. F** *Ctena bella* (Conrad, 1837): Jeju-do, Hwasoon, ZMFU no. 53810/Bv-8720, shell length 11.3 mm.

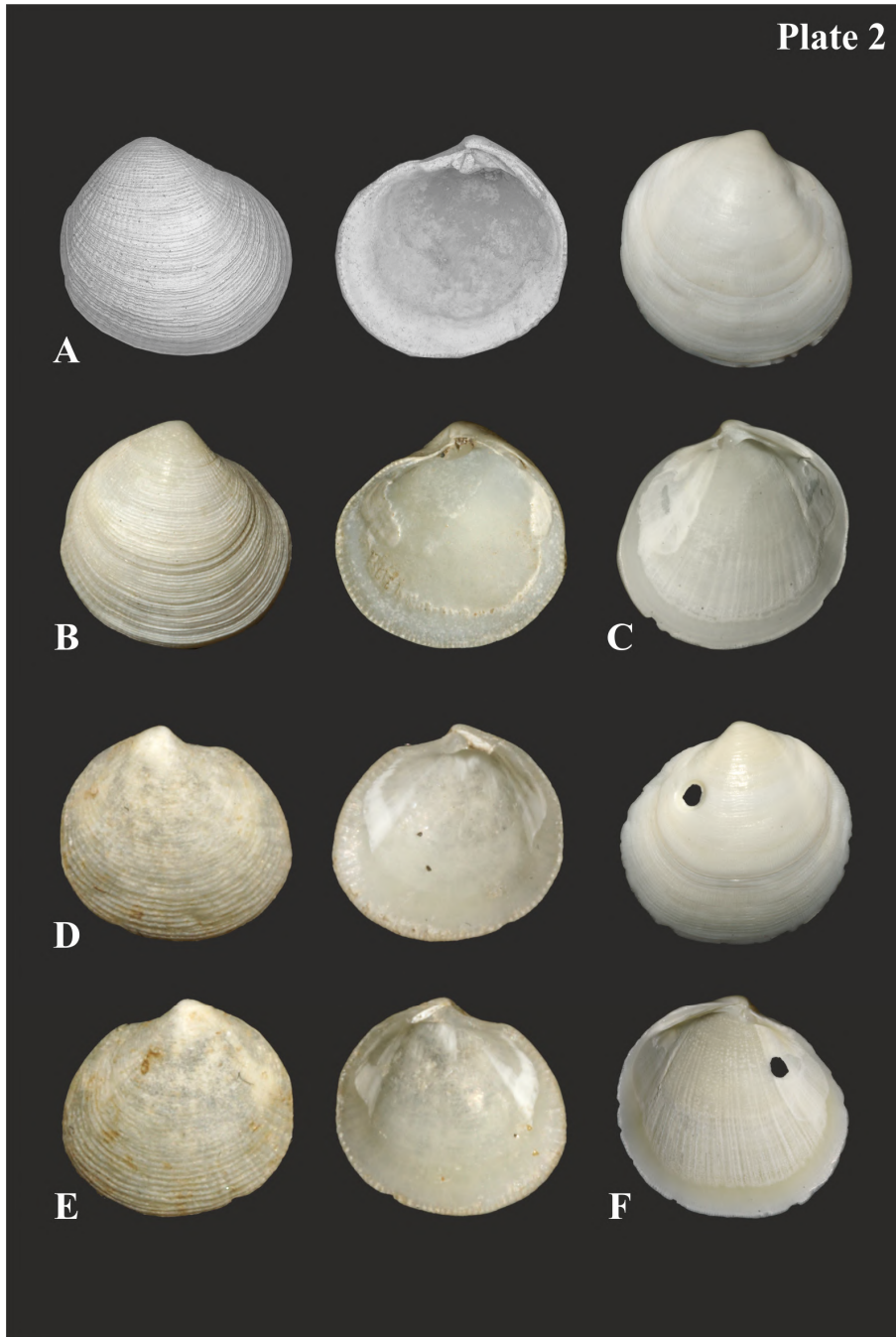


Plate 2. Fig. A *Pillucina pisidium* (Dunker, 1860): Jeju-do, Tongbatarl Lagoon, ZMFU no. 54481/Bv-8918, shell length 6.1 mm (SEM); **Fig. B** *Pillucina pisidium* (Dunker, 1860): Jeju-do, Jocheon, ZMFU no. 53808/Bv-8718, shell length 10.1 mm; **Fig. C** *Chavania striata* (Tokunaga, 1906): Jeju-do, Jungmun, ZMFU no. 53807/Bv-8717, shell length 12.6 mm; **Figs. D, E** *Liralucina plicatula* (A. Adams, 1862): Jeju-do, Seongsan, ZMFU no. 53809/Bv-8719, shell length 5.1 mm; **Fig. F** *Chavania striata* (Tokunaga, 1906): Jeju-do, Jungmun, ZMFU no. 53807/Bv-8717, shell length 14.7 mm.

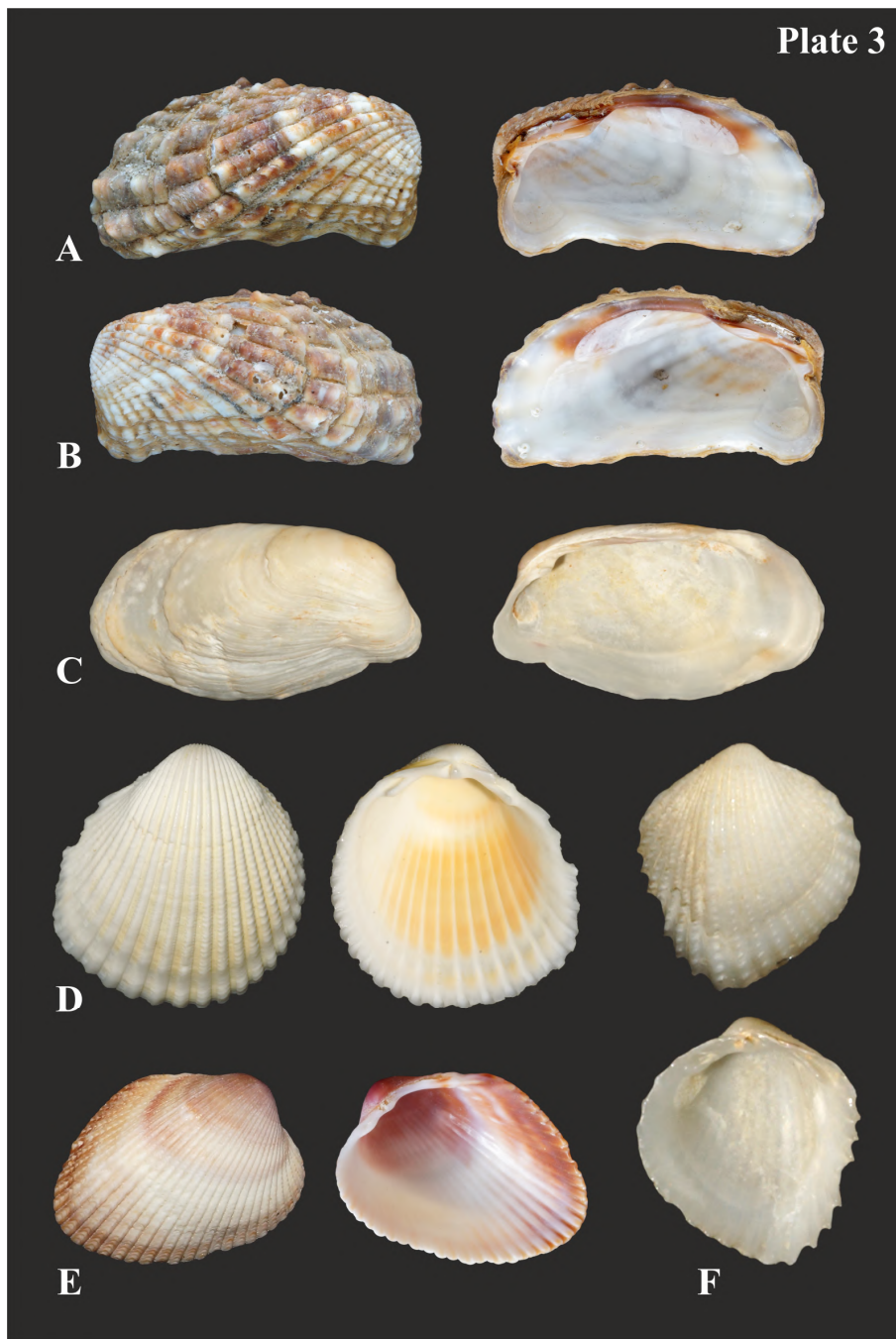


Plate 3. Figs. A, B *Cardita leana* Dunker, 1860: Jeju, Yeongmeori, ZMFU no. 45415/Bv-6114, shell length 25.7 mm; **Fig. C** *Trapezium (Neotrapezium) sublaevigatum* (Lamarck, 1819): Jeju, Jongdal-ri, ZMFU no. 54507/Bv-8944, shell length 27 mm; **Fig. D** *Vasticardium subrugosum* (G.B. Sowerby II, 1839): Jeju, Yeongmeori, ZMFU no. 54499/Bv-8936, shell length 41 mm; **Fig. E** *Afrocardium richardi* (Audouin, 1826): southern coast of Jeju, ZMFU no. 40923/Bv-6020, shell length 11.5 mm; **Fig. F** *Fragum lochooanum* Kira, 1959: Jeju, Yeongmeori, ZMFU no. 54518/Bv-8955, shell length 7 mm.

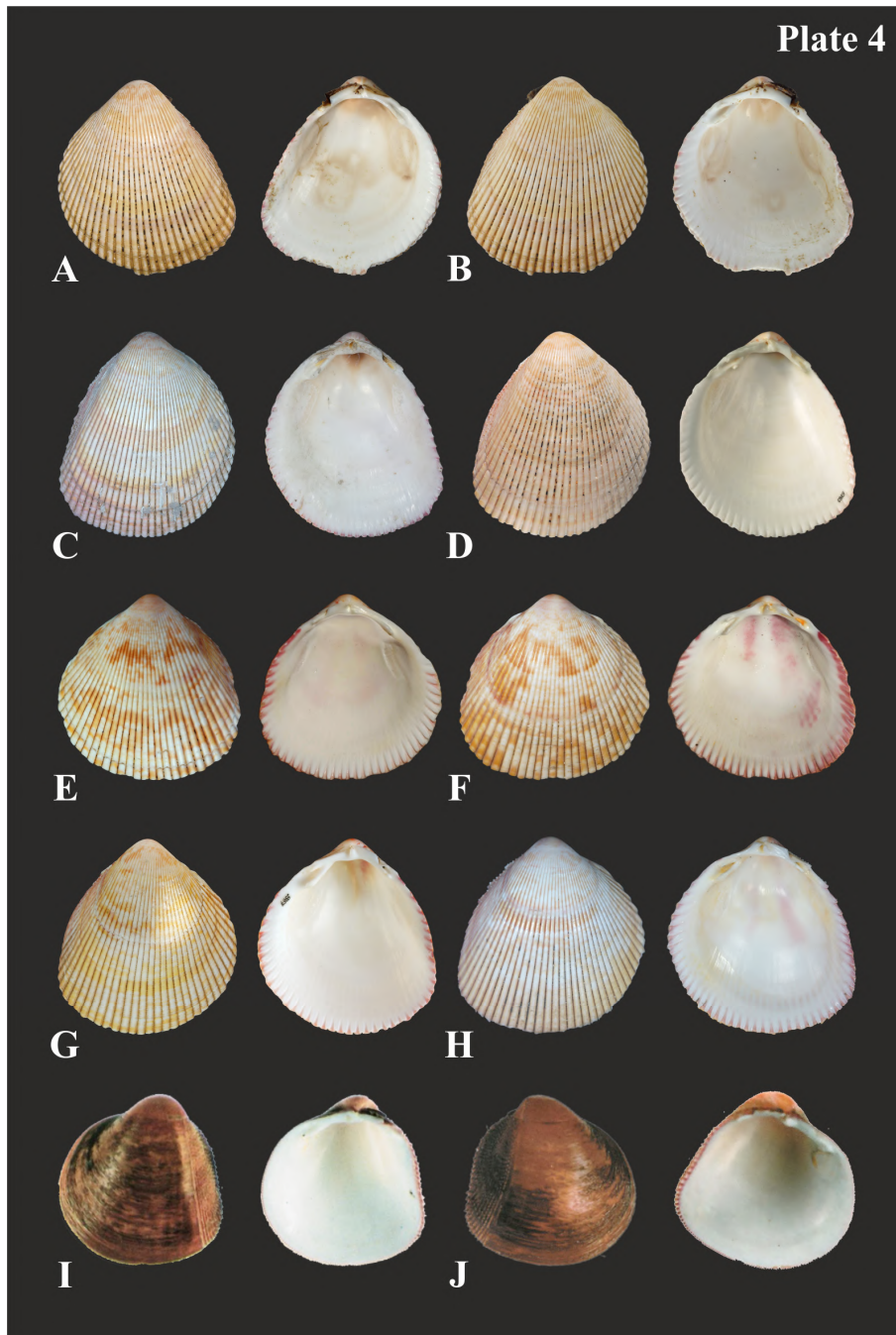


Plate 4. Figs. A, B *Acrosterigma burchardi* (Dunker, 1877): Jeju, Hwasoon, ZMFU no. 40916/Bv-6013, shell length 59.8 mm; **Fig. C** *Acrosterigma burchardi* (Dunker, 1877): Jeju, Jungmun, ZMFU no. 40593/Bv-5989, shell length 63.0 mm; **Fig. D** *Acrosterigma burchardi* (Dunker, 1877): Jeju, JNU collection, shell length 71.1 mm; **Figs. E, F** *Acrosterigma burchardi* (Dunker, 1877): Jeju, Seongsan, ZMFU no. 40918/Bv-6015, shell length 27.5 mm; **Fig. G** *Acrosterigma burchardi* (Dunker, 1877): Jeju, Seongsan, ZMFU no. 40591/Bv-5987, shell length 54.0 mm; **Fig. H** *Acrosterigma burchardi* (Dunker, 1877): Jeju, JNU collection, shell length 48.9 mm; **Fig. I** *Nemocardium australojaponicum* Poorten, 2013: Jeju, Seogwipo, after Choi K.-S. (1996, as *Nemocardium bechi*, p. 7, pl. 1, fig. 7); **Fig. J** *Nemocardium australojaponicum* Poorten, 2013: Jeju, after Choi K.-S. *et al.* (2000, as *Nemocardium bechi*, p. 36, pl. 3, fig. E).

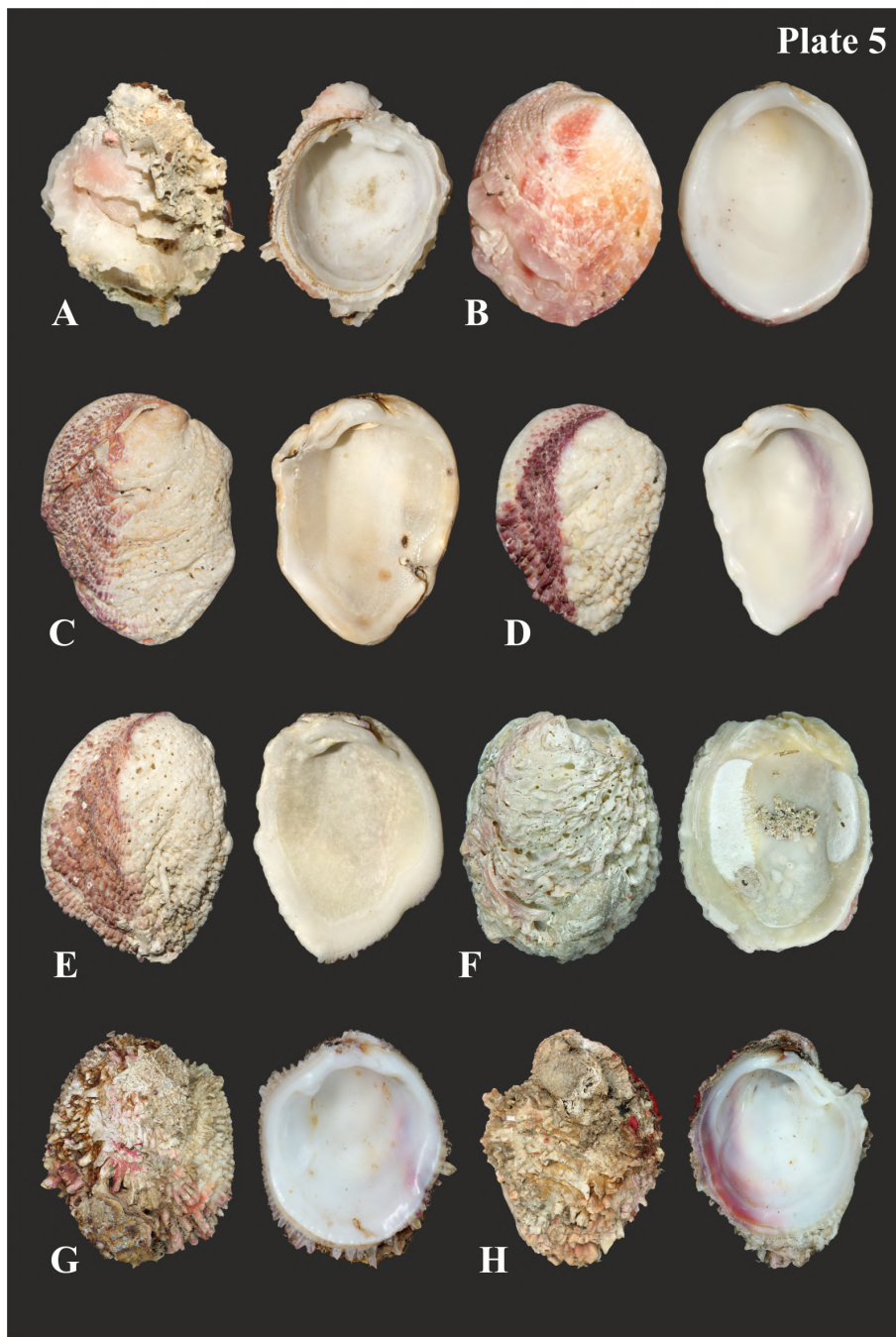


Plate 5. **Fig. A** *Chama cerinorhodon* Hamada et Matsukuma, 2005: northern coast of Jeju (Haemajihae-an-ro/Hangongbuk 1-gil area), ZMFU no. 54500/Bv-8937, shell height 18 mm; **Fig. B** *Chama cerinorhodon* Hamada et Matsukuma, 2005: Jeju, Yeongmeori, ZMFU no. 54510/Bv-8947, shell height 16 mm; **Fig. C** *Chama dunkeri* Lischke, 1870: Jeju, Yeongmeori, ZMFU no. 54513/Bv-8950, shell height 38 mm; **Fig. D** *Chama dunkeri* Lischke, 1870: Jeju, Yeongmeori, ZMFU no. 54513/Bv-8950, shell height 26 mm; **Fig. E** *Chama dunkeri* Lischke, 1870: Jeju, Seongsan, ZMFU no. 54501/Bv-8938, shell height 30 mm; **Fig. F** *Amphichama* cf. *argentata* (Kuroda et Habe in Habe, 1958): Jeju, Geumneung, MABIK no. MO00169233, shell height 46 mm; **Figs. G, H** *Chama asperella* Lamarck, 1819: Jeju, JNU collection, shell height 73.3 mm.

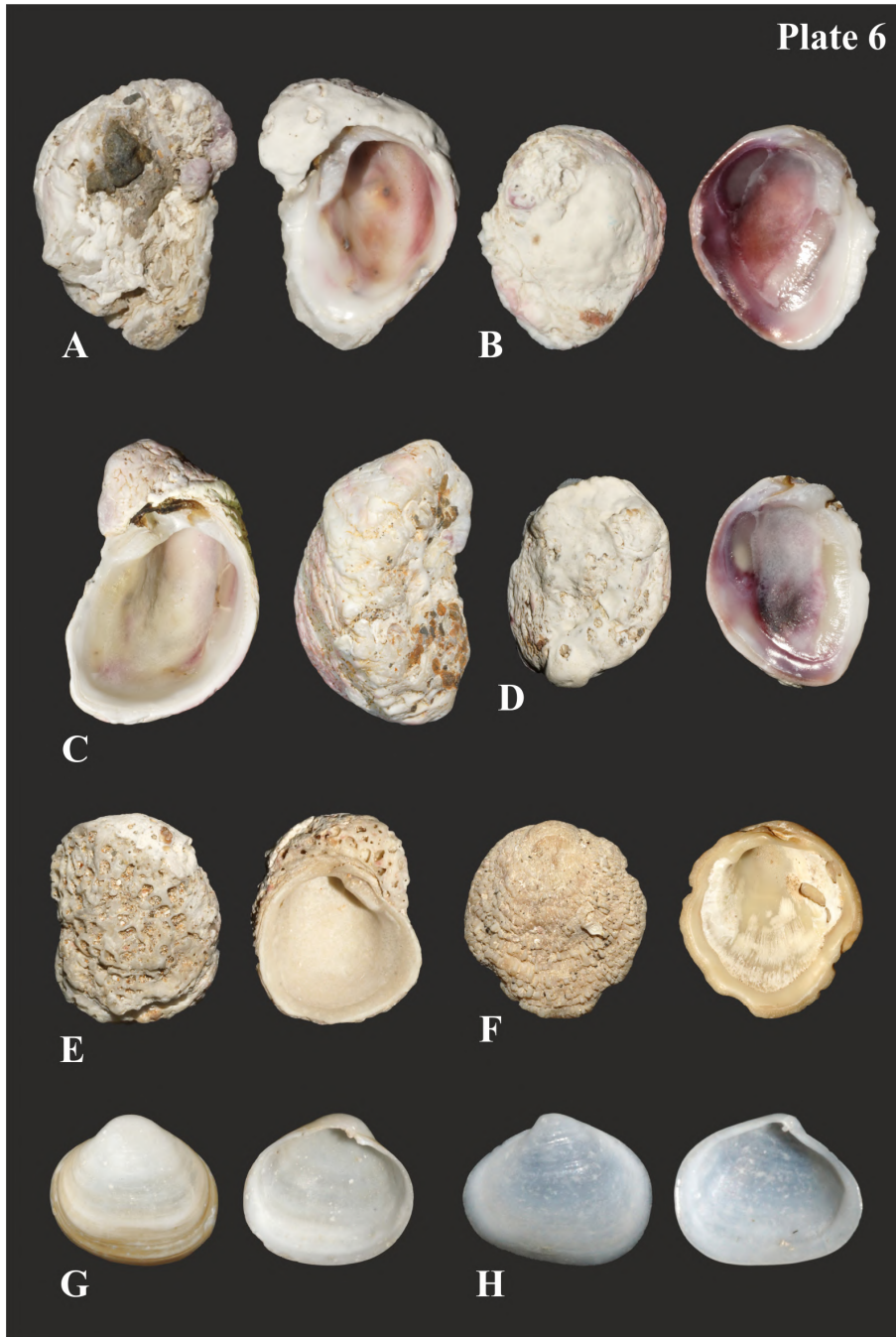


Plate 6, Figs. A, B *Pseudochama retroversa* (Lischke, 1870): Jeju, Yerae, ZMFU no. 54512/Bv-8949, shell height 23 mm; **Figs. C, D** *Pseudochama retroversa* (Lischke, 1870): Jeju, Yeongmeori, ZMFU no. 54511/Bv-8948, shell height 36 mm; **Fig. E** *Chama limbula* Lamarck, 1819: Jeju, Shinyang, ZMFU no. 54509/Bv-8946, shell height 24 mm; **Fig. F** *Chama asperella* Lamarck, 1819: Jeju, Seongsan, ZMFU no. 54504/Bv-8941, shell height 34 mm; **Fig. G** *Kellia* cf. *porculus* Pilsbry, 1904: Jeju, Yeongmeori, ZMFU no. 54508/Bv-8945, shell length 13 mm; **Fig. H** *Borniopsis subsinuata* (Lischke, 1871): Jeju, Yeongmeori, ZMFU no. 54521/Bv-8957, shell length 7.5 mm.

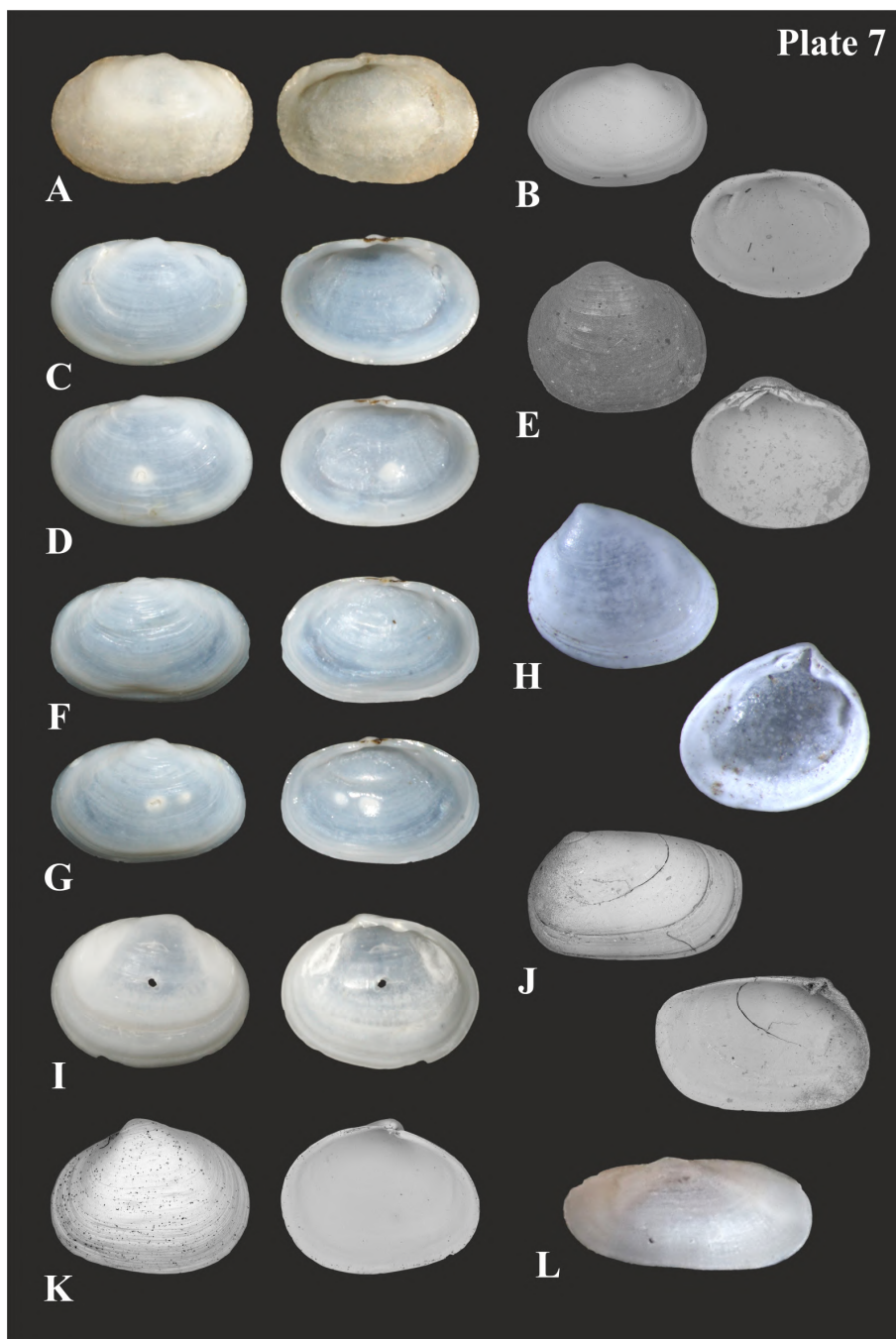


Plate 7. Fig. A *Scintilla* cf. *violescens* Kuroda et Iw. Taki, 1961: Jeju, Sincheon, ZMFU no. 54489/Bv-8926, shell length 6 mm; **Fig. B** *Scintilla* *violescens* Kuroda et Iw. Taki, 1961: Jeju, Gwakji, ZMFU no. 54484/Bv-8921, shell length 6.8 mm (SEM); **Figs. C, D** *Scintilla* cf. *nitidella* Habe, 1962: Jeju, Hamo, ZMFU no. 54496/Bv-8933, shell length 8 mm; **Fig. E** *Lasaea undulata* (Gould, 1861): Jeju, Tongbatarl Lagoon, ZMFU no. 54486/Bv-8923, shell length 1.9 mm (SEM); **Figs. F, G** *Scintilla* cf. *nitidella* Habe, 1962: Jeju, Hamo, ZMFU no. 54496/Bv-8933, shell length 9.7 mm; **Fig. H** *Montacutona japonica* (Yokoyama, 1922): Jeju, Pyoseon, MABIK, shell length 4.6 mm; **Fig. I** *Scintilla* sp.: Jeju, Yeongmeori, ZMFU no. 54494/Bv-8931, shell length 10.0 mm; **Fig. J** *Nipponomysella oblongata* (Yokoyama, 1922): northern coast of Jeju (Haemajihae-an-ro/Hangongbuk 1-gil area), ZMFU no. 54485/Bv-8922, shell length 6.9 mm (SEM); **Fig. K** *Nesobornia bulla* (Gould, 1861): Jeju, Yeongmeori, ZMFU no. 54484/Bv-8920, shell length 5.7 mm (SEM); **Fig. L** *Pseudogaleomma japonica* (A. Adams, 1862): Jeju, Yerae, JNU collection, shell length 12 mm.

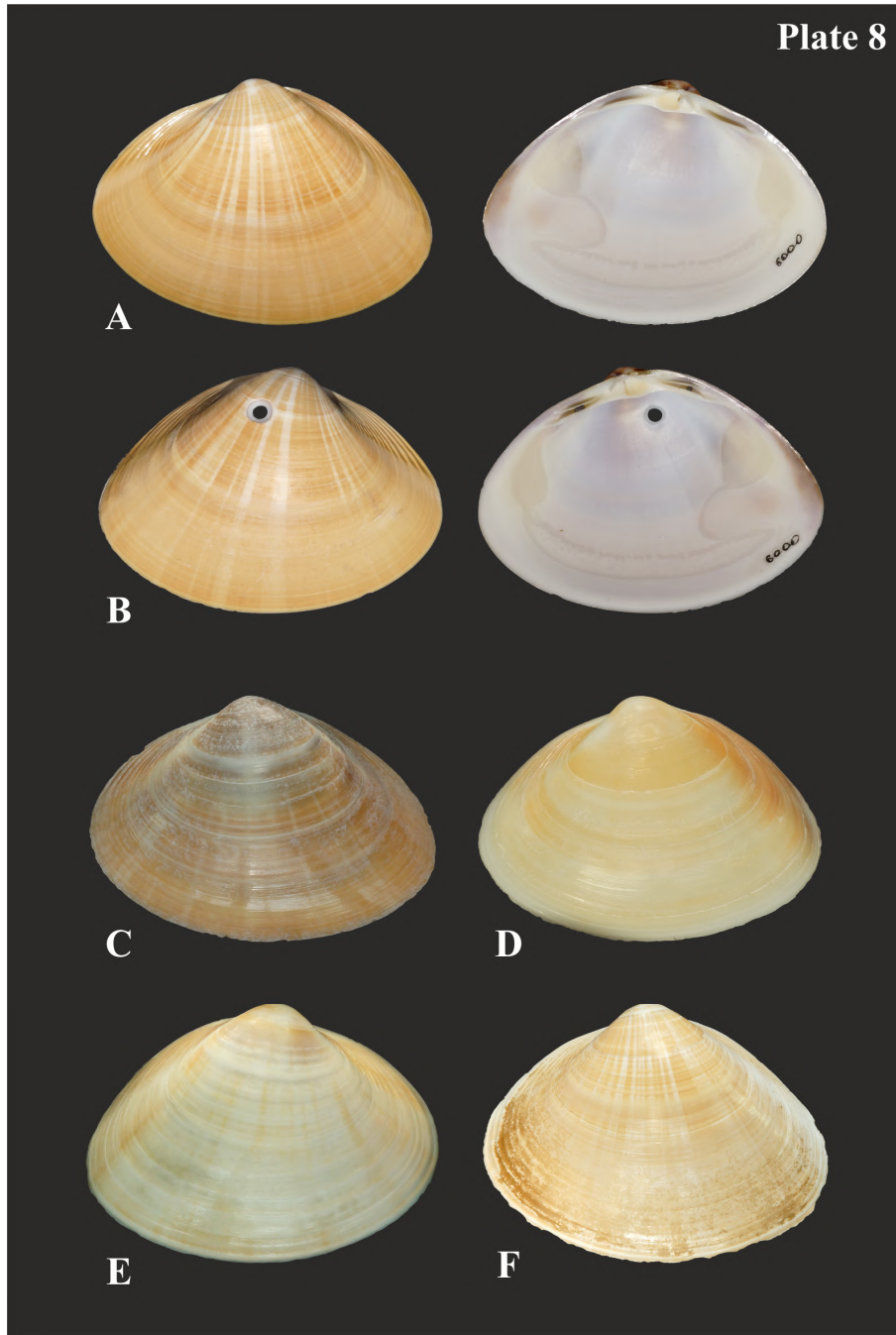


Plate 8. Figs. A, B *Mactra (Mactra) chinensis* Philippi, 1846: Jeju, Yeongmeori, ZMFU no. 40620/Bv-6000, shell length 39.4 mm; **Fig. C** *Mactra (Mactra) chinensis* Philippi, 1846: Jeju, Hwasoon, ZMFU no. 40571/Bv-5967, shell length 66.0 mm; **Fig. D** *Mactra (Mactra) chinensis* Philippi, 1846: Jeju, Hwasoon, ZMFU no. 40571/Bv-5967, shell length 34.2 mm; **Fig. E** *Mactra (Mactra) chinensis* Philippi, 1846: Jeju, Hwasoon, ZMFU no. 40571/Bv-5967, shell length 42.0 mm; **Fig. F** *Mactra (Mactra) chinensis* Philippi, 1846: Jeju, Hwasoon, ZMFU no. 40571/Bv-5967, shell length 49.5 mm.

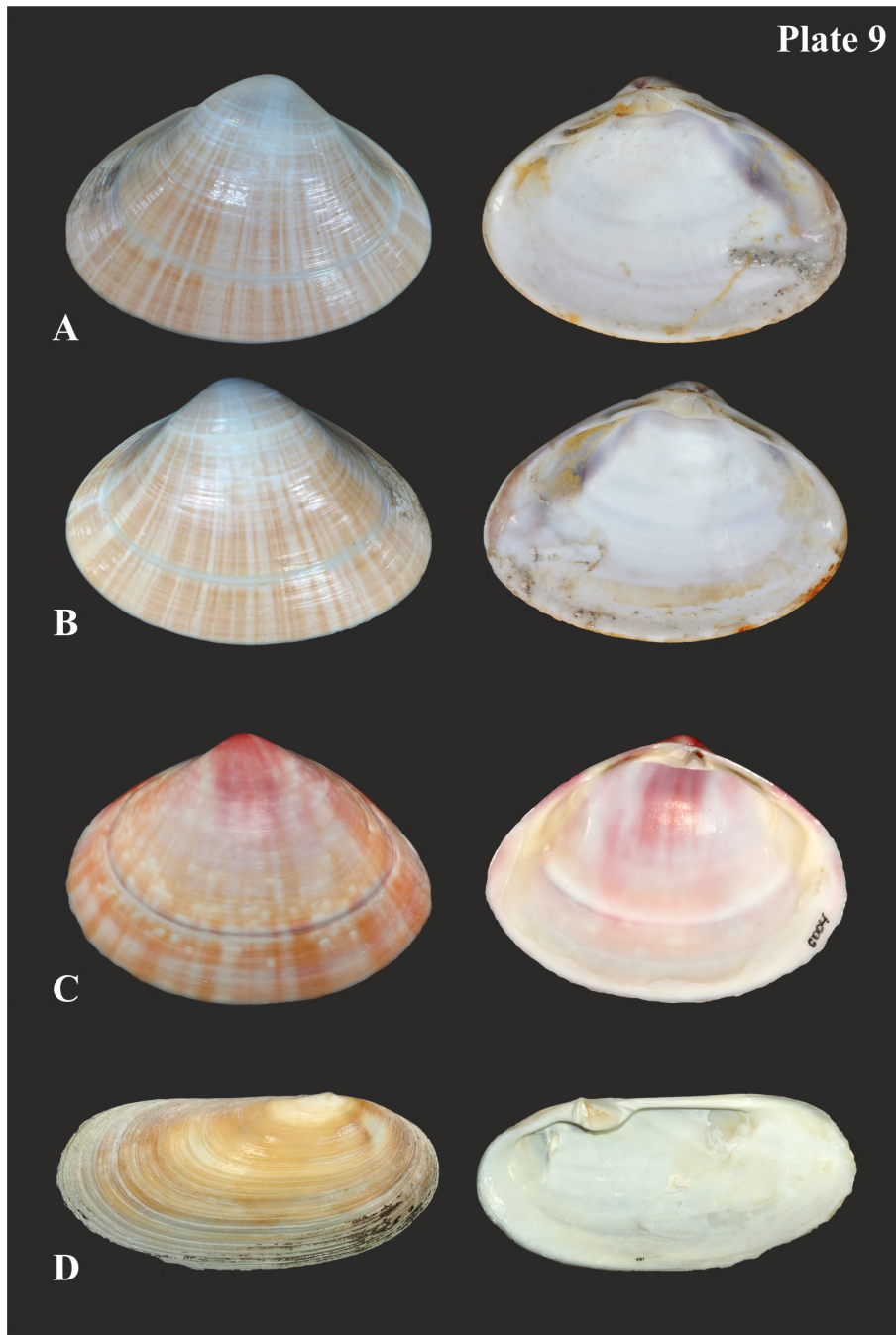


Plate 9. Figs. A, B *Mactra (Mactra) chinensis* Philippi, 1846: Jeju, JNU collection, shell length 43.7 mm; **Fig. C** *Mactra (Mactra) achatina* Holten, 1802: Jeju, Yeongmeori, ZMFU no. 40624/Bv-6004, shell length 41.5 mm; **Fig. D** *Lutraria (Lutraria) maxima* Jonas, 1844: Jeju, ZMFU no. 25159/Bv-4181, shell length 144.6 mm.

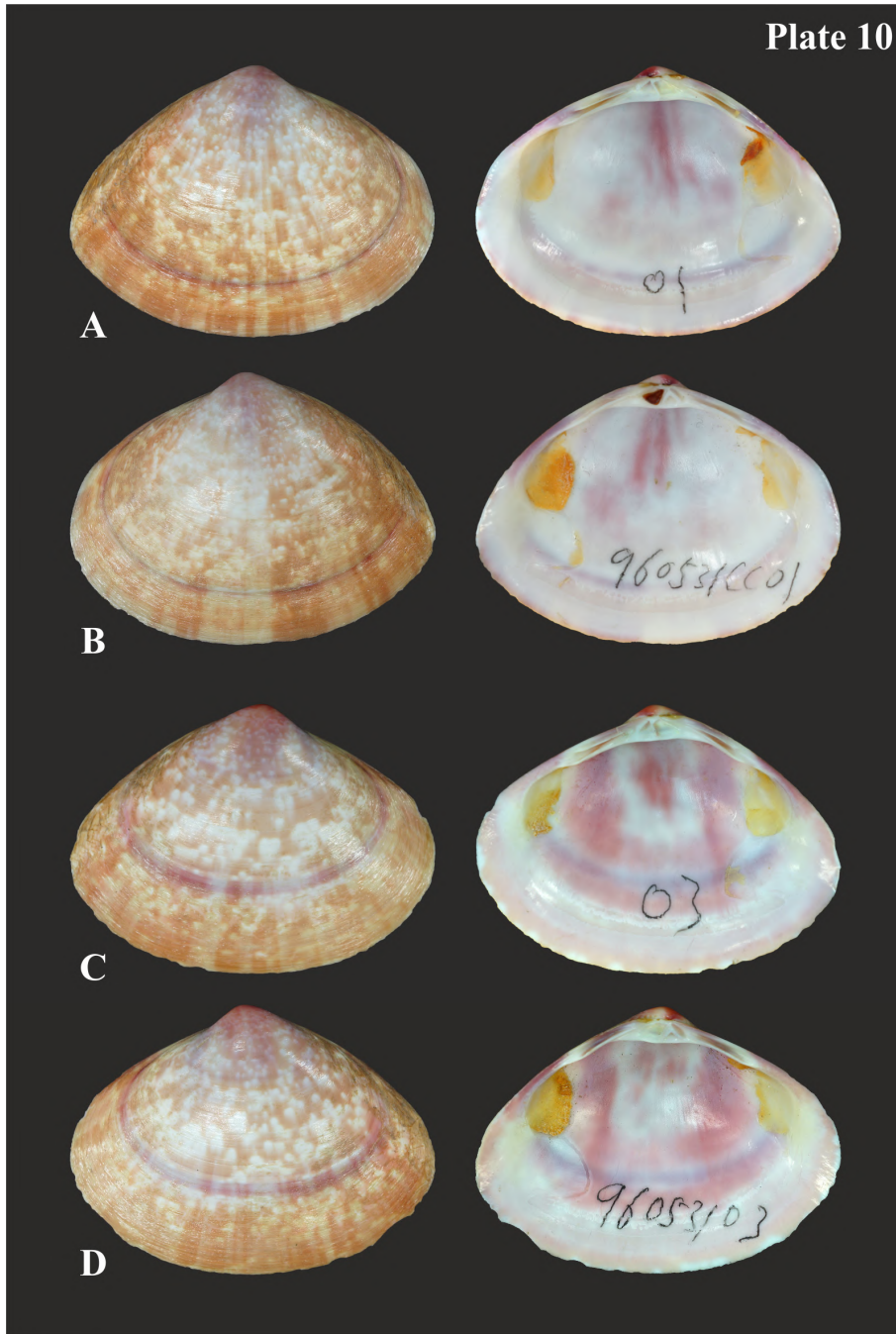


Plate 10. Figs. A, B *Mactra (Mactra) achatina* Holten, 1802: Jeju, JNU collection, shell length 43.0 mm; Figs. C, D *Mactra (Mactra) achatina* Holten, 1802: Jeju, JNU collection, shell length 42.5 mm.

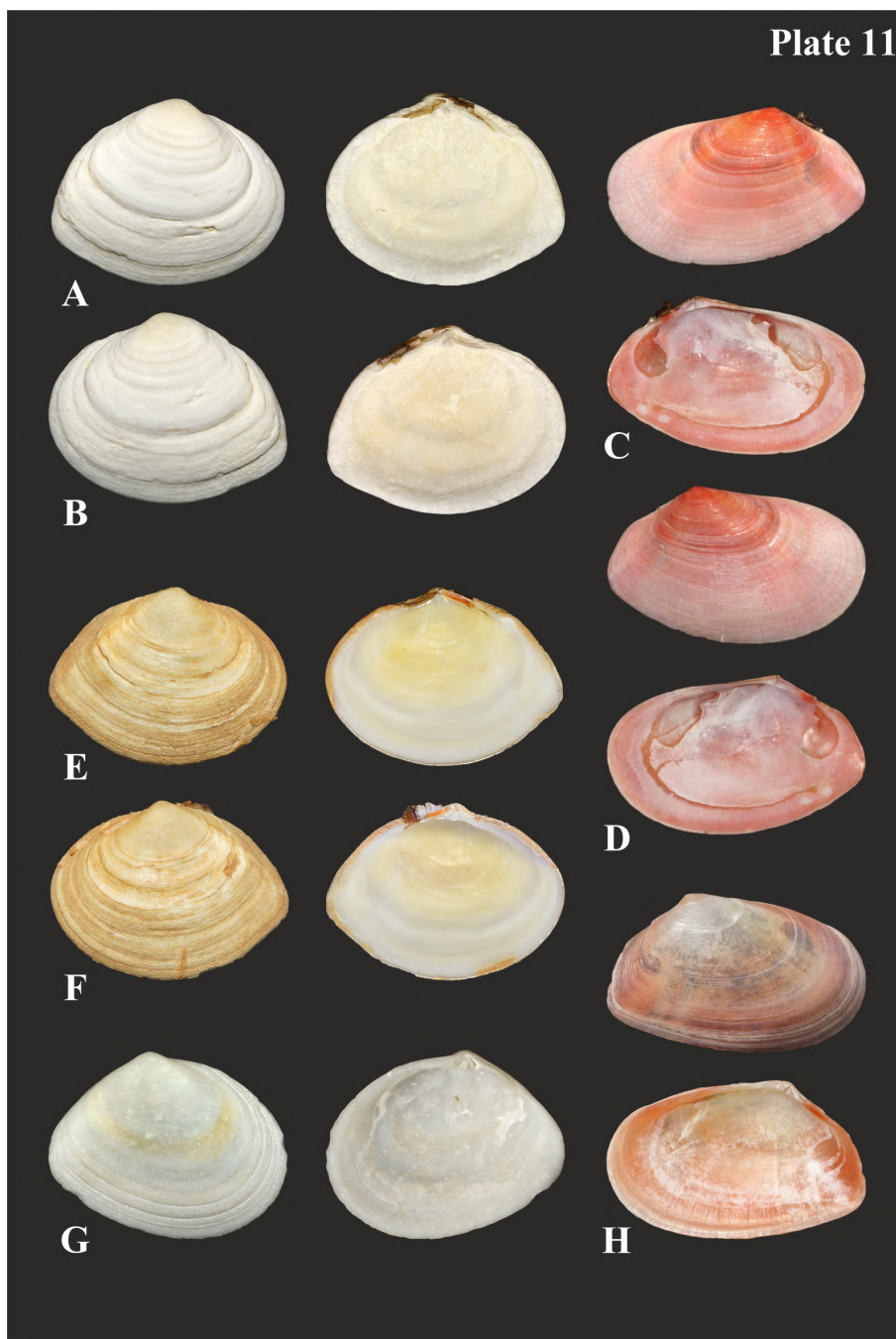


Plate 11. Figs. A, B. *Heteromacoma irus* (Hanley, 1845): Jeju, Hamo, ZMFU no. 39188/Bv-5944, shell length 26.7 mm; **Figs. C, D** *Nitidotellina valtonis* (Hanley, 1844): Jeju, Yeongmeori, ZMFU no. 54506/Bv-8946, shell length 18 mm; **Figs. E, F** *Heteromacoma irus* (Hanley, 1845): Jeju, Hamo, ZMFU no. 39188/Bv-5944, shell length 17.8 mm; **Fig. G** *Macoma (Macoma) incongrua* (Martens, 1865): Jeju, Jongdal-ri, ZMFU no. 40919/Bv-6016, shell length 21.2 mm; **Fig. H** *Nitidotellina valtonis* (Hanley, 1844): Jeju, Hado, ZMFU no. 40616/Bv-5996, shell length 14.5 mm.

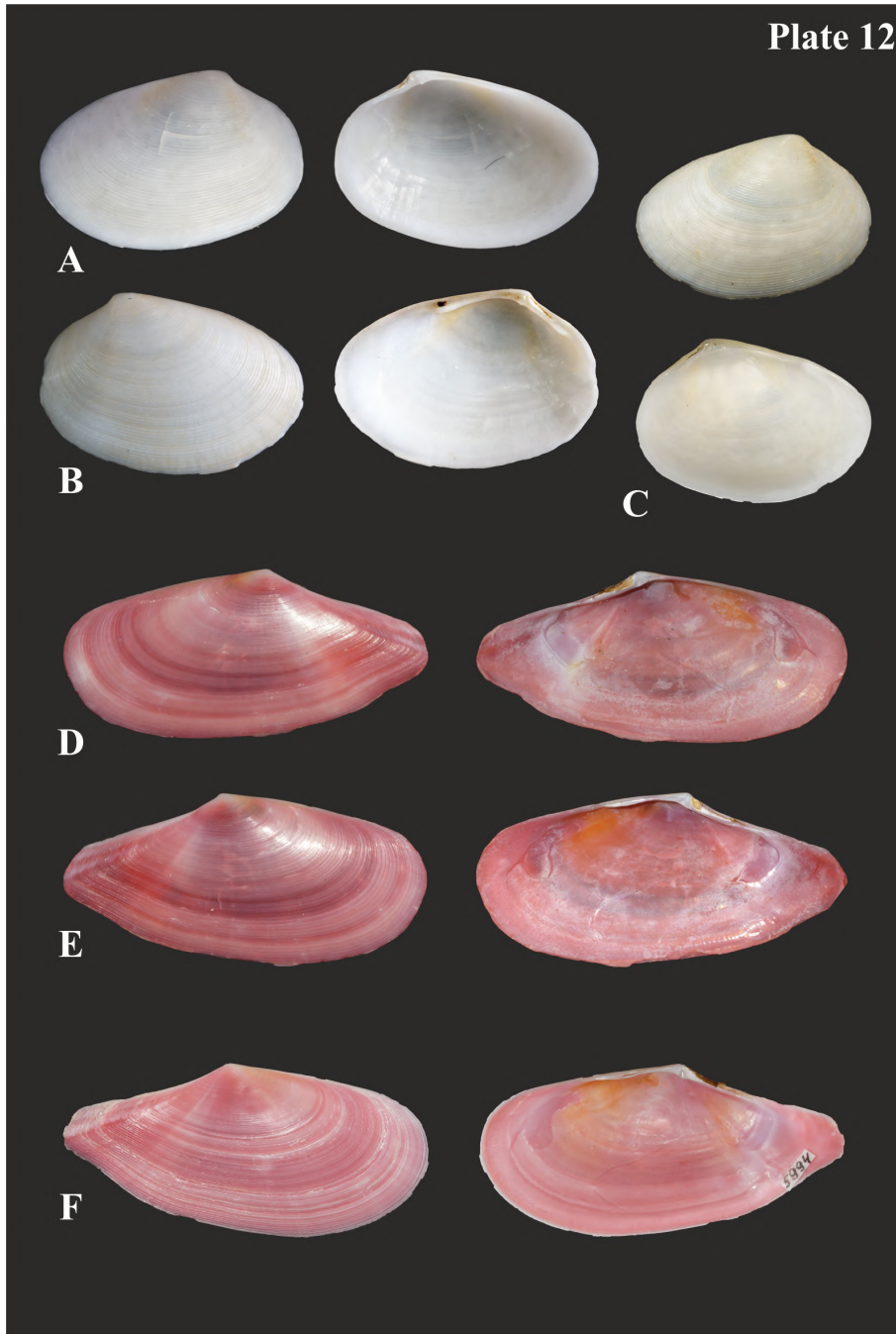


Plate 12. Figs. A, B *Cadella narutoensis* Habe, 1960: Jeju, Yeongmeori, ZMFU no. 40618/Bv-5998, shell length 11.1 mm; **Fig. C** *Cadella narutoensis* Habe, 1960: Jeju, Hwasoon, ZMFU no. 39086/Bv-5941, shell length 12.2 mm; **Figs. D, E** *Pharaonella sieboldii* (Deshayes, 1855): Jeju, Jongdal-ri, ZMFU no. 54492/Bv-8929, shell length 40 mm; **Fig. F** *Pharaonella sieboldii* (Deshayes, 1855): Jeju, Hado, ZMFU no. 40614/Bv-5994, shell length 43.8 mm.

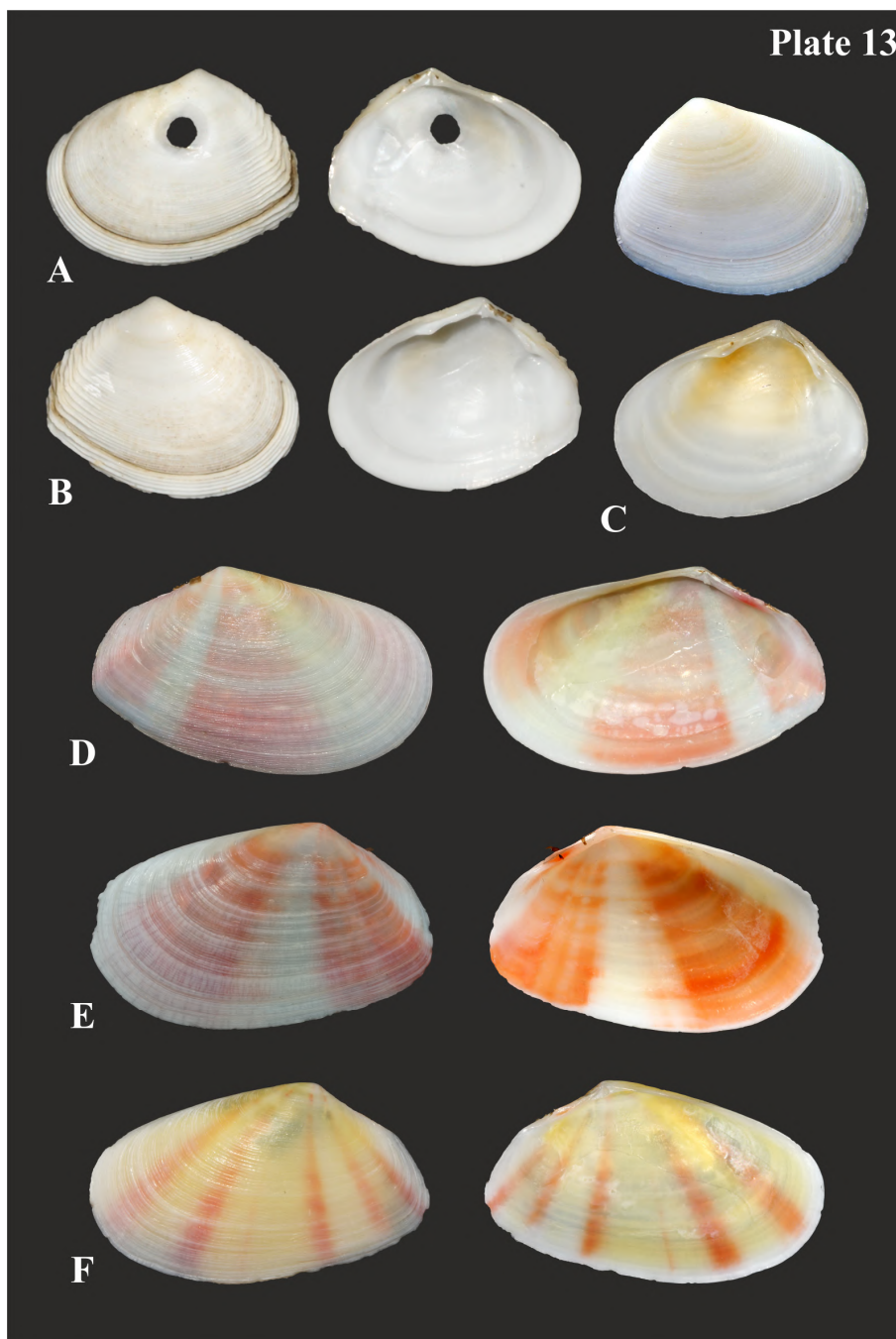


Plate 13. Figs. A, B *Pristipagia ojiensis* (Tokunaga, 1906): Jeju, Yeongmeori, ZMFU no. 54495/Bv-8932, shell length 13 mm; **Fig. C** *Pristipagia ojiensis* (Tokunaga, 1906): Jeju, Yeongmeori, ZMFU no. 40617/Bv-5997, shell length 13.5 mm; **Fig. D** *Jactellina clathrata* (Deshayes, 1835): northern coast of Jeju (Haemajihae-an-ro/Hangongbuk 1-gil area), ZMFU no. 40619/ Bv-5999, shell length 19.3 mm; **Fig. E** *Jactellina clathrata* (Deshayes, 1835): Jeju, Yeongmeori, ZMFU no. 40615/Bv-5995, shell length 23.8 mm; **Fig. F** *Jactellina clathrata* (Deshayes, 1835): Jeju, Gwakji, ZMFU no. 39085/Bv-5940, shell length 16.2 mm.

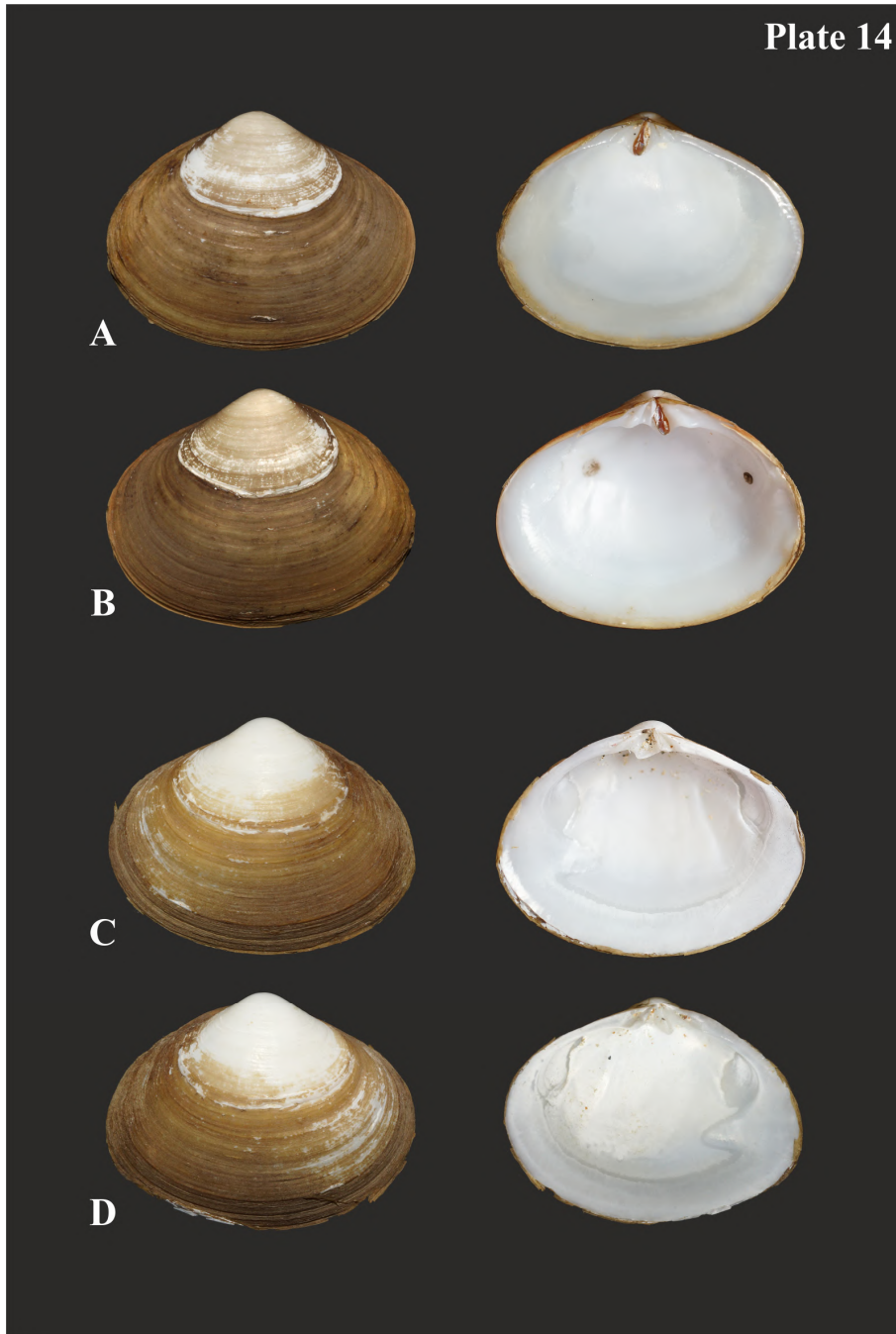


Plate 14. Figs. A, B *Coecella chinensis* Deshayes, 1855: Jeju, Jongdal-ri, ZMFU no. 31186/Bv-5942, shell length 23.3 mm; Figs. C, D *Coecella chinensis* Deshayes, 1855: Jeju, Jongdal-ri, ZMFU no. 31186/Bv-5942, shell length 27.4 mm.

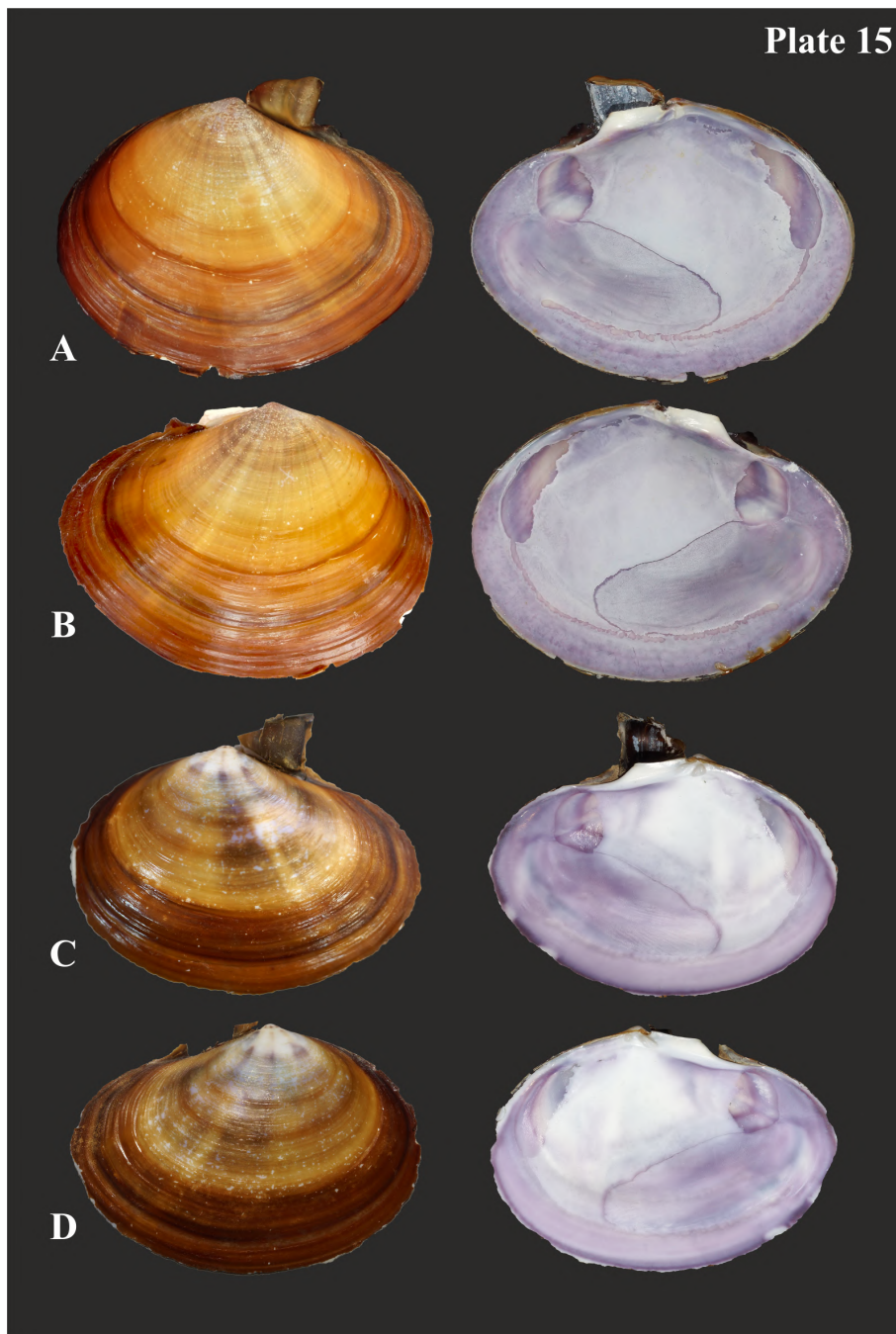


Plate 15. Figs. A, B *Nuttallia japonica* (Reeve, 1857): Jeju, Hwasoon, ZMFU no. 40629/Bv-6009, shell length 48.0 mm; **Figs. C, D** *Nuttallia japonica* (Reeve, 1857): Jeju, Hwasoon, ZMFU no. 39187/Bv-5943, shell length 45.2 mm.

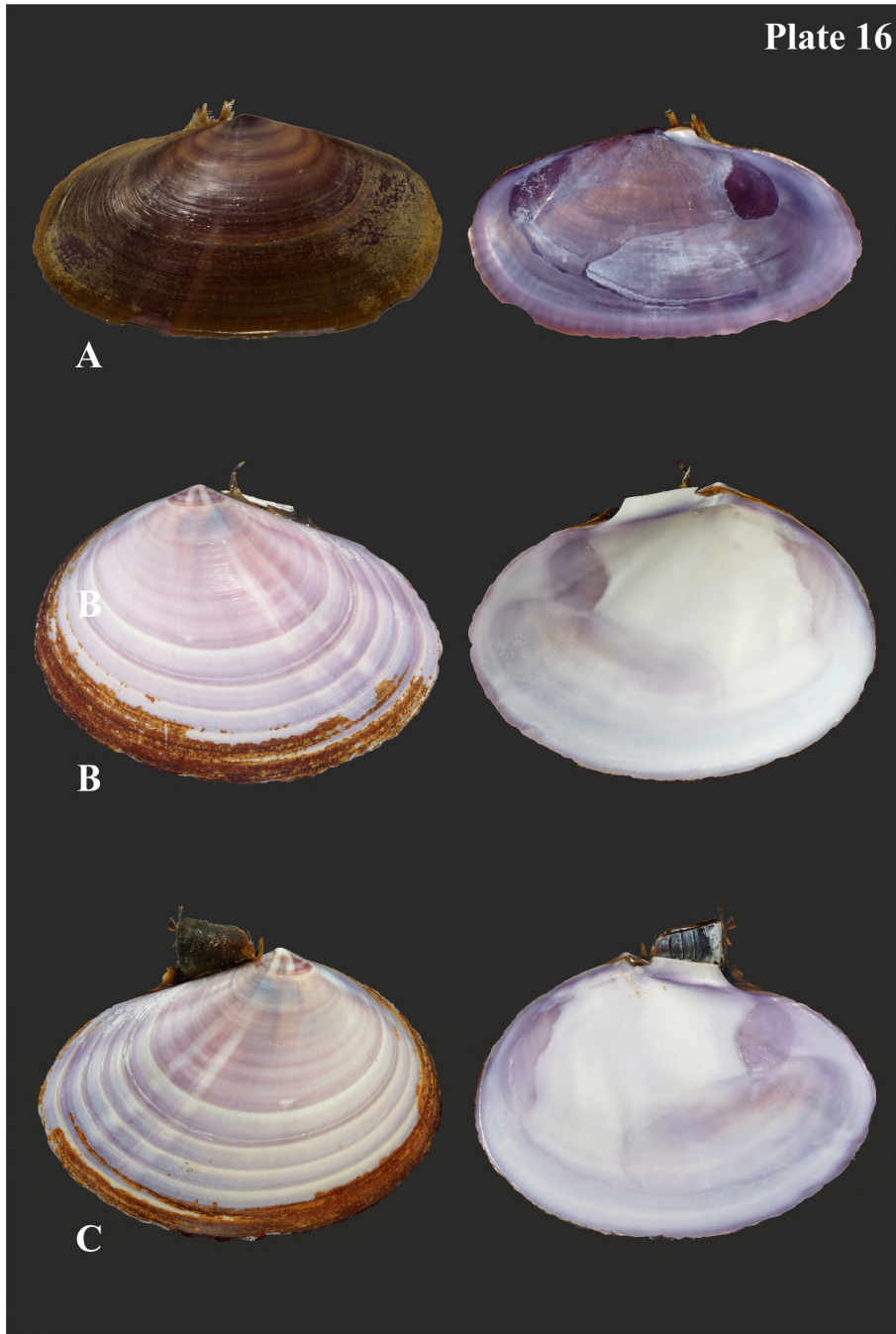


Plate 16, Fig. A *Hiatula atrata* (Reeve, 1857): Jeju, Hwasoon, ZMFU no. 39038/Bv-5939, shell length 47,5 mm; Figs. B, C *Nuttallia ezonis* Kuroda et Habe in Habe, 1955: Jeju, Geumneung, ZMFU no. 40626/Bv-6006, shell length 53,0 mm.

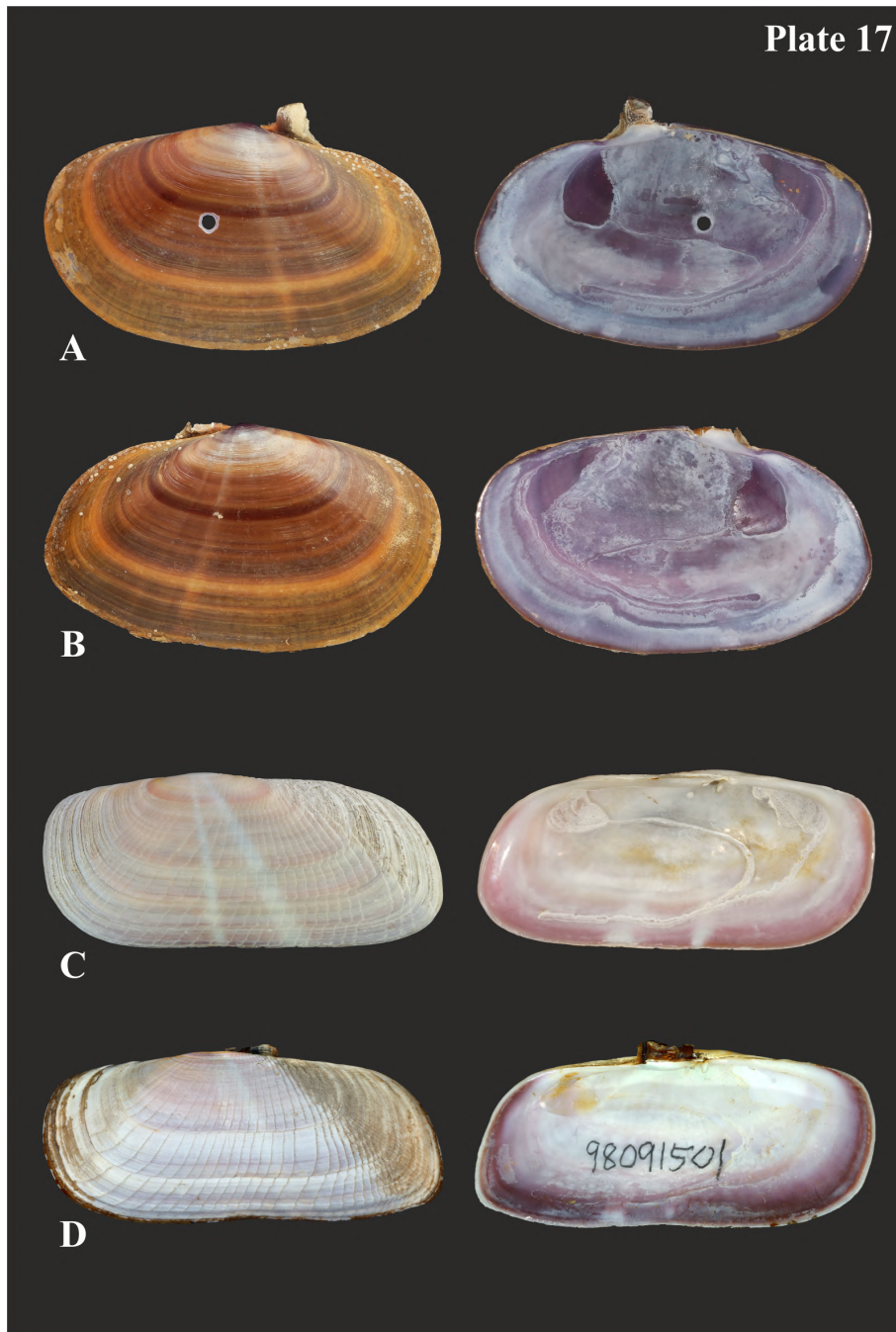


Plate 17. Figs. A, B *Hiatula atrata* (Reeve, 1857): Jeju, Hwasoon, ZMFU no. 40625/Bv-6005, shell length 63.0 mm; **Fig. C** *Solecurtus divaricatus* (Lischke, 1869): Jeju, Pyeoson, ZMFU no. 40621/Bv-6018, shell length 63.4 mm; **Fig. D** *Solecurtus divaricatus* (Lischke, 1869): Jeju, JNU collection, shell length 90.0 mm.

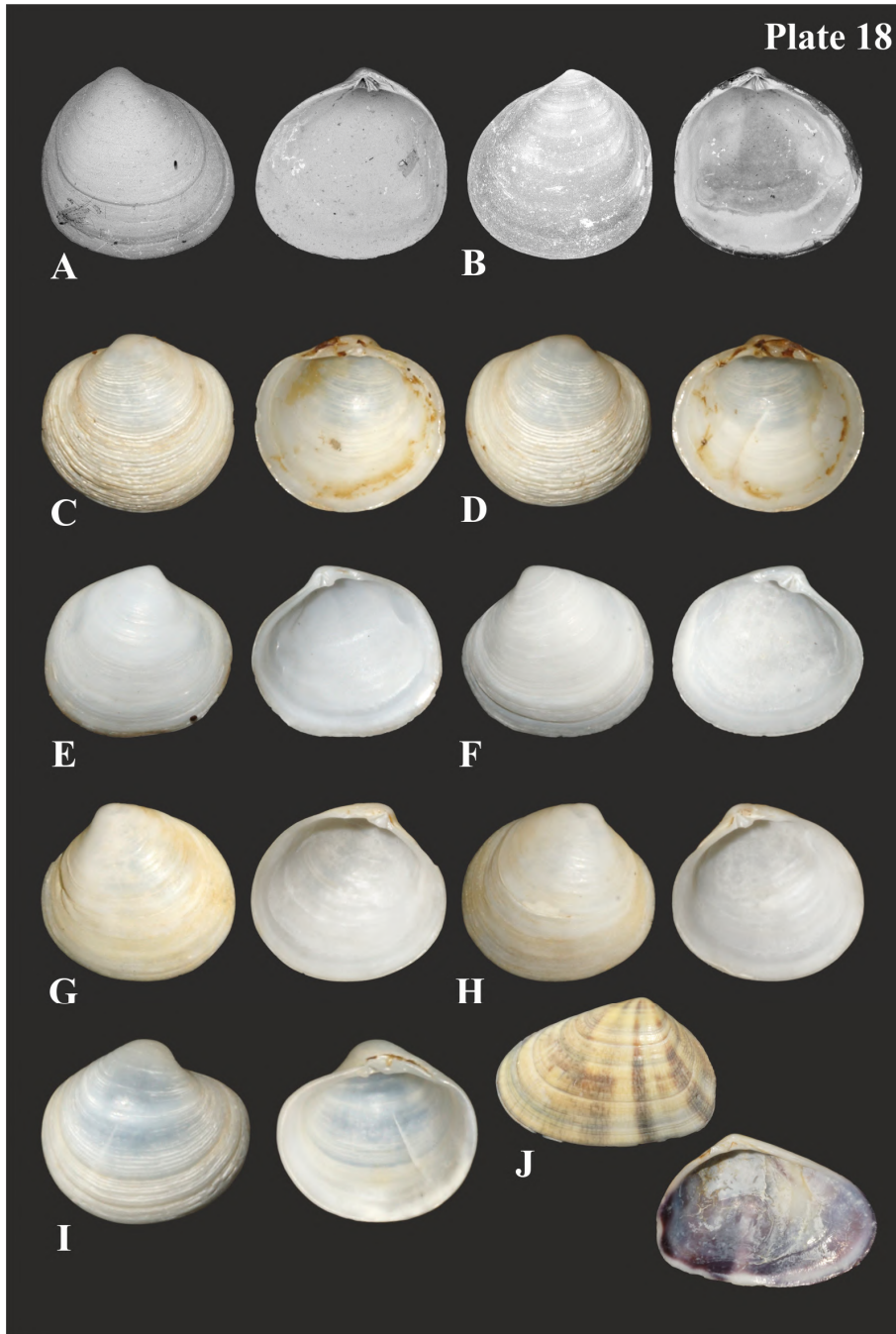


Plate 18. Fig. A *Felaniella sowerbyi* Kuroda et Habe, 1952: northern coast of Jeju (Haemajihae-an-ro/Hangongbuk 1-gil area), ZMFU no. 54482/Bv-8919, shell length 3.8 mm (SEM); **Fig. B** *Felaniella sowerbyi* Kuroda et Habe, 1952: northern coast of Jeju (Haemajihae-an-ro/Hangongbuk 1-gil area), ZMFU no. 54482/Bv-8919, shell length 4.1 mm (SEM); **Figs. C, D** *Phlyctiderma (Phlyctiderma) japonicum* (Pilsbry, 1895): Jeju, Yeongmeori, ZMFU no. 54491/Bv-8928, shell length 10 mm; **Figs. E, F** *Zemysina gouldi* Yokoyama, 1920: northern coast of Jeju (Haemajihae-an-ro/Hangongbuk 1-gil area), ZMFU no. 54488/Bv-8925, shell length 11 mm; **Figs. G, H** *Zemysina gouldi* Yokoyama, 1920: Jeju, Jongdal-ri, ZMFU no. 54497/Bv-8934, shell length 9 mm; **Fig. I** *Phlyctiderma (Phlyctiderma) japonicum* (Pilsbry, 1895): Jeju, Seongsan, ZMFU no. 54490/Bv-8927, shell length 8 mm; **Fig. J** *Donax (Latona) cuneatus* L., 1758: Jeju, Hwasoon, ZMFU no. 54415/Bv-8952, shell length 30 mm.

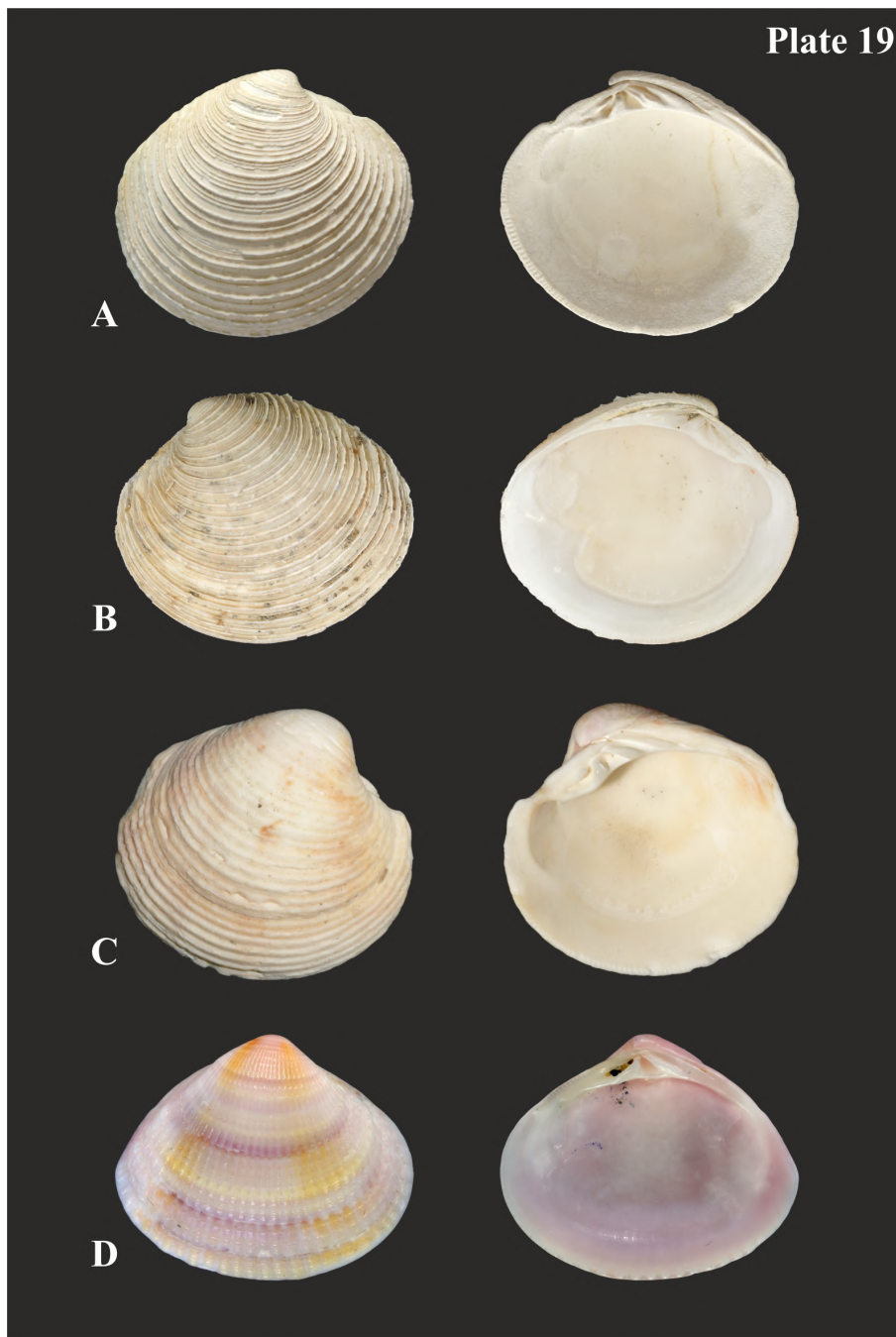


Plate 19, Fig. A *Venus (Ventricoloidea) cassinaeformis* (Yokoyama, 1926): Jeju, Seongsan, ZMFU no. 43427/Bv-6661, shell length 28.8 mm; **Fig. B** *Venus (Ventricoloidea) cassinaeformis* (Yokoyama, 1926): Jeju, JNU collection, shell length 31.3 mm; **Fig. C** *Globivenus toreuma* (Gould, 1850): Jeju, Yerae, ZMFU no. 54505/Bv-8942, shell length 32.0 mm; **Fig. D** *Timoclea marica* (L., 1758): Jeju, Hwasoon, ZMFU no. 43442/Bv-6676, shell length 15.8 mm.

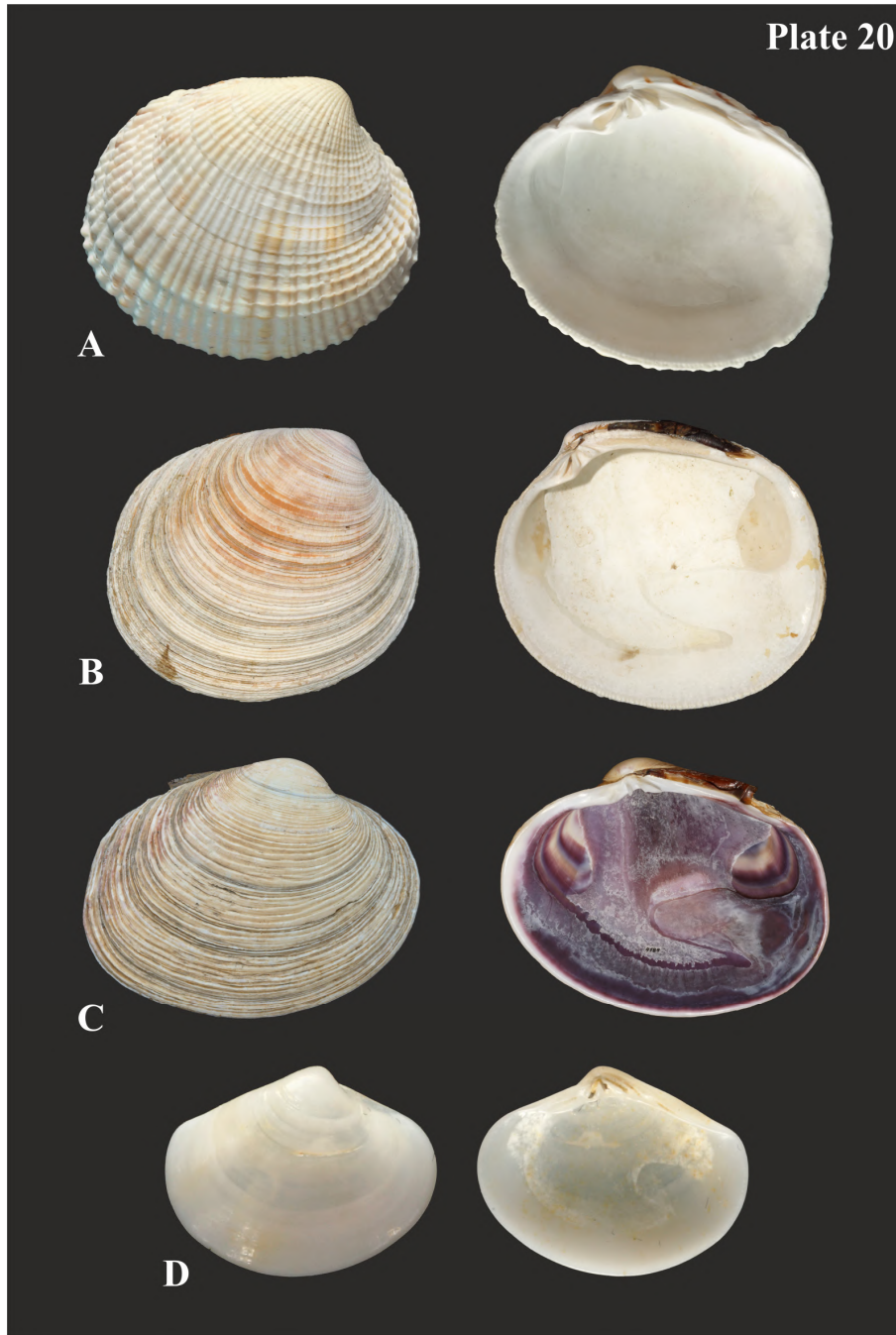


Plate 20. Fig. A *Leukoma jedomensis* (Lischke, 1874): Jeju, Jongdal-ri, ZMFU no. 43428/Bv-6662, shell length 33.3 mm; **Fig. B** *Protocallithaca adamsii* (Reeve, 1863): Jeju, Hagwi, ZMFU no. 54502/Bv-8939, shell length 72 mm; **Fig. C** *Saxidomus purpurata* (G.B. Sowerby II, 1852): Jeju, ZMFU no. 25152/Bv-4184, shell length 65.8 mm; **Fig. D** *Sunetta* (*Sunemeroe*) *kirai* Huber, 2010: Jeju, Jongdal-ri, ZMFU no. 43440/Bv-6674, shell length 10.1 mm.

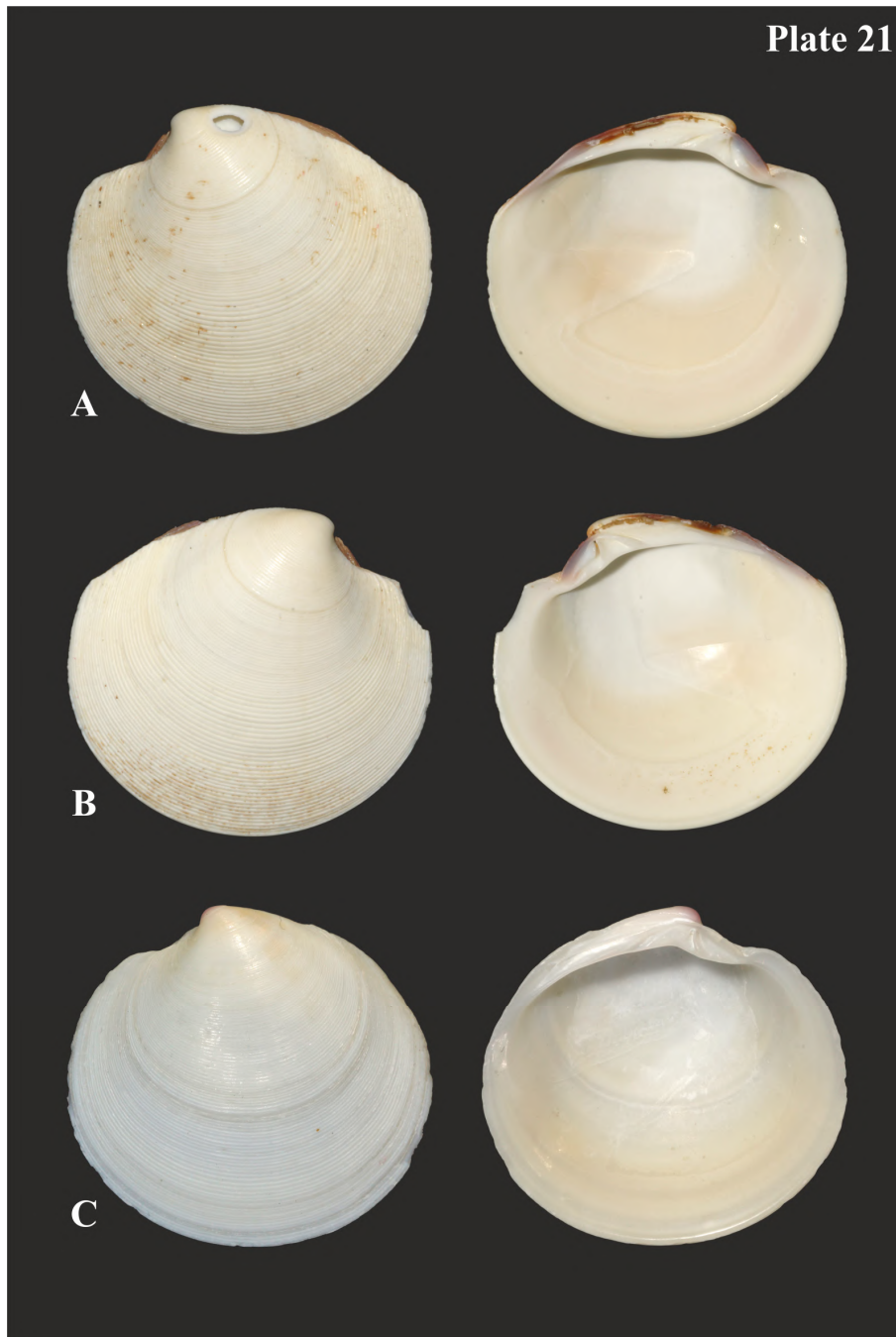


Plate 21. Figs. A, B *Dosinia (Asa) japonica* (Reeve, 1850): Jeju, Hwasoon, ZMFU no. 54514/Bv-8951, shell length 35 mm; **Fig. C** *Dosinia (Dosinella) cf. orbiculata* Dunker, 1877: Jeju, Jungmun, ZMFU no. 43437/Bv-6671, shell length 23.8 mm.

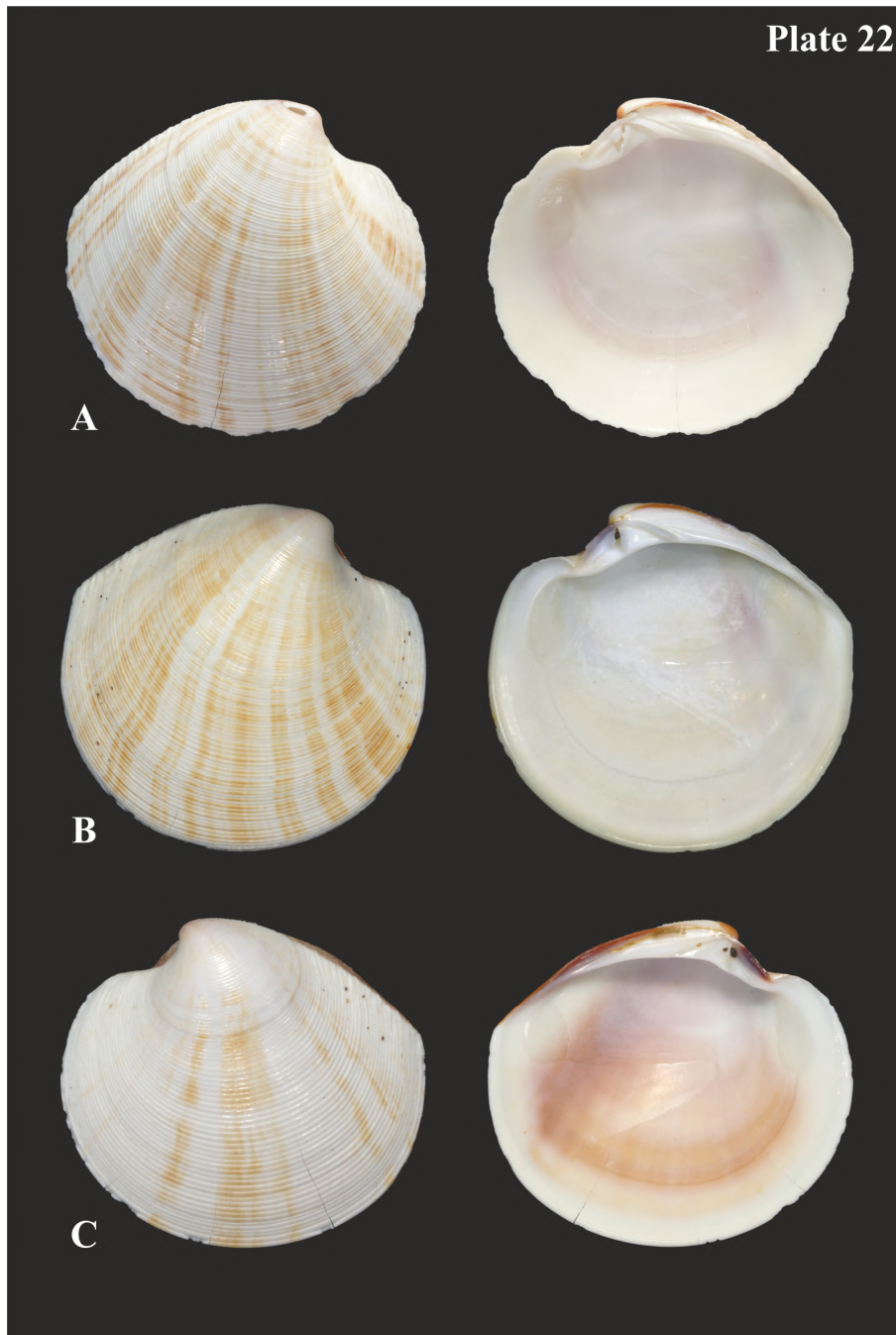


Plate 22. **Fig. A** *Dosinia (Asa) troscheli* Lischke, 1873: Jeju, Gwakji, ZMFU no. 43434/Bv-6668, shell length 42.9 mm; **Fig. B** *Dosinia (Asa) troscheli* Lischke, 1873: Jeju, Hwasoon, ZMFU no. 43435/Bv-6669, shell length 40.9 mm; **Fig. C** *Dosinia (Asa) troscheli* Lischke, 1873: Jeju, Hwasoon, ZMFU no. 43435/Bv-6669, shell length 20.1 mm.

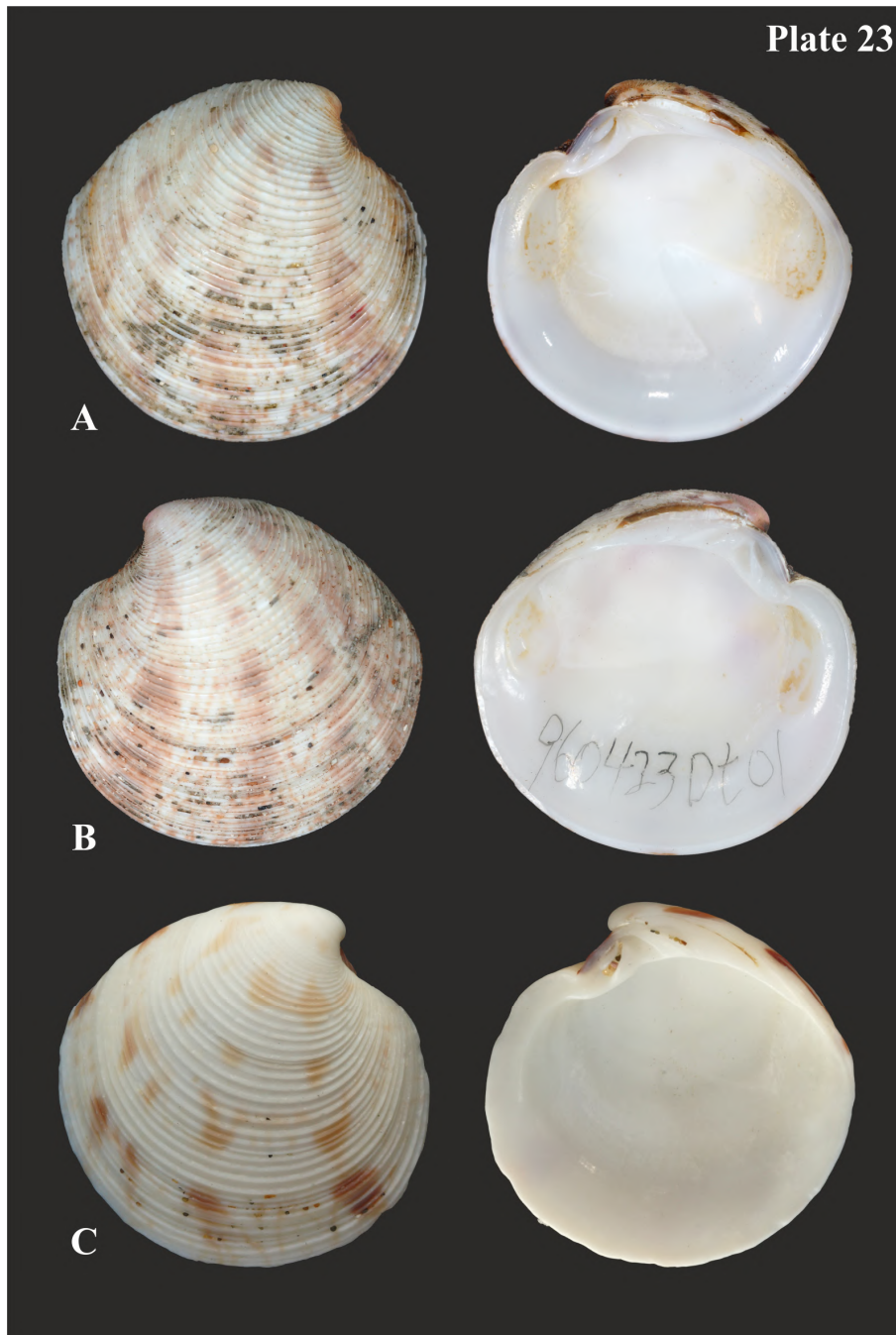


Plate 23. Figs. A, B *Dosinia (Bonartemis) cf. iwakawai* Oyama et Habe in Habe, 1961: Jeju, JNU collection, shell length 26.9 mm; **Fig. C** *Dosinia (Bonartemis) histrio* (Gmelin, 1791): Jeju, Yeongmeori, ZMFU no. 43438/Bv-6672, shell length 19.4 mm.

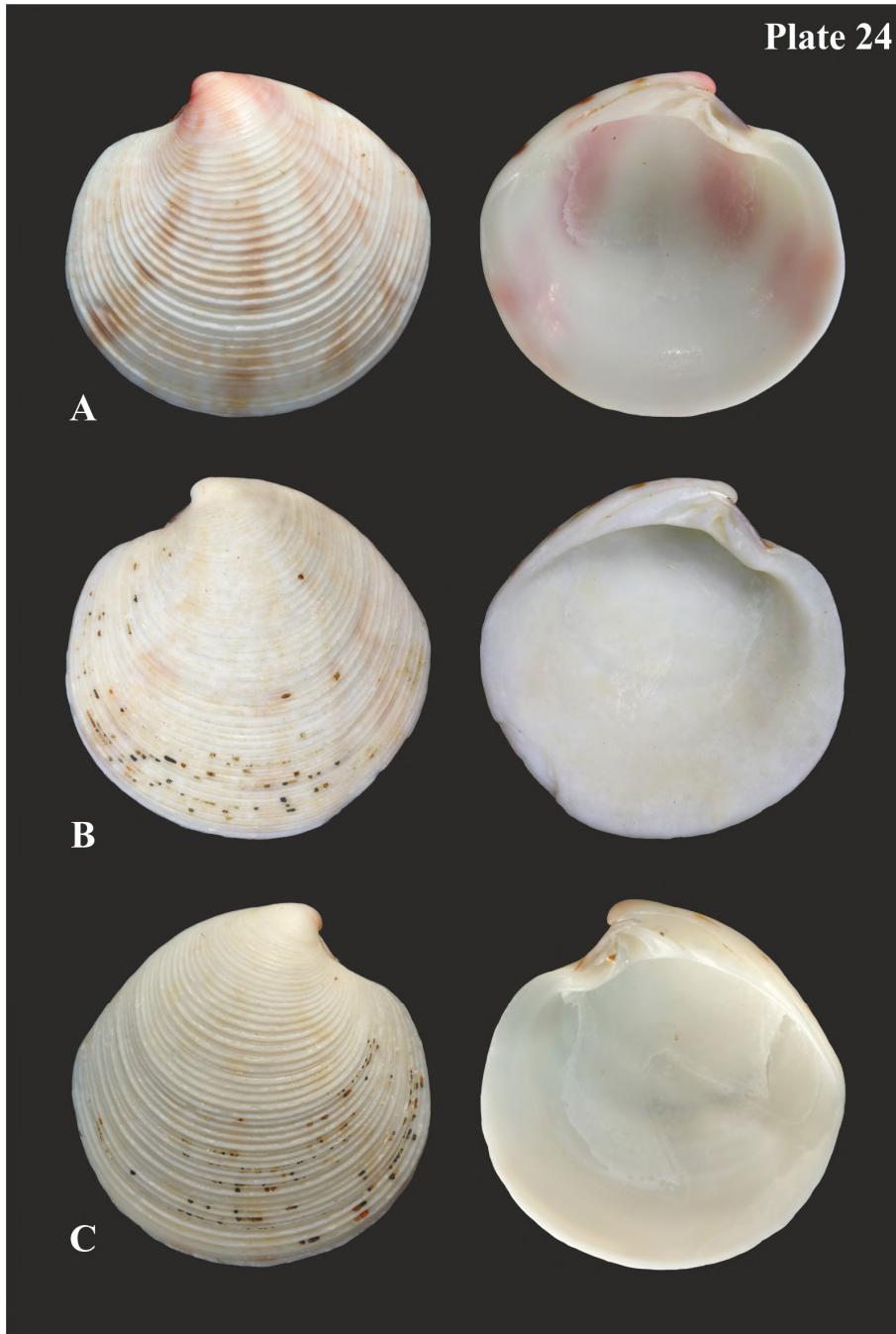


Plate 24. **Fig. A** *Dosinia (Bonartemis) histrio* (Gmelin, 1791): Jeju, Seongsan, ZMFU no. 43431/Bv-6665, shell length 17.4 mm; **Fig. B** *Dosinia (Bonartemis) iwakawai* Oyama et Habe in Habe, 1961: Jeju, Seongsan, ZMFU no. 43431/Bv-6665, shell length 24.4 mm; **Fig. C** *Dosinia (Bonartemis) iwakawai* Oyama et Habe in Habe, 1961: Jeju, Yeongmeori, ZMFU no. 43438/Bv-6672, shell length 20.7 mm.

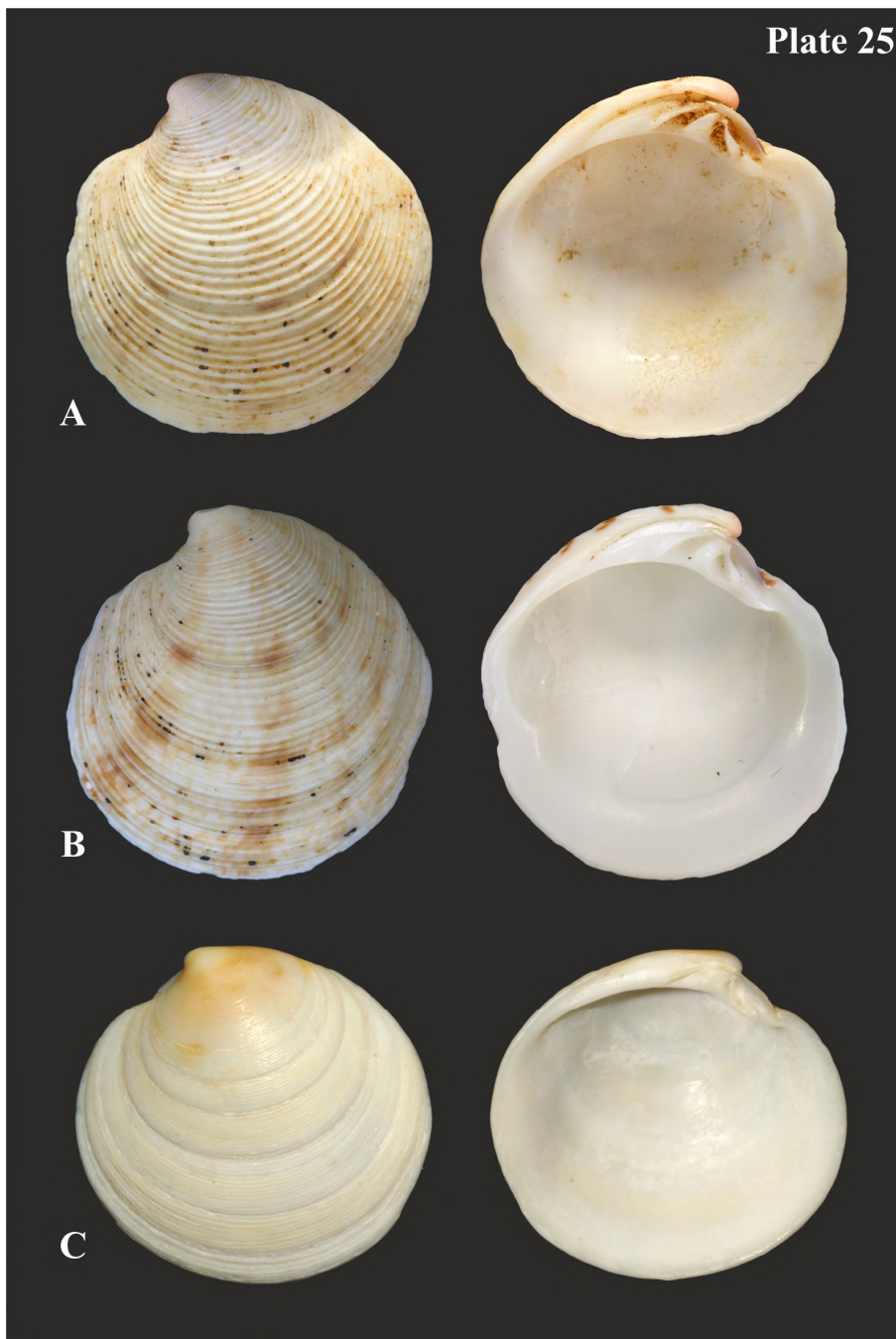


Plate 25. Fig. A *Dosinia (Bonartemis) iwakawai* Oyama et Habe in Habe, 1961: Jeju, Seongsan, ZMFU no. 43436/Bv-6670, shell length 22.3 mm; **Fig. B** *Dosinia (Bonartemis) iwakawai* Oyama et Habe in Habe, 1961: Jeju, Yeongmeori, ZMFU no. 43439/Bv-6673, shell length 20.7 mm; **Fig. C** *Dosinia (Dosinella) cf. orbiculata* Dunker, 1877: Jeju, Sagyei, ZMFU no. 54503/Bv-8940, shell length 26 mm.

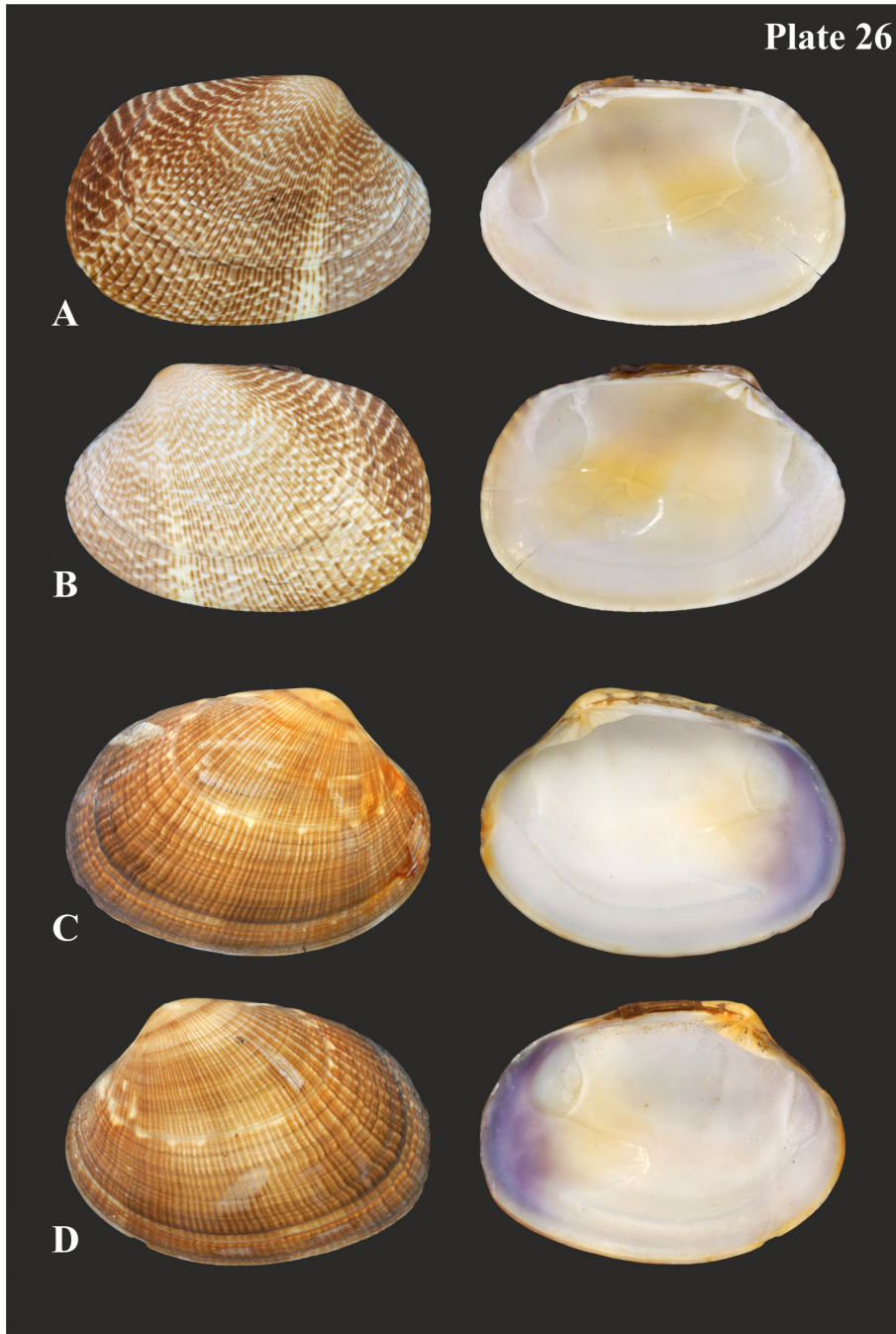


Plate 26. Figs. **A, B** *Venerupis (Ruditapes) philippinarum* (A. Adams et Reeve, 1850): Jeju, Seongsan, ZMFU no. 43425/Bv-6659, shell length 36.9 mm; Figs. **C, D** *Venerupis (Ruditapes) philippinarum* (A. Adams et Reeve, 1850): Jeju, Seongsan, ZMFU no. 43425/Bv-6659, shell length 33.9 mm.

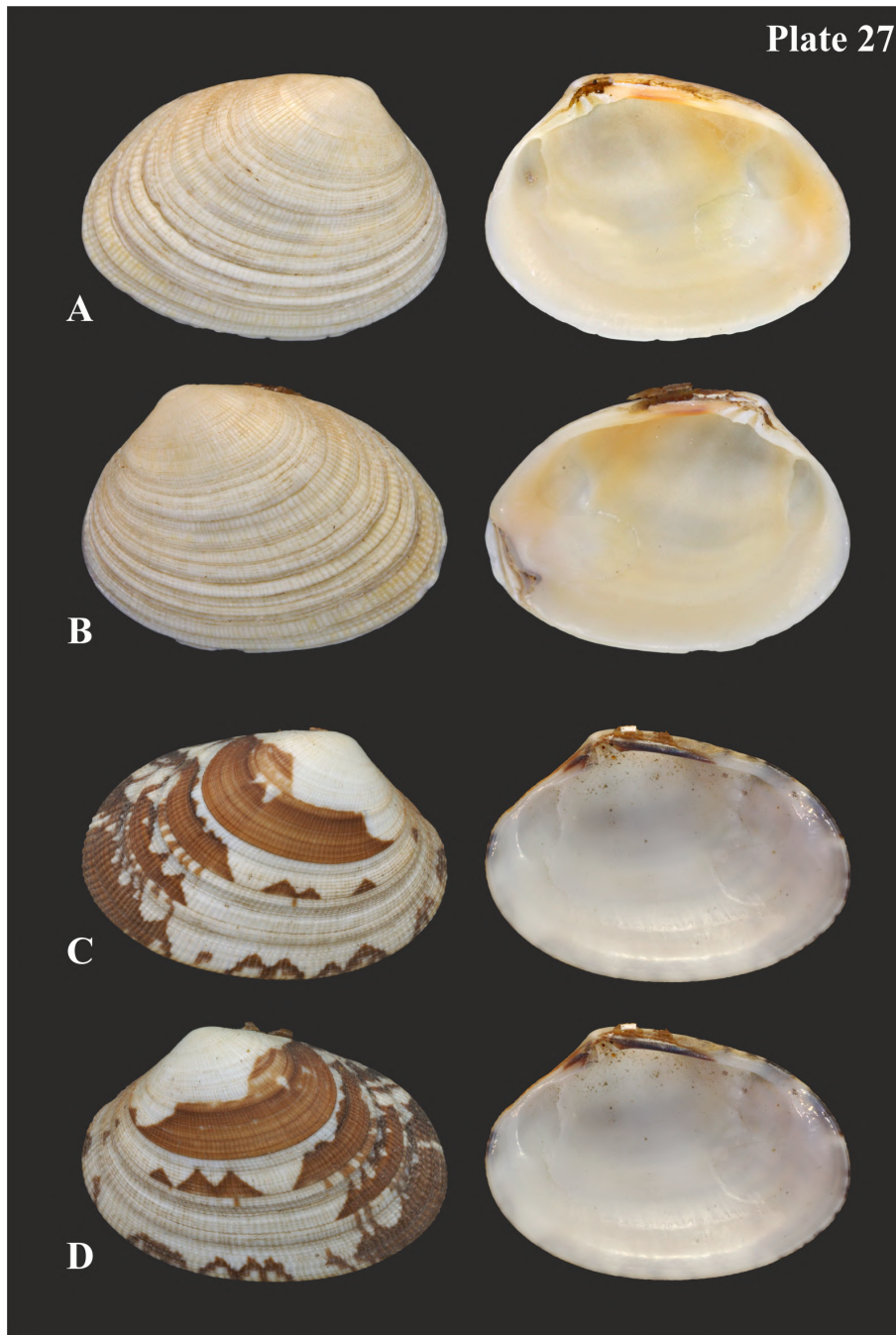


Plate 27. Figs. A, B *Venerupis (Ruditapes) philippinarum* (A. Adams et Reeve, 1850): Jeju, Seongsan, ZMFU no. 43425/Bv-6659, shell length 26,0 mm; **Figs. C, D** *Venerupis (Ruditapes) philippinarum* (A. Adams et Reeve, 1850): Jeju, Pyeoson, ZMFU no. 43424/Bv-6658, shell length 26,2 mm.

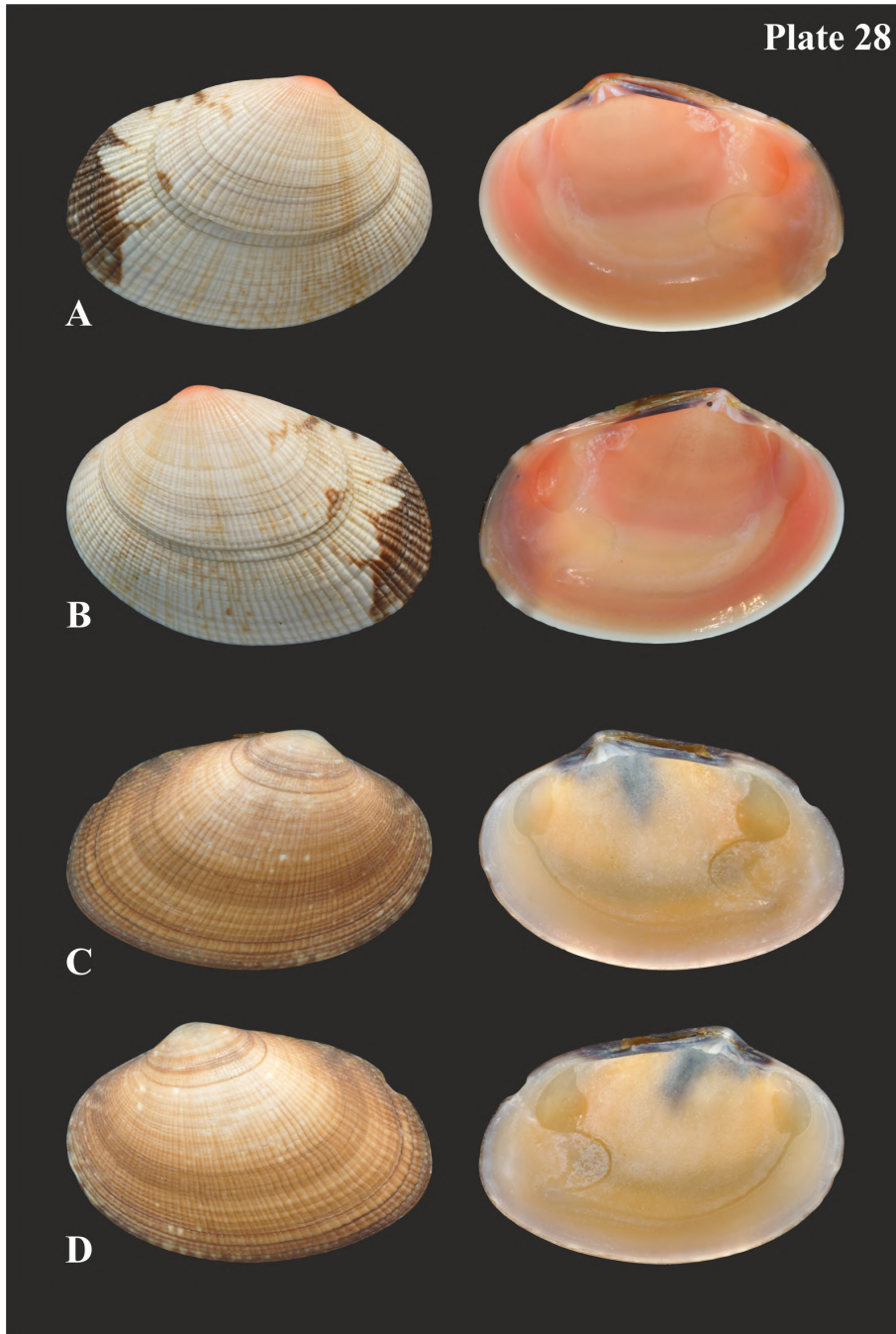


Plate 28. Figs. A, B *Venerupis (Ruditapes) aspera* (Quoy et Gaimard, 1835): Jeju, Seongsan, ZMFU no. 43432/Bv-6666, shell length 23.7 mm; **Figs. C, D** *Venerupis (Ruditapes) aspera* (Quoy et Gaimard, 1835): Jeju, Seongsan, ZMFU no. 43432/Bv-6666, shell length 29.7 mm.

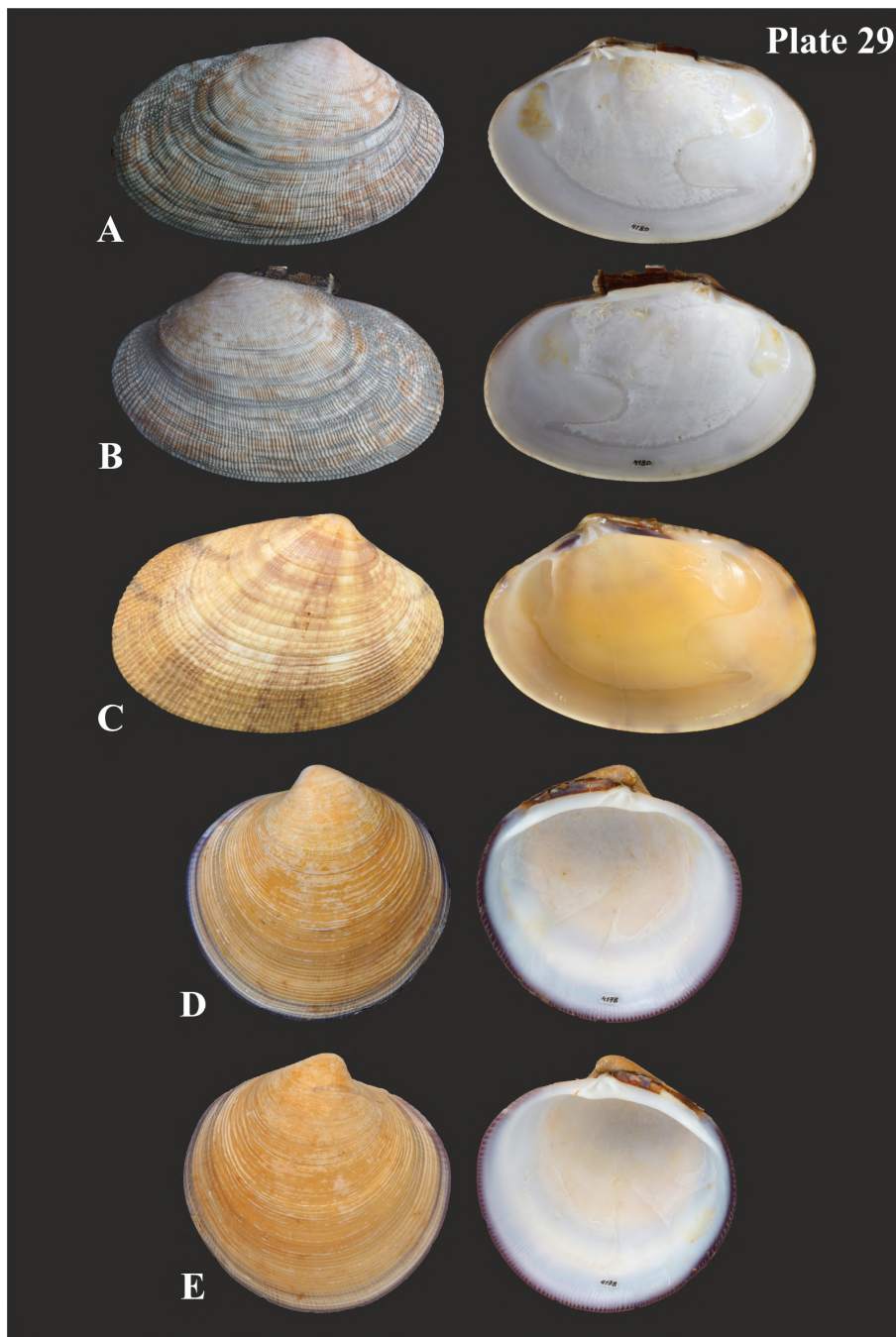


Plate 29, Figs. A, B *Venerupis (Ruditapes) philippinarum* (A. Adams et Reeve, 1850): Jeju, ZMFU no. 25148/Bv-4180, shell length 50.4 mm; **Fig. C** *Venerupis (Ruditapes) aspera* (Quoy et Gaimard, 1835): Jeju, Seongsan, ZMFU no. 43432/Bv-6666, shell length 25.0 mm; **Figs. D, E** *Cyclina sinensis* (Gmelin, 1791): Jeju, ZMFU no. 25146/Bv-4178, shell length 45.8 mm.

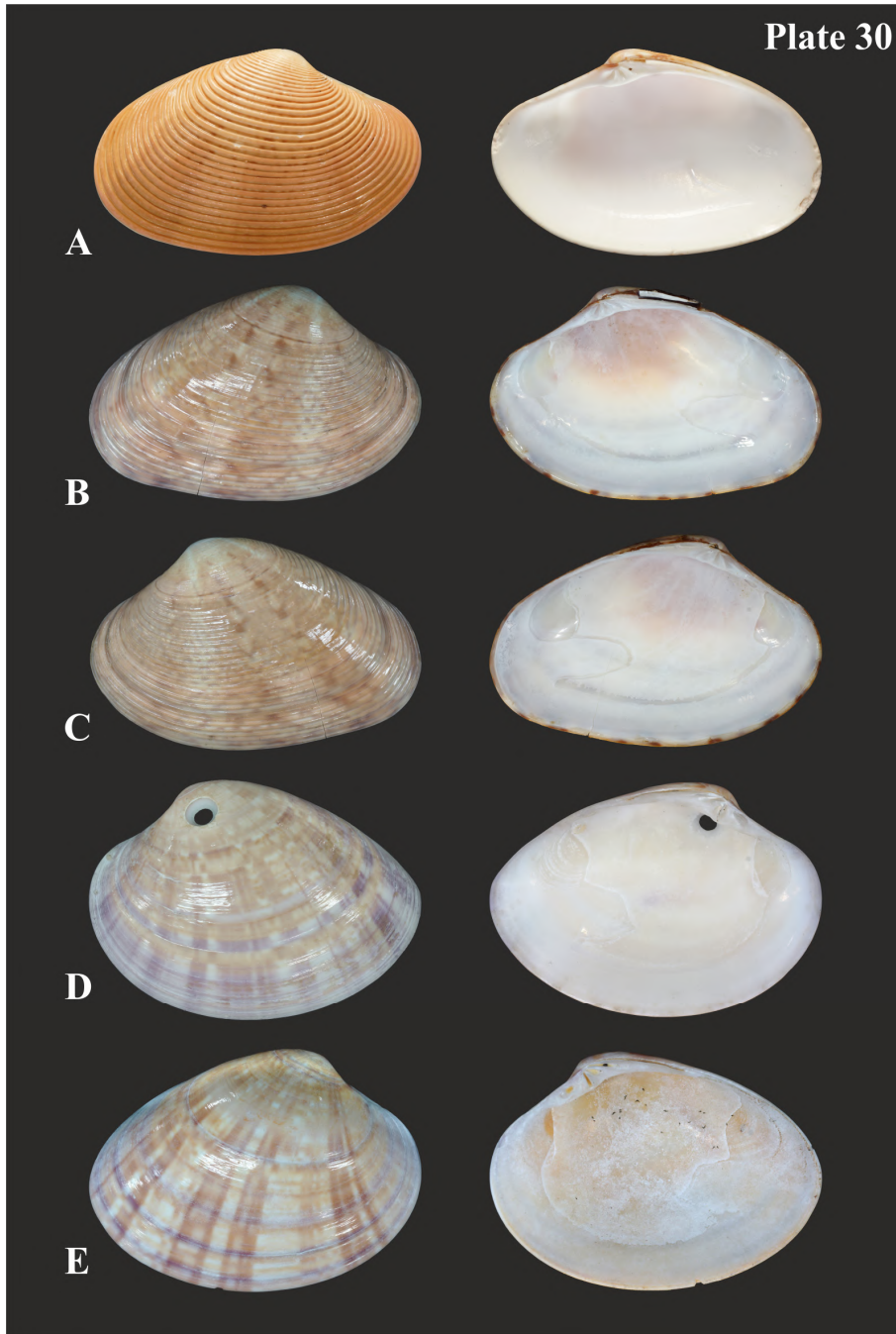


Plate 30, Fig. A *Paphia amabilis* (Philippi, 1847): Jeju, Hwasoon, ZMFU no. 43433/Bv-6667, shell length 55.7 mm; **Figs. B, C** *Paphia vernicosa* (Gould, 1861): Jeju, JNU collection, shell length 65.0 mm; **Fig. D** *Callista (Callista) chinensis* (Holten, 1802): Jeju, JNU collection, shell length 49.2 mm; **Fig. E** *Callista (Callista) chinensis* (Holten, 1802): Jeju, JNU collection, shell length 44.5 mm.

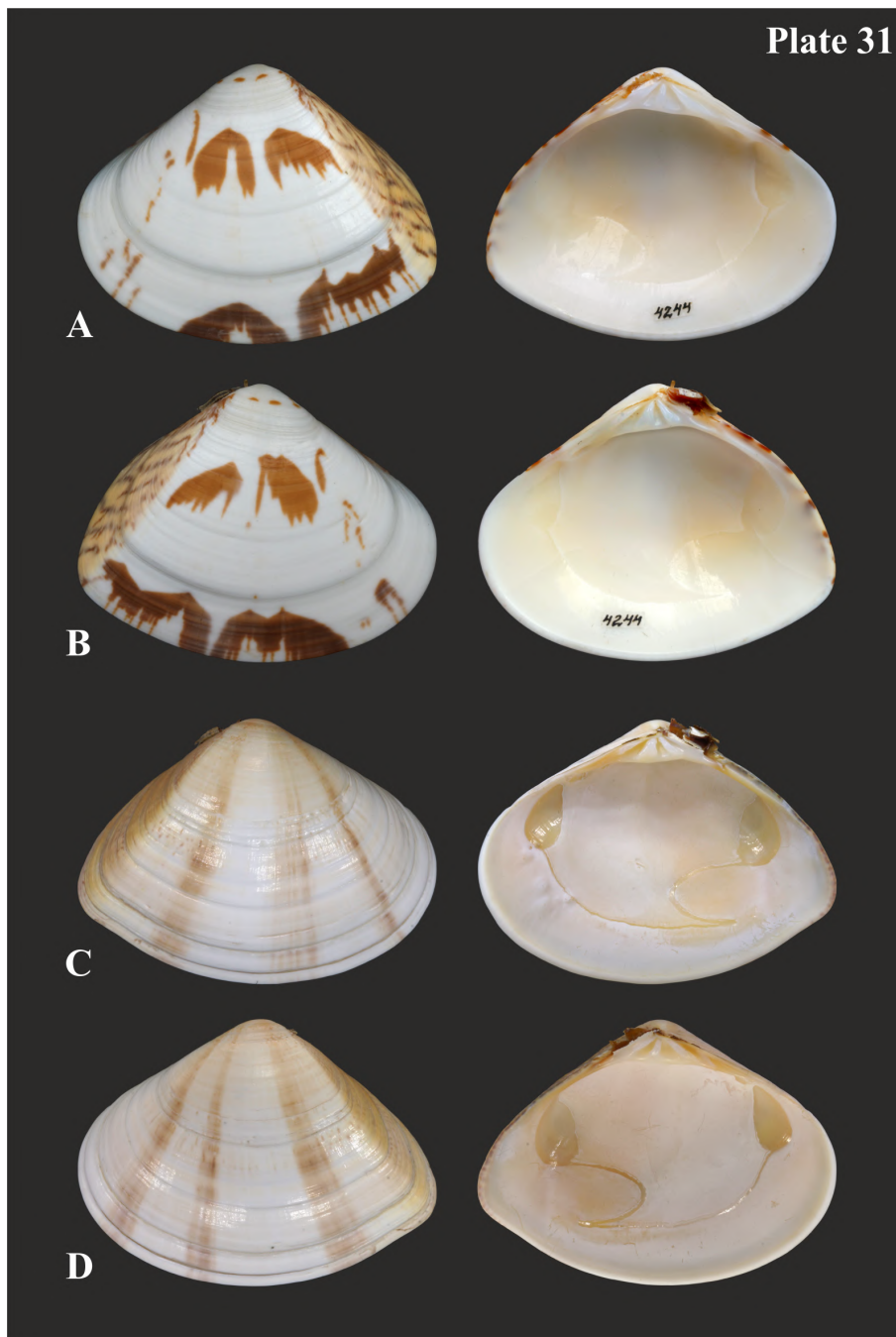


Plate 31. Figs. A, B *Macridiscus melanaegis* (Römer, 1861): Jeju, ZMFU no. 25364/Bv-4244, shell length 30.5 mm; Figs. C, D *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012: Jeju, Seongsan, ZMFU no. 43421/Bv-6655, shell length 44.9 mm.

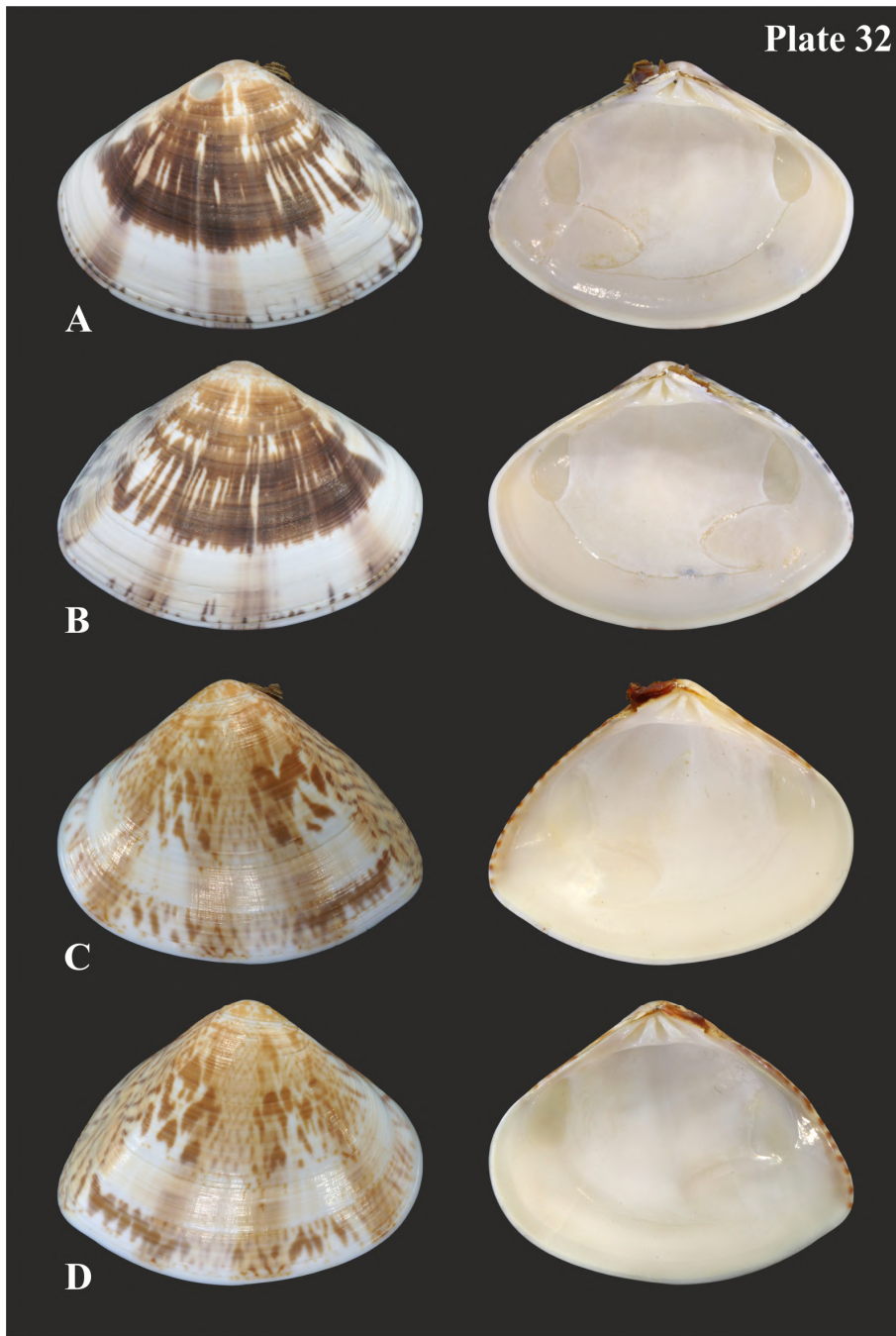


Plate 32. Figs. A, B *Macridiscus melanaegis* (Römer, 1861): Jeju, Hwasoon, ZMFU no. 43420/Bv-6654, shell length 37.2 mm; Figs. C, D *Macridiscus melanaegis* (Römer, 1861): Jeju, Pyeoson, ZMFU no. 43423/Bv-6657, shell length 33.7 mm.

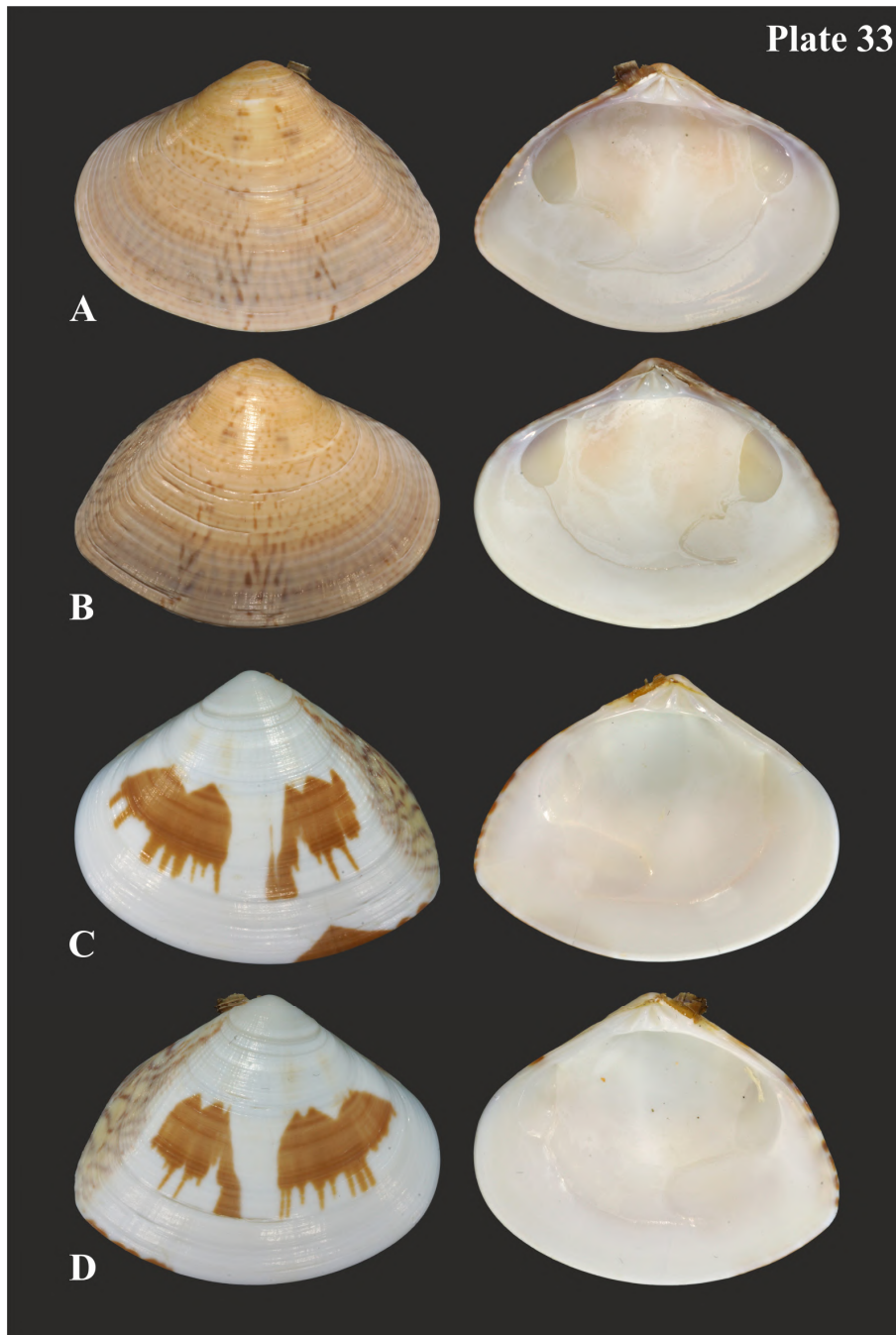


Plate 33. Figs. A, B *Macridiscus melanaegis* (Römer, 1861): Jeju, Pyeoson, ZMFU no. 43423/Bv-6657, shell length 32,5 mm; **Figs. C, D** *Macridiscus melanaegis* (Römer, 1861): Jeju, Pyeoson, ZMFU no. 43423/Bv-6657, shell length 24,2 mm.

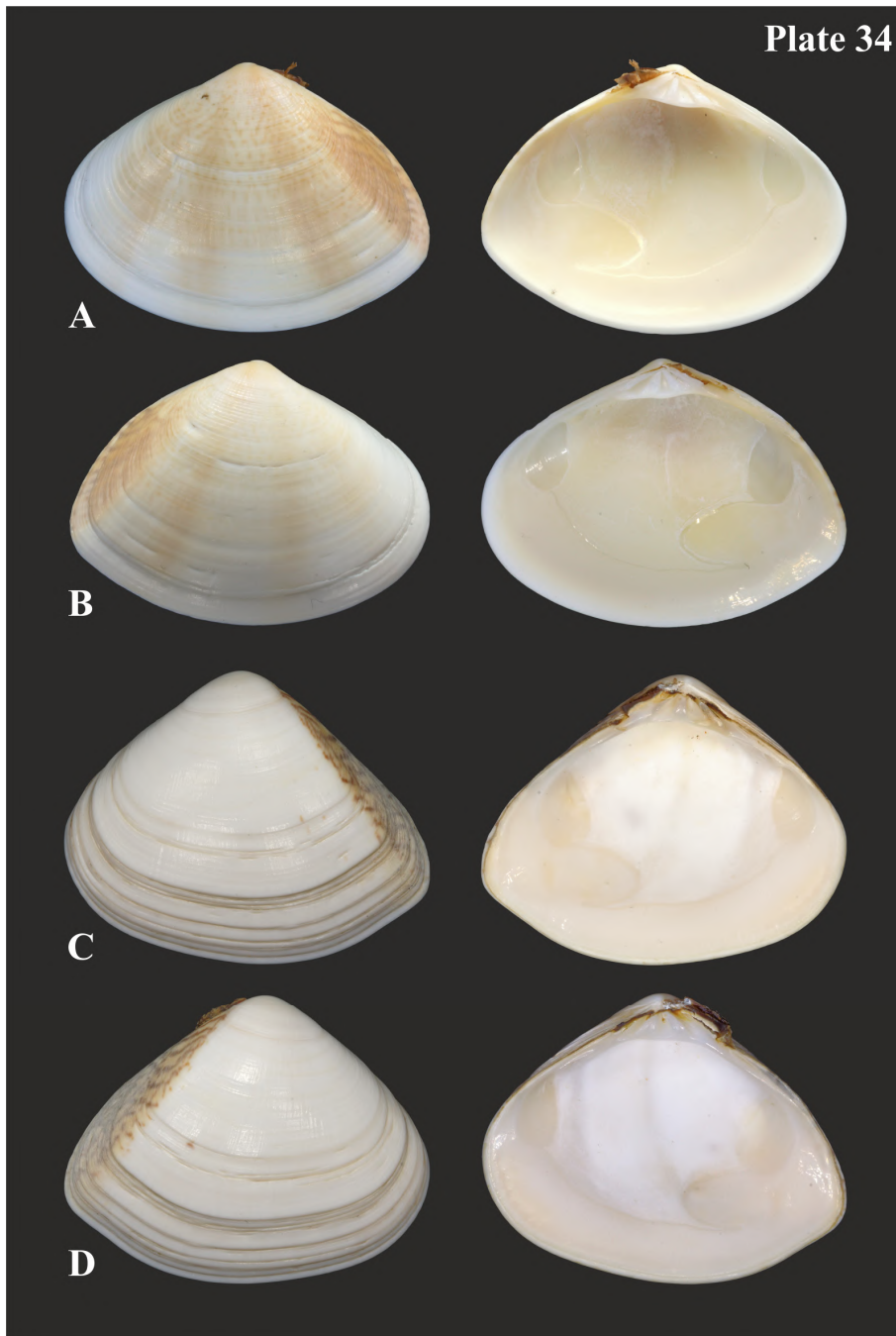


Plate 34. Figs. **A, B** *Macridiscus melanaegis* (Römer, 1861): Jeju, Weoljeong, ZMFU no. 43422/Bv-6656, shell length 24.0 mm; Figs. **C, D** *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012: Jeju, Pyeoson, ZMFU no. 43430/Bv-6664, shell length 40.8 mm.

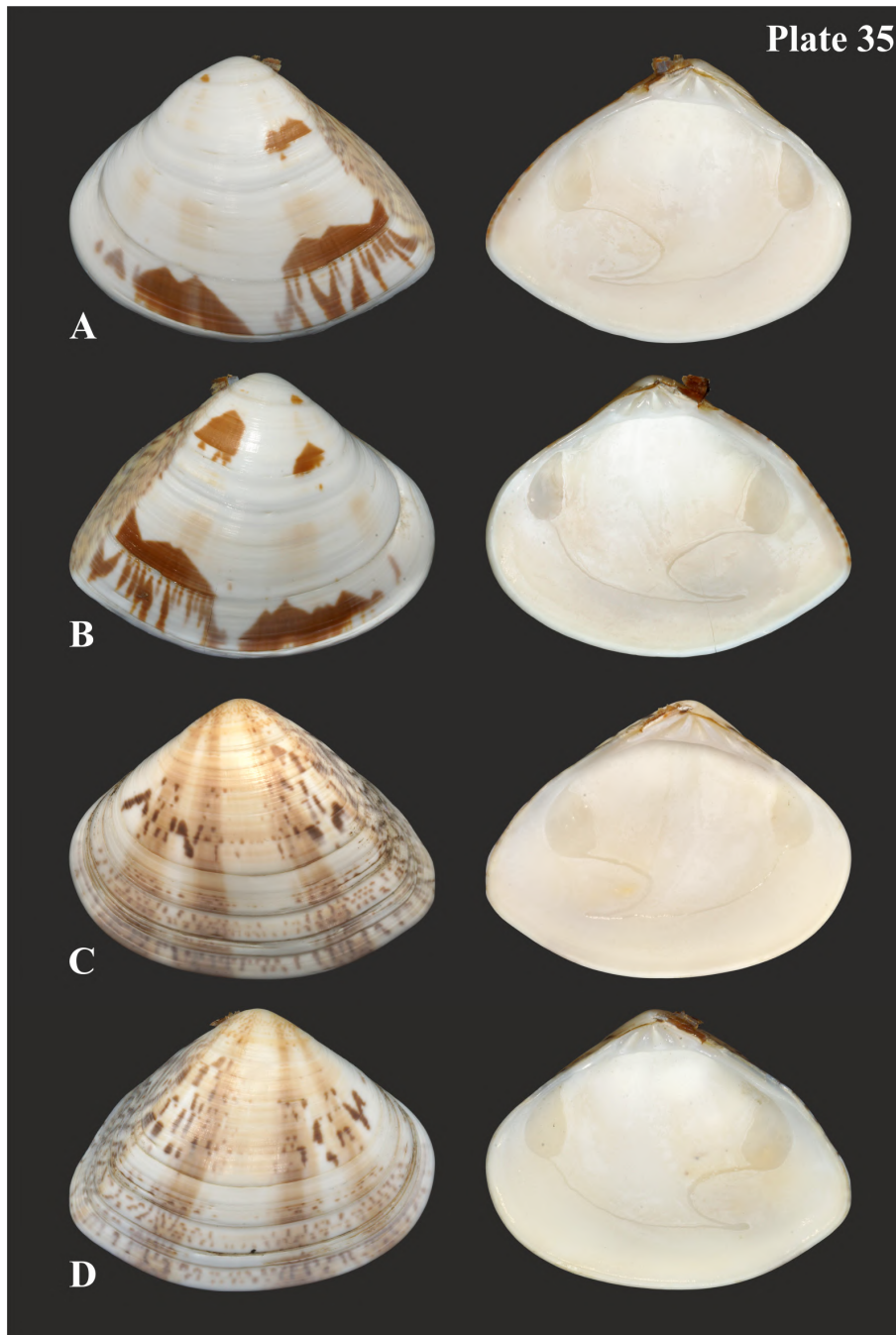


Plate 35. Figs. A, B *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012: Jeju, Pyeoson, ZMFU no. 43430/Bv-6664, shell length 34,5 mm; **Figs. C, D** *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012: Jeju, Pyeoson, ZMFU no. 43430/Bv-6664, shell length 36,4 mm.

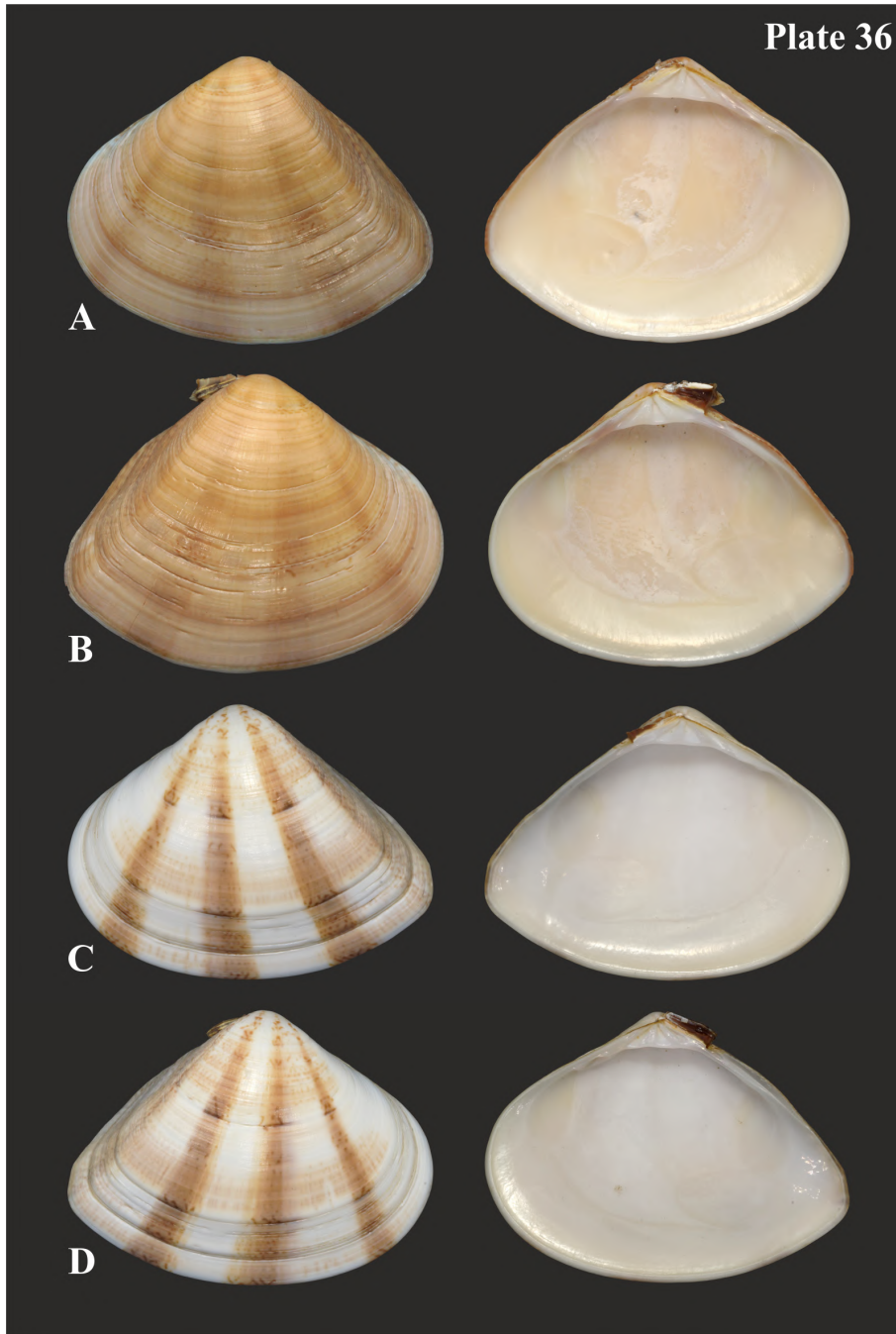


Plate 36. Figs. A, B *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012: Jeju, Pyeoson, ZMFU no. 43430/Bv-6664, shell length 36.4 mm; **Figs. C, D** *Macridiscus multifarius* Kong, Matsukuma et Lutaenko, 2012: Jeju, Pyeoson, ZMFU no. 43430/Bv-6664, shell length 43.2 mm.

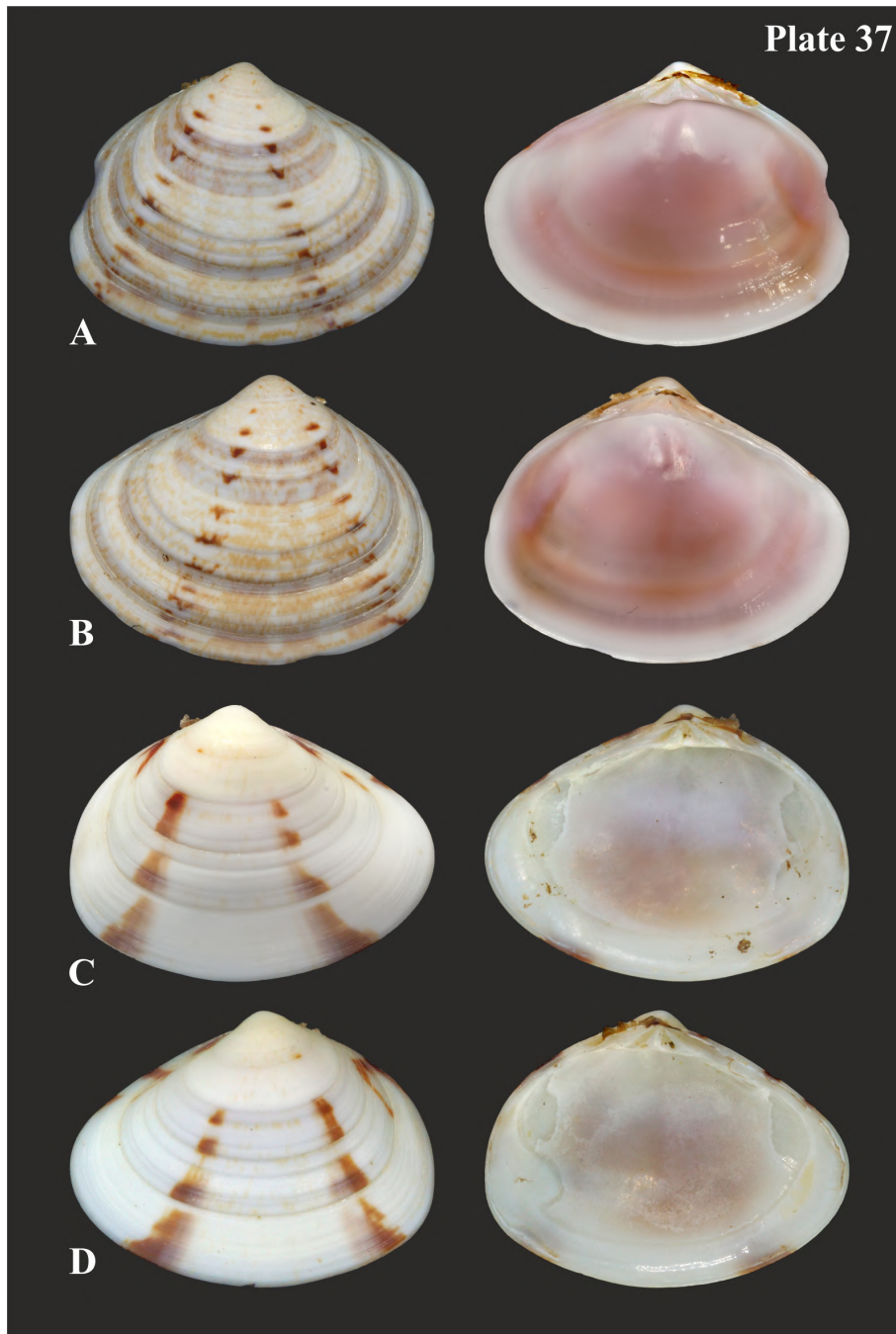


Plate 37. Figs. A, B *Gomphina neastartoides* (Yokoyama, 1922): Jeju, Seongsan, ZMFU no. 43426/Bv-6660, shell length 18.1 mm; **Figs. C, D** *Gomphina neastartoides* (Yokoyama, 1922): Jeju, Seongsan, ZMFU no. 43426/Bv-6660, shell length 13.9 mm.

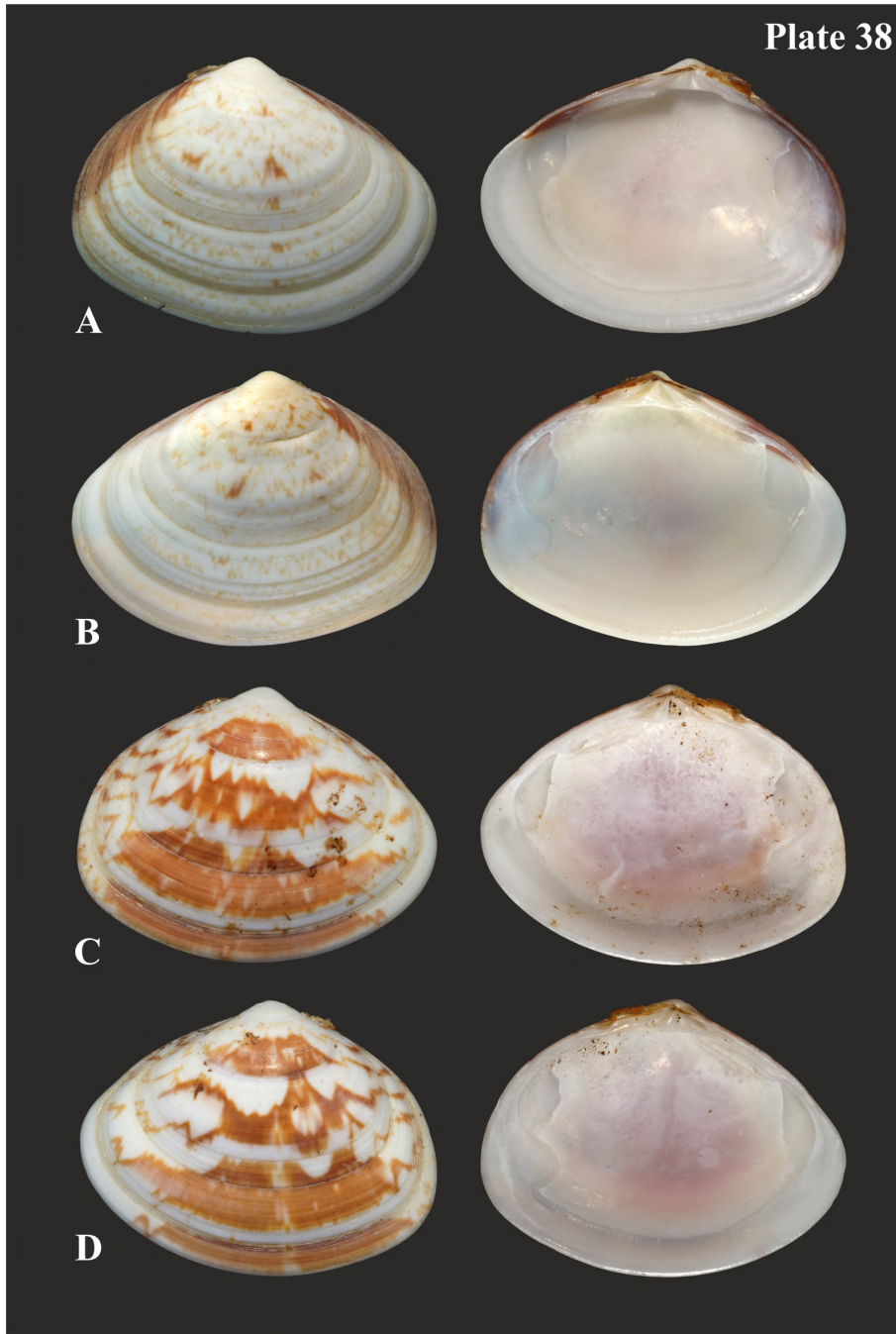


Plate 38. Figs. A, B *Gomphina neastartoides* (Yokoyama, 1922): Jeju, Seongsan, ZMFU no. 43426/Bv-6660, shell length 18.0 mm; Figs. C, D *Gomphina neastartoides* (Yokoyama, 1922): Jeju, Seongsan, ZMFU no. 43426/Bv-6660, shell length 17.7 mm.

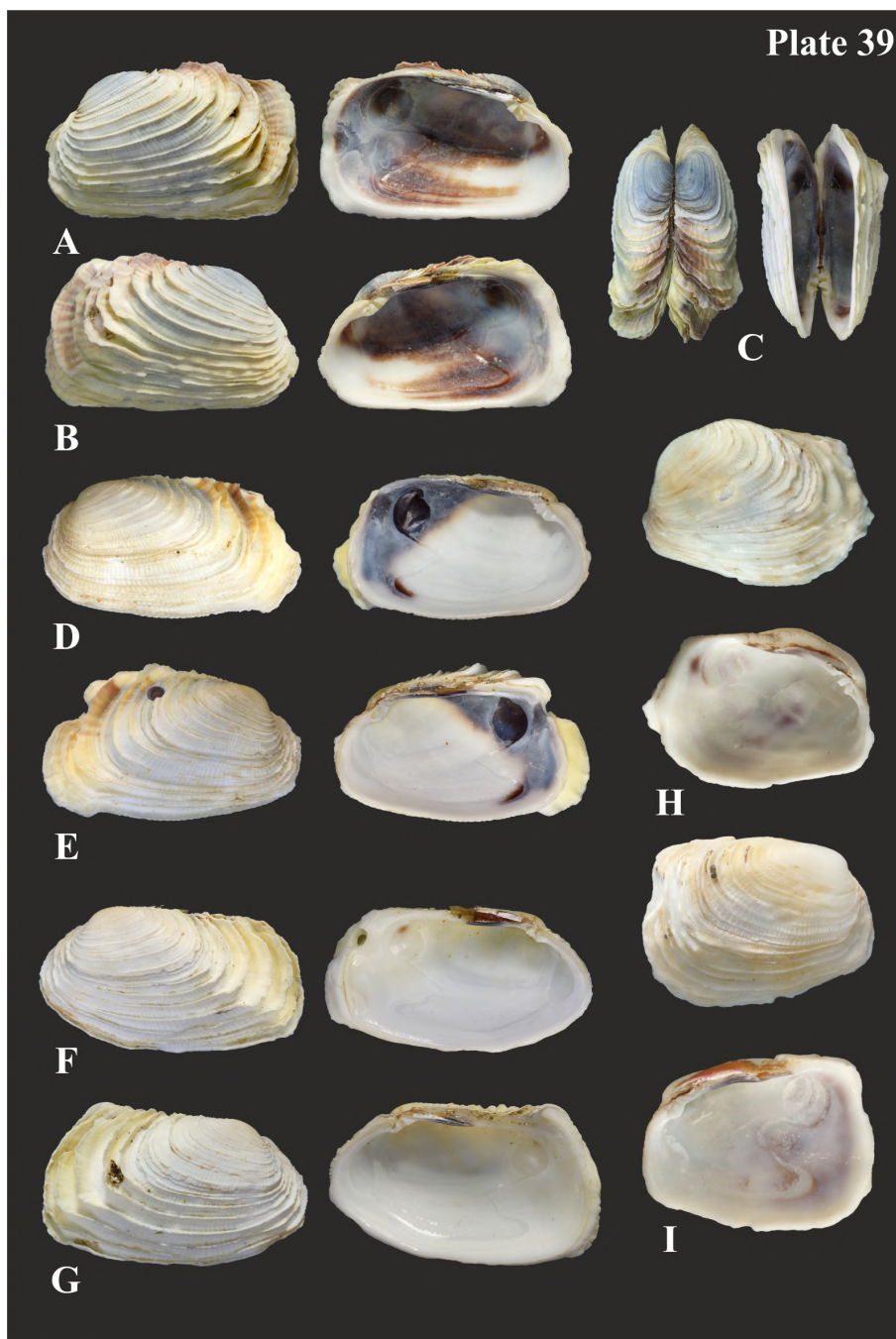


Plate 39, Figs. A-C *Iruus (Iruus) irus* (L., 1758): Jeju, Jongdal-ri, ZMFU no. 43441/Bv-6675, shell length 27.5 mm; **Figs. D, E** *Iruus (Iruus) irus* (L., 1758): Jeju, Jongdal-ri, ZMFU no. 43441/Bv-6675, shell length 22.0 mm; **Figs. F, G** *Iruus (Iruus) mitis* (Deshayes, 1853): Jeju, Jongdal-ri, ZMFU, shell length 25.9 mm; **Figs. H, I** *Iruus (Iruus) ishibashianus* Kuroda et Habe, 1952: Jeju, Yeongmeori, ZMFU no. 43429/Bv-6663, shell length 15.4 mm.

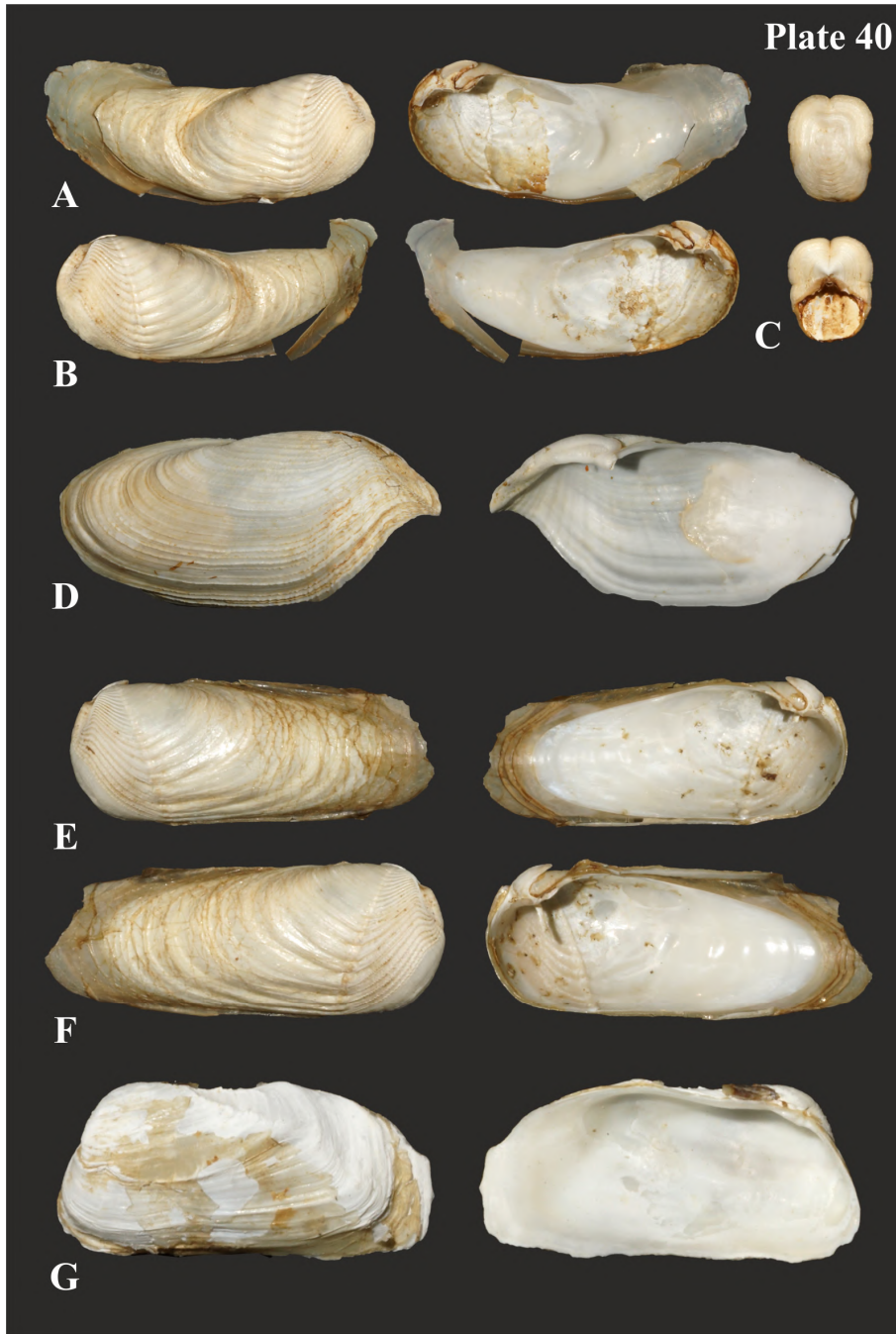


Plate 40. Figs. A-C *Martesia striata* (L., 1758): Jeju, Gwakji, ZMFU no. 54487/Bv-8924, shell length 29 mm, maximum length of mesoplax (Fig. C) 7.0 mm; **Fig. D** *Barnea (Anchomasa) manilensis* (Philippi, 1847): Jeju, Hamo, ZMFU no. 54493/Bv-8930, shell length 46 mm; **Figs. E, F** *Martesia striata* (L., 1758): Jeju, Gwakji, ZMFU no. 54487/Bv-8924, shell length 28 mm; **Fig. G** *Hiatella orientalis* (Yokoyama, 1920): Jeju, Gwakji, ZMFU no. 54498/Bv-8935, shell length 46 mm.



Plate 41. Figs. A, B *Solen (Solen) strictus* Gould, 1861: Jeju, Pyeoson, ZMFU no. 40917/Bv-6014, shell length 99 mm; **Figs. C, D** *Solen (Ensisolen) krusensternii* Schrenck, 1867: Jeju, Gwakji, ZMFU no. 25147/Bv-4179, shell length 130 mm.



Plate 42. Fig. A *Myadora fluctuosa* Gould, 1861: Jeju, Jongdal-ri, ZMFU no. 54516/Bv-8953, shell length 10 mm; Fig. B *Myadora* cf. *soyosae* Habe, 1950: Jeju, Yeongmeori, ZMFU no. 54517/Bv-8954, shell length 12 mm; Figs. C, D *Entodesma navicula* (A. Adams et Reeve, 1850): Jeju, Jungmun, ZMFU no. 40924/Bv-6021, shell length 28 mm.

