

An Inventory of Invertebrate Diversity on Marado Island, Korea

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ABSTRACT

Marado Island is located at the southernmost point of the Republic of Korea. Despite its geographical and oceanographic characteristics, which suggest high species diversity, biodiversity studies on the island have been limited. This study presents a comprehensive species list of biological resources from Marado Island based on direct field surveys and a review of previous records. A total of 183 species belonging to seven phyla, 14 classes, 40 orders, 94 families, and 148 genera were recorded. Among these species, two species are designated as endangered wildlife, seven are protected marine organisms, and two are recognized as natural monuments. In addition, we report the first record of the hermit crab *Calcinus laevimanus* on Marado Island. The species list presented in this study provides essential baseline data for future biodiversity research and will contribute to the conservation and management of indigenous biological resources in Korea.

Keywords: Marado Island, fauna, invertebrate, hermit crab, conservation

INTRODUCTION

Marado is an island located at the southernmost point of the Republic of Korea, approximately 11 km off the coast from Moseulpo Port on Jeju Island (Han et al., 2016). Originally part of Gapari, it was designated as Marari on April 1, 1981 (Han et al., 2016). The island covers an area of 0.3 km², with a coastline stretching 4.2 km, and its highest elevation reaches 39 meters above sea level (Lee, 1991; Kim et al., 2016). The island is generally shaped like a sweet potato and is characterized by relatively flat terrain (Kim et al., 2001). Except for a few protruding sections, the coastline is composed of black volcanic rocks, forming dramatic cliffs sculpted by prolonged exposure to strong sea winds (Lee, 1991; Kim et al., 2001; Han et al., 2016). The northwestern, eastern, and southern coasts are dominated by cliffs up to 20 meters high, and numerous sea caves—formed by wave ero-

sion—are found along these shores (Kim et al., 2001; Han et al., 2016).

With geographical characteristics, the surrounding waters of the island are oceanographically complex, shaped by irregular seafloor topography and strong tidal currents (Kim et al., 2001). Except during the summer, the area is predominantly influenced by the Tsushima Warm Current, which brings high-temperature, high-salinity waters (Kim et al., 2001). This current interacts with the coastal waters around the island, forming oceanic fronts, which in turn give rise to topographically induced eddies and other mesoscale features around the island (Kim et al., 2001). Due to the geographical and oceanographic characteristics, the island is expected to contain rich and well-preserved biodiversity, especially for marine invertebrate species. Furthermore, given these characteristics, ongoing biological responses to climate change—such as the northward range expansion of

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marine species—are expected to increase the potential for new records of previously unrecorded species in the marine and intertidal habitats of Marado Island.

The history of invertebrate fauna research on the Marado Island started with the work of Oh (1983) who described eight species of hermit crabs (Decapoda: Anomura). Since the report, Lee (1991) reported the fauna of benthic macro-invertebrates on the intertidal zones of this island, including the phyla Porifera, Cnidaria, Mollusca, Arthropoda, and Echinodermata. Kim et al. (2016) focused on terrestrial spider fauna of the island, and Han et al. (2016) reported various marine invertebrate taxa, especially including the phyla Bryozoa and Annelida which had not been reported in previous studies.

However, no comprehensive species list of the island reflecting these previous reports was complete, which was sporadically notified as only each reference. Not only the comprehensive species list, but the previous studies did not reflect recent taxonomic location such as synonym.

In this study, we conducted direct fauna research for intertidal zone of the island to reexamine and report new findings. With the direct survey, we completed the comprehensive species list through reflecting the reported species

in all the previous studies with the most recent taxonomic information with incorporating the terrestrial and marine habitats.

MATERIALS AND METHODS

A comprehensive species list of Marado Island was prepared by reference research and field investigation. Direct field investigation was conducted on August 1, 2024, and invertebrate samples were collected from intertidal zones of three sites described in Table 1 and Fig. 1. Since the island has been designated as Natural Reserve, survey was conducted after gaining permission from the Korea Heritage

Table 1. Locality information for each collection site within Marado Island in this study

Sites	Longitude	Latitude	Site description
S1	33°6′50.64	126°16′10.15	Rocky shore
S2	33°6′48.96	126°16′0.12	
N1	33°7′24.60	126°16′9.84	

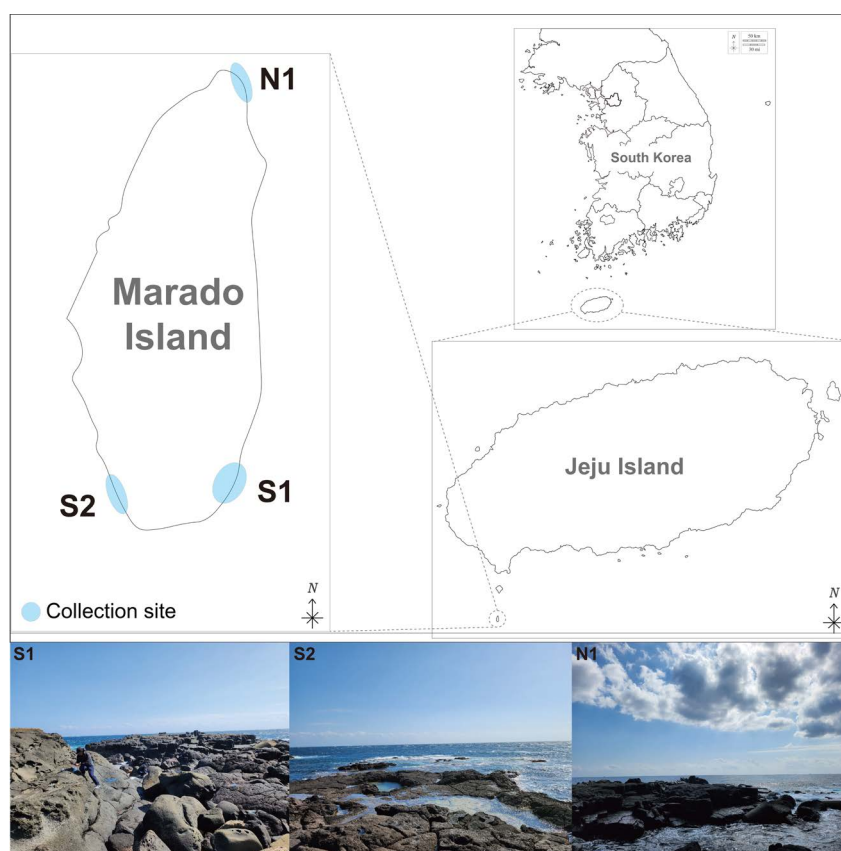


Fig. 1. A map showing sampling localities with photos of habitat landscape for each locality in this study.

Service and Seogwipo City Hall. All collection sites are the same type of habitat as rocky shores. All samples were collected using bare hands, chisels, and tweezers. All collected samples were fixed in the field with 100% ethanol and transferred to the laboratory for further study.

All collected samples were observed under a Nikon SMZ445 (Nikon Instruments Inc., Japan) stereomicroscope and Leica M205C stereomicroscope (Wetzlar, Germany) equipped with a Leica MC190 HD digital camera for measurements and photographs if needed for identification. Species identification for each of the taxa through direct survey in this study was conducted using the methods described in detail as follows. The classification of marine invertebrates was conducted according to the 'Illustrated Encyclopedia of Fauna and Flora of Korea' (Kim, 1973, 1977, 1998; Rho, 1977; Choi, 1992; Shin and Rho, 1996; Song, 2004; Seo, 2006). In cases where species identification was difficult morphologically, the molecular species identification has been performed with mitochondrial cytochrome oxidase subunit 1 gene (*COI*) (e.g., Hwang and Kim, 1999; Choi et al., 2020, 2021).

The study followed the classification system and scientific names of the World Register of Marine Species (WoRMS) (<https://www.marinespecies.org/>) and World Spider Catalog (2026), which are open-access inventories, and Korean name of Biodiversity of the Korean Peninsula (<https://species.nibr.go.kr/index.do>) to build an updated comprehensive species list of Marado Island.

This research was carried out to establish a comprehensive species list inhabiting marine and terrestrial areas of Marado Island, which was revised according to the related literature and completed through peer reviews. The classification system, scientific names based on WoRMS (<https://www.marinespecies.org/>), and Korean names of each taxonomic group were based on the Biodiversity of the Korean Peninsula (<https://species.nibr.go.kr/index.do>). Moreover, species names were also verified based on the National Species List of Korea (National Institute of Biological Resources, 2025). If the species was synonymized, a changed name was adopted for each taxonomic group according to the latest system. Previously reported species were critically re-evaluated based on current taxonomic standards and the

National Species List of Korea. Species with inconsistent nomenclature or doubtful identification were categorized as unresolved taxa, while those lacking subsequent records or biogeographic plausibility were treated as unverified records and excluded from the confirmed species list. The unidentified species, abbreviated to 'sp.', are not included in counting the total number of species. The species list for Marado Island is organized in the following phyla order: Porifera, Cnidaria, Mollusca, Arthropoda, Annelida, Bryozoa, Echinodermata. We completed the list as ABC order, and in the case of the phylum Arthropoda, we divided the subphylum to present the list clearly.

RESULTS

Through a direct survey conducted in 2024, a total of 30 marine invertebrate species were collected, comprising 25 species of Mollusca, four of Arthropoda, and one of Echinodermata. In terms of sampling sites, 21, 23, and eight species were recorded at stations S1, S2, and N1, respectively (Table 2). A total of 17 species were shared among the sites, including 14 mollusks and three arthropods. Detailed information on the collected samples for each site is provided in Appendix 1.

Based on a review of the four previous publications (Oh, 1983; Lee, 1991; Han et al., 2016; Kim et al., 2016) and a direct survey conducted in 2024, a comprehensive species list of the invertebrate fauna of Marado Island was established.

A total of 23 species reported in previous literature were re-examined, which have not been listed in the National Species List of Korea (National Institute of Biological Resources, 2025). Based on current taxonomic standards and the National Species List of Korea, these species were categorized into three groups: confirmed species, unresolved taxa, and unverified records. Among them, 13 species were regarded as confirmed including two species of Porifera, seven of Mollusca, three of Arthropoda, and one of Annelida (Appendix 2). Although these species are not currently listed in the National Species List of Korea, the discrepancy

Table 2. Total number of identified species along with the phyla through direct survey in the present study

Phylum	No. of species	Sampling site			Overlapped species among sites
		S1	S2	N1	
Mollusca	25	18	19	7	14
Arthropoda	4	3	3	1	3
Echinodermata	1	–	1	–	–
Total	30	21	23	8	17

is likely attributable to recent taxonomic revisions, such as synonymization and reclassification, or had been previously listed. These species are considered valid components of the regional fauna, and their inclusion in future updates of the National Species List of Korea is warranted.

Seven species were classified as unresolved taxa due to inconsistencies between Korean and scientific names in the original reference (Appendix 3). Although these records were retained from previous literature, their taxonomic identity could not be confidently validated and therefore, they were excluded from the confirmed species list.

The remaining three species were treated as unverified records because they are not included in the current national species inventory and lack supporting evidence from subsequent studies (Appendix 4). In some cases, their known biogeographic distribution further questions their occurrence in Korea. These records were excluded from the confirmed fauna.

The following systematic list contains all of the species identified in this study and recorded in the four previous studies. The single asterisk (*) indicates that the species was newly recorded in the Korean fauna.

¹Phylum Porifera

²Class Demospongiae

³Order Bubarida

⁴Family Dictyonellidae

Genus *Phakettia* de Laubenfels, 1936

⁵1. *Phakettia arbora* (Sim, Kim and Byeon, 1990)

Notes: Reported from Marado by Han et al. (2016).

⁶Order Clionaida

⁷Family Clionaidae

⁸Genus *Spheciospongia* Marshall, 1892

⁹2. *Spheciospongia panis* (Thiele, 1898)

Notes: Reported from Marado by Han et al. (2016).

¹⁰Family Spirastrellidae

¹¹Genus *Spirastrella* Schmidt, 1868

¹²3. *Spirastrella abata* Tanita, 1961

Notes: Reported from Marado by Han et al. (2016).

¹³4. *Spirastrella insignis* Thiele, 1898

Notes: Reported from Marado by Han et al. (2016).

¹⁴Order Halichondrida

¹⁵Family Halichondriidae

¹⁶Genus *Halichondria* Fleming, 1828

¹⁷5. *Halichondria* (*Halichondria*) *okadai* (Kadota, 1922)

Notes: Reported from Marado by Lee (1991).

¹⁸6. *Halichondria* (*Halichondria*) *oshoro* Tanita, 1961

Notes: Reported from Marado by Lee (1991).

¹⁹7. *Halichondria* (*Halichondria*) *panicea* (Pallas, 1766)

Notes: Reported from Marado by Lee (1991).

²⁰Order Haplosclerida

²¹Family Callyspongiidae

²²Genus *Callyspongia* Duchassaing and Michelotti, 1864

²³8. *Callyspongia confoederata* (sensu Ridley, 1884)

Notes: Reported from Marado by Lee, 1991.

9. *Callyspongia johannesthielei* Van Soest and Hooper, 2020

Notes: Reported from Marado by Han et al. (2016).

10. *Callyspongia lindgreni* Van Soest and Hooper, 2020

Notes: Reported from Marado by Han et al. (2016).

²⁴Family Chalinidae

²⁵Genus *Haliclona* Grant, 1841

²⁶11. *Haliclona* (*Reniera*) *cinerea* (Grant, 1826)

Notes: Reported from Marado by Lee (1991).

²⁷Family Petrosiidae

²⁸Genus *Petrosia* Vosmaer, 1885

²⁹12. *Petrosia* (*Strongylophora*) *corticata* (Wilson, 1925)

Notes: Reported from Marado by Han et al. (2016).

³⁰Order Poecilosclerida

³¹Family Latrunculiidae

³²Genus *Latrunculia* du Bocage, 1869

³³13. *Latrunculia* (*Latrunculia*) *ikematsui* Tanita, 1968

Notes: Reported from Marado by Han et al. (2016).

Korean name: ¹해면동물문, ²보통해면강, ³브바리다해면목, ⁴가시해면과, ⁵나무둥축해면, ⁶호박해면목, ⁷호박해면과, ⁸스페시오해면속, ⁹나선별해면, ¹⁰나선별해면과, ¹¹나선별해면속, ¹²가는나선별해면, ¹³굵은나선별해면, ¹⁴해면해면목, ¹⁵해면해면과, ¹⁶해면해면속, ¹⁷검정해면해면, ¹⁸황록해면해면, ¹⁹회색해면해면, ²⁰단골해면목, ²¹에쁜이해면과, ²²에쁜이해면속, ²³보라에쁜이해면, ²⁴보라해면과, ²⁵보라해면속, ²⁶재빛아도시해면, ²⁷바위해면과, ²⁸바위해면속, ²⁹불뚱해면, ³⁰다골해면목, ³¹도둑나팔해면과, ³²도둑나팔해면속, ³³도둑나팔해면

¹Family Mycalidae²Genus *Mycale* Gray, 1867³**14. *Mycale (Carmia) nullarosette* Hoshino, 1981**

Notes: Reported from Marado by Han et al. (2016).

⁴Family Myxillidae⁵Genus *Myxilla* Schmidt, 1862⁶**15. *Myxilla (Myxilla) producta* Hoshino, 1981**

Notes: Reported from Marado by Han et al. (2016).

⁷Order Suberitida⁸Family Suberitidae⁹Genus *Suberites* Nardo, 1833¹⁰**16. *Suberites excellens* (Thiele, 1898)**

Notes: Reported from Marado by Han et al. (2016).

¹¹Order Tethyida¹²Family Tethyidae¹³Genus *Tethya* Lamarck, 1815¹⁴**17. *Tethya songakensis* Kim and Sim, 2005**

Notes: Reported from Marado by Han et al. (2016).

¹⁵Order Tetractinellida¹⁶Family Geodiidae¹⁷Genus *Penares* Gray, 1867¹⁸**18. *Penares incrustans* Tanita, 1963**

Notes: Reported from Marado by Han et al. (2016).

¹⁹Family Pachastrellidae²⁰Genus *Pachastrella* Schmidt, 1868²¹**19. *Pachastrella cribrum* Lebwohl, 1914**

Notes: Reported from Marado by Han et al. (2016).

²²Family Tetillidae²³Genus *Tetilla* Schmidt, 1868²⁴**20. *Tetilla japonica* Lampe, 1886**

Notes: Reported from Marado by Lee (1991).

²⁵Phylum Cnidaria²⁶Class Anthozoa²⁷Order Actiniaria²⁸Family Actiniidae²⁹Genus *Actinia* Linnaeus, 1767³⁰**1. *Actinia equina* (Linnaeus, 1758)**

Notes: Reported from Marado by Lee (1991).

³¹Genus *Entacmaea* Ehrenberg, 1834³²**2. *Entacmaea quadricolor* (Leuckart in Rüppell and Leuckart, 1828)**

Notes: Reported from Marado by Han et al. (2016).

Family Exocoelactinidae

³³Genus *Exocoelactis* Carlgren, 1921³⁴**3. *Exocoelactis actinostoloides* (Wassilieff, 1908)**

Notes: Reported from Marado by Han et al. (2016).

³⁵Family DiadumenidaeGenus *Diadumene* Stephenson, 1920³⁶**4. *Diadumene lineata* (Verrill, 1869)**

Notes: Reported from Marado by Lee (1991).

³⁷Family Nemanthidae³⁸Genus *Nemanthus* Carlgren, 1940³⁹**5. *Nemanthus nitidus* (Wassilieff, 1908)**

Notes: Reported from Marado by Han et al. (2016).

⁴⁰Family Stichodactylidae⁴¹Genus *Stichodactyla* Brandt, 1835⁴²**6. *Stichodactyla tapetum* (Hemprich and Ehrenberg in Ehrenberg, 1834)**

Notes: Reported from Marado by Han et al. (2016).

⁴³Order Antipatharia⁴⁴Family Antipathidae⁴⁵Genus *Antipathes* Pallas, 1766⁴⁶**7. *Antipathes densa* Silberfeld, 1909**

Notes: Reported from Marado by Han et al. (2016).

Korean name: ¹깃해면과, ²깃해면속, ³유착깃해면, ⁴끈적해면과, ⁵끈적해면속, ⁶긴끈적해면, ⁷코르크해면목, ⁸코르크해면과, ⁹코르크해면속, ¹⁰코르크해면, ¹¹말기해면목, ¹²말기해면과, ¹³말기해면속, ¹⁴송악말기해면, ¹⁵사방해면목, ¹⁶조디아해면과, ¹⁷닷해면속, ¹⁸껍질닷해면, ¹⁹시루해면과, ²⁰체시루해면속, ²¹체시루해면, ²²유두해면과, ²³유두해면속, ²⁴유두해면, ²⁵자포동물문, ²⁶산호충강, ²⁷해변말미잘목, ²⁸해변말미잘과, ²⁹해변말미잘속, ³⁰해변말미잘, ³¹큰산호말미잘속, ³²큰산호말미잘, ³³호리병말미잘속, ³⁴호리병말미잘, ³⁵줄말미잘과, ³⁶담황줄말미잘, ³⁷담홍줄말미잘과, ³⁸담홍줄말미잘속, ³⁹담홍줄말미잘, ⁴⁰열말미잘과, ⁴¹열말미잘속, ⁴²용단열말미잘, ⁴³각산호목, ⁴⁴해송과, ⁴⁵해송속, ⁴⁶빛자루해송

¹Genus *Cirrhopathes* de Blainville, 1830

²**8. *Cirrhopathes anguina* (Dana, 1846)**

Notes: Reported from Marado by Han et al. (2016).

³Family Myriopathidae

⁴Genus *Myriopathes* Opresko, 2001

⁵**9. *Myriopathes japonica* Brook, 1889**

Notes: Reported from Marado by Han et al. (2016).

⁶**10. *Myriopathes lata* Silberfeld, 1909**

Notes: Reported from Marado by Han et al. (2016).

⁷Order Octocorallia

Family Euplexauridae

⁸Genus *Euplexaura* Verrill, 1869

⁹**11. *Euplexaura anastomosans* Brundin, 1896**

Notes: Reported from Marado by Han et al. (2016).

¹⁰**12. *Euplexaura crassa* Kükenthal, 1908**

Notes: Reported from Marado by Han et al. (2016).

¹¹**13. *Euplexaura recta* (Nutting, 1910)**

Notes: Reported from Marado by Han et al. (2016).

¹²Family Nephtheidae

¹³Genus *Dendronephthya* Kükenthal, 1905

¹⁴**14. *Dendronephthya gigantea* (Verrill, 1864)**

Notes: Reported from Marado by Han et al. (2016).

¹⁵**15. *Dendronephthya spinulosa* (Gray, 1862)**

Notes: Reported from Marado by Han et al. (2016).

¹⁶**16. *Dendronephthya aurea* Utinomi, 1952**

Notes: Reported from Marado by Han et al. (2016).

¹⁷Genus *Scleronephthya* Studer, 1887

¹⁸**17. *Scleronephthya gracillima* (Kükenthal, 1906)**

Notes: Reported from Marado by Han et al. (2016).

¹⁹Order Scleractinia

²⁰Family Acroporidae

²¹Genus *Alveopora* de Blainville, 1830

²²**18. *Alveopora japonica* Eguchi, 1965**

Notes: Reported from Marado by Han et al. (2016).

²³Family Dendrophylliidae

²⁴Genus *Dendrophyllia* de Blainville, 1830

²⁵**19. *Dendrophyllia arbuscula* van der Horst, 1922**

Notes: Reported from Marado by Han et al. (2016).

²⁶Genus *Tubastraea* Lesson, 1830

²⁷**20. *Tubastraea coccinea* Lesson, 1830**

Notes: Reported from Marado by Han et al. (2016).

Order Scleractyonacea

²⁸Family Ellisellidae

²⁹Genus *Ellisella* Milne Gray, 1858

³⁰**21. *Ellisella ceratophyta* (Linnaeus, 1758)**

Notes: Reported from Marado by Han et al. (2016).

³¹Phylum Mollusca

³²Class Bivalvia

³³Order Arcida

³⁴Family Arcidae

Genus *Tetrarca* F. Nordsieck, 1969

³⁵**1. *Tetrarca boucardi* (Jousseaume, 1894)**

Notes: Reported from Marado by Lee (1991).

³⁶Family Parallelodontidae

³⁷Genus *Porterius* B. L. Clark, 1925

³⁸**2. *Porterius dalli* (E. A. Smith, 1885)**

Notes: Reported from Marado by Lee (1991).

³⁹Order Mytilida

⁴⁰Family Mytilidae

⁴¹Genus *Mytilisepta* T. Habe, 1951

⁴²**3. *Mytilisepta keenae* (Nomura, 1936)**

Notes: Reported from Marado by Lee (1991).

⁴³Order Mytilida

⁴⁴Family Mytilidae

⁴⁵Genus *Mytilus* Linnaeus, 1758

Korean name: ¹실해송속, ²실해송, ³다해송과, ⁴다해송속, ⁵해송, ⁶긴가지해송, ⁷해계두목, ⁸총산호속, ⁹유착진총산호, ¹⁰둔한진총산호, ¹¹곧은진총산호, ¹²곤봉바다맨드리마과, ¹³수지맨드라마속, ¹⁴큰수지맨드라마, ¹⁵가시수지맨드라마, ¹⁶황금수지맨드라마, ¹⁷바다맨드라마속, ¹⁸분홍바다맨드라마, ¹⁹돌산호목, ²⁰단풍돌산호과, ²¹거품돌산호속, ²²거품돌산호, ²³나무돌산호과, ²⁴나무돌산호속, ²⁵관목나무돌산호, ²⁶나팔돌산호속, ²⁷금빛나팔돌산호, ²⁸회초리산호과, ²⁹민회초리산호속, ³⁰별혹산호, ³¹연체동물문, ³²이매패강, ³³돌조개목, ³⁴돌조개과, ³⁵긴네모돌조개, ³⁶왕복털조개과, ³⁷왕복털조개속, ³⁸왕복털조개, ³⁹홍합목, ⁴⁰홍합과, ⁴¹적판담지속, ⁴²적판담치, ⁴³홍합목, ⁴⁴홍합과, ⁴⁵홍합속

¹⁴4. *Mytilus galloprovincialis* Lamarck, 1819

Notes: Reported from Marado by Lee (1991).

²Class Gastropoda³Order Aplysiida⁴Family Aplysiidae⁵Genus *Aplysia* Linnaeus, 1767**⁶5. *Aplysia kurodai* (Baba, 1937)**

Notes: Reported from Marado by Lee (1991).

Order Caenogastropoda incertae sedis

⁷Family EpitoniidaeGenus *Gyroscala* de Boury, 1887**⁸6. *Gyroscala commutata* (Monterosato, 1877)**

Notes: Reported from Marado by this study.

⁹Order Cycloneritida¹⁰Family Neritidae¹¹Genus *Nerita* Linnaeus, 1758**¹²7. *Nerita albicilla* Linnaeus, 1758**

Notes: Reported from Marado by Lee (1991) and this study.

¹³8. *Nerita japonica* Dunker, 1860

Notes: Reported from Marado by Lee (1991) and this study.

¹⁴9. *Nerita originalis* S. Hong, B. Park and U. W. Hwang, 2023

Notes: Reported from Marado by this study.

¹⁵Order Lepetellida¹⁶Family Haliotidae¹⁷Genus *Haliotis* Linnaeus, 1758**¹⁸10. *Haliotis discus* Reeve, 1846**

Notes: Reported from Marado by Lee (1991).

¹⁹11. *Haliotis diversicolor* Reeve, 1846

Notes: Reported from Marado by Lee (1991).

²⁰12. *Haliotis gigantea* Gmelin, 1791

Notes: Reported from Marado by Lee (1991) and Han et al. (2016).

²¹13. *Haliotis supertexta* Lischke, 1870

Notes: Reported from Marado by Lee (1991).

²²Order Littorinimorpha²³Family Cymatiidae²⁴Genus *Monoplex* G. Perry, 1810**²⁵14. *Monoplex parthenopeus* (Salis Marschlins, 1793)**

Notes: Reported from Marado by Han et al. (2016).

²⁶Family Cypraeidae²⁷Genus *Lyncina* Troschel, 1863**²⁸15. *Lyncina vitellus* (Linnaeus, 1758)**

Notes: Reported from Marado by Lee (1991).

²⁹Genus *Monetaria* Troschel, 1863**³⁰16. *Monetaria caputserpentis* (Linnaeus, 1758)**

Notes: Reported from Marado by Lee (1991).

Genus *Naria* J. E. Gray, 1837**³¹17. *Naria helvola* (Linnaeus, 1758)**

Notes: Reported from Marado by this study.

³²Genus *Purpuradusta* F. A. Schilder, 1939**³³18. *Purpuradusta gracilis* (Gaskoin, 1849)**

Notes: Reported from Marado by Lee (1991).

³⁴Family Littorinidae³⁵Genus *Echinolittorina* T. Habe, 1956**³⁶19. *Echinolittorina radiata* (Souleyet, 1852)**

Notes: Reported from Marado by Lee (1991).

³⁷Family Vermetidae³⁸Genus *Ceraesignum* Golding, Bieler, Rawlings and T. M. Collins, 2014**³⁹20. *Ceraesignum maximum* (G. B. Sowerby I, 1825)**

Notes: Reported from Marado by Lee (1991).

⁴⁰Genus *Thylacodes* Guettard, 1770**⁴¹21. *Thylacodes adamsii* (Mörch, 1859)**

Korean name: ¹지중해담치, ²북죽강, ³군소목, ⁴군소과, ⁵군소속, ⁶군소, ⁷실꾸리고둥과, ⁸실패고둥, ⁹고리갈고둥목, ¹⁰갈고둥과, ¹¹갈고둥속, ¹²큰입술갈고둥, ¹³갈고둥, ¹⁴원큰입술갈고둥, ¹⁵등구멍고둥목, ¹⁶전복과, ¹⁷전복속, ¹⁸등근전복, ¹⁹마데오분자기, ²⁰말전복, ²¹오분자기, ²²총알고둥목, ²³곤봉수염고둥과, ²⁴각시수염고둥속, ²⁵각시수염고둥, ²⁶개오지과, ²⁷제주개오지속, ²⁸제주개오지, ²⁹별개오지속, ³⁰별개오지, ³¹치녀개오지, ³²점박이개오지속, ³³점박이개오지, ³⁴총알고둥과, ³⁵무늬총알고둥속, ³⁶좁쌀무늬총알고둥, ³⁷뱀고둥과, ³⁸뱀고둥속, ³⁹뱀고둥, ⁴⁰큰뱀고둥속, ⁴¹큰뱀고둥

Notes: Reported from Marado by Lee (1991).

¹Order Neogastropoda

²Family Buccinidae

³Genus *Japeuthria* Iredale, 1918

⁴22. *Japeuthria ferrea* (Reeve, 1847)

Notes: Reported from Marado by Lee (1991) and this study.

⁵Genus *Kelletia* P. Fischer, 1884

⁶23. *Kelletia lischkei* Kuroda, 1938

Notes: Reported from Marado by Han et al. (2016).

⁷Family Columbellidae

⁸Genus *Anachis* H. Adams and A. Adams, 1853

⁹24. *Anachis miser* (G. B. Sowerby I, 1844)

Notes: Reported from Marado by Lee (1991) and this study.

¹⁰Genus *Mitrella* Risso, 1826

¹¹25. *Mitrella burchardti* (Dunker, 1877)

Notes: Reported from Marado by Lee (1991).

¹²Genus *Pyrene* Röding, 1798

¹³26. *Pyrene flava* (Bruguière, 1789)

Notes: Reported from Marado by Lee (1991).

¹⁴Family Muricidae

¹⁵Genus *Ergalatax* Iredale, 1931

¹⁶27. *Ergalatax contracta* (Reeve, 1846)

Notes: Reported from Marado by this study.

¹⁷Genus *Reishia* Kuroda and Habe, 1971

¹⁸28. *Reishia clavigera* (Küster, 1860)

Notes: Reported from Marado by Lee (1991) and this study.

¹⁹29. *Reishia luteostoma* (Holten, 1802)

Notes: Reported from Marado by Lee (1991), Han et al. (2016), and this study.

²⁰Family Olividae

²¹Genus *Olivella* Swainson, 1831

30. *Olivella mandarina* (Duclos, 1835)

Notes: Reported from Marado by Lee (1991).

²²Order Nudibranchia

²³Family Chromodorididae

²⁴Genus *Ceratosoma* A. Adams and Reeve, 1850

²⁵31. *Ceratosoma trilobatum* Gray, 1850

Notes: Reported from Marado by Han et al. (2016).

²⁶Genus *Chromodoris* Alder and Hancock, 1855

²⁷32. *Chromodoris orientalis* Rudman, 1983

Notes: Reported from Marado by Lee (1991) and Han et al. (2016).

²⁸Genus *Glossodoris* Ehrenberg, 1831

²⁹33. *Glossodoris misakinobogae* Baba, 1988

Notes: Reported from Marado by Han et al. (2016).

³⁰Genus *Goniobranchus* Pease, 1866

³¹34. *Goniobranchus tinctorius* (Rüppell and Leuckart, 1830)

Notes: Reported from Marado by Han et al. (2016).

³²Genus *Hypselodoris* W. Stimpson, 1855

³³35. *Hypselodoris festiva* (A. Adams, 1861)

Notes: Reported from Marado by Lee (1991) and Han et al. (2016).

³⁴Family Phyllidiidae

³⁵Genus *Phyllidia* Cuvier, 1797

³⁶36. *Phyllidia ocellata* Cuvier, 1804

Notes: Reported from Marado by Han et al. (2016).

³⁷37. *Phyllidia picta* Pruvot-Fol, 1957

Notes: Reported from Marado by Han et al. (2016).

³⁸Genus *Phyllidiella* Bergh, 1869

Korean name: ¹신복족목, ²물레고둥과, ³타래고둥속, ⁴타래고둥, ⁵매끈이고둥속, ⁶매끈이고둥, ⁷무럭과, ⁸보살무럭속, ⁹보살고둥, ¹⁰보리무럭속, ¹¹날씬이보리무럭, ¹²고운점무늬무럭속, ¹³고운점무늬무럭, ¹⁴뿔소라과, ¹⁵뿔고둥속, ¹⁶뿔고둥, ¹⁷대수리속, ¹⁸대수리, ¹⁹뿔두드럭고둥, ²⁰대추고둥과, ²¹띠대추고둥속, ²²나새목, ²³갯민숭달팽이과, ²⁴긴꼬리갯민숭이속, ²⁵긴꼬리갯민숭이, ²⁶갯민숭달팽이속, ²⁷흰갯민숭달팽이, ²⁸에렌버그갯민숭달팽이속, ²⁹꼬마흰갯민숭달팽이, ³⁰똥갯민숭달팽이속, ³¹망사갯민숭달팽이, ³²파랑갯민숭달팽이속, ³³파랑갯민숭달팽이, ³⁴흑갯민숭이과, ³⁵흑갯민숭이속, ³⁶흑고리갯민숭이, ³⁷반달흑갯민숭이, ³⁸흑투성이갯민숭이속

¹38. *Phyllidiella pustulosa* (Cuvier, 1804)

Notes: Reported from Marado by Han et al. (2016).

²Order Seguenziida³Family Eucyclidae⁴Genus *Turcica* H. Adams and A. Adams, 1854**⁵39. *Turcica monilifera* A. Adams, 1854**

Notes: Reported from Marado by this study.

⁶Order Siphonariida⁷Family Siphonariidae⁸Genus *Siphonaria* G. B. Sowerby I, 1823**⁹40. *Siphonaria japonica* (Donovan, 1824)**

Notes: Reported from Marado by Lee (1991).

¹⁰Order Trochida¹¹Family Tegulidae¹²Genus *Tegula* R. P. Lesson, 1833**41. *Tegula nigerrima* (Gmelin, 1791)**

Notes: Reported from Marado by Lee (1991).

42. *Tegula pfeifferi* (R. A. Philippi, 1846)

Notes: Reported from Marado by Lee (1991).

¹³43. *Tegula rugata* (A. A. Gould, 1861)

Notes: Reported from Marado by Lee (1991) and this study.

44. *Tegula rustica* (Gmelin, 1791)

Notes: Reported from Marado by Lee (1991).

¹⁴45. *Tegula turbinata* (A. Adams, 1853)

Notes: Reported from Marado by Lee (1991) and this study.

¹⁵Family Trochidae¹⁶Genus *Cantharidus* Montfort, 1810**¹⁷46. *Cantharidus callichrous* (R. A. Philippi, 1850)**

Notes: Reported from Marado by Lee (1991).

¹⁸47. *Cantharidus hirasei* Pilsbry, 1901

Notes: Reported from Marado by Lee (1991).

¹⁹48. *Cantharidus japonicus* (A. Adams, 1853)

Notes: Reported from Marado by Lee (1991).

²⁰49. *Cantharidus jessoensis* (Schrenck, 1863)

Notes: Reported from Marado by Lee (1991).

²¹Genus *Clanculus* Montfort, 1810**²²50. *Clanculus gemmulifer* Pilsbry, 1901**

Notes: Reported from Marado by Lee (1991).

²³Genus *Monodonta* Lamarck, 1799**²⁴51. *Monodonta confusa* Tapparone Canefri, 1874**

Notes: Reported from Marado by this study.

²⁵52. *Monodonta neritoides* (R. A. Philippi, 1849)

Notes: Reported from Marado by Lee (1991).

²⁶Genus *Lunella* Röding, 1798**²⁷53. *Lunella correensis* (Récluz, 1853)**

Notes: Reported from Marado by this study.

Family Turbinidae

Genus *Astralium* Link, 1807**²⁸54. *Astralium haematragum* (Menke, 1829)**

Notes: Reported from Marado by Han et al. (2016) and this study.

²⁹Genus *Turbo* Linnaeus, 1758**³⁰55. *Turbo cornutus* (Lightfoot, 1786)**

Notes: Reported from Marado by Lee (1991), Han et al. (2016), and this study.

Order Unassigned

³¹Family Lottiidae³²Genus *Lottia* Quoy and Gaimard, 1834**³³56. *Lottia dorsuosa* (A. Gould, 1859)**

Notes: Reported from Marado by Lee (1991).

³⁴Genus *Nipponacmea* Sasaki and Okutani, 1993**³⁵57. *Nipponacmea concinna* (Lischke, 1870)**

Korean name: ¹흑투성이갯민숭이, ²잔갈비고등목, ³바위고등과, ⁴바위고등속, ⁵바위고등, ⁶고랑딱개비목, ⁷고랑딱개비과, ⁸고랑딱개비속, ⁹고랑딱개비, ¹⁰밤고등목, ¹¹구멍밤고등과, ¹²밤고등속, ¹³밤고등, ¹⁴구멍밤고등, ¹⁵밤고등과, ¹⁶얼룩고등속, ¹⁷얼룩고등, ¹⁸꼬마얼룩고등, ¹⁹남방얼룩고등, ²⁰등근입얼룩고등, ²¹보석고등속, ²²빨강올타리고등, ²³올타리고등속, ²⁴개올타리고등, ²⁵각시고등, ²⁶눈알고등속, ²⁷눈알고등, ²⁸바퀴고등, ²⁹소라속, ³⁰소라, ³¹두드럭배말과, ³²테두리고등속, ³³두드럭배말, ³⁴배무래기속, ³⁵등근배무래기

Notes: Reported from Marado by Lee (1991).

¹**58. *Nipponacmea schrenckii* (Lischke, 1868)**

Notes: Reported from Marado by Lee (1991).

²Genus *Patelloida* Quoy and Gaimard, 1834

³**59. *Patelloida pygmaea* (Dunker, 1860)**

Notes: Reported from Marado by Lee (1991) and this study.

⁴**60. *Patelloida saccharina* (Linnaeus, 1758)**

Notes: Reported from Marado by Lee (1991) and this study.

⁵Family Nacellidae

⁶Genus *Cellana* H. Adams, 1869

⁷**61. *Cellana grata* (A. Gould, 1859)**

Notes: Reported from Marado by this study.

⁸**62. *Cellana nigrolineata* (Reeve, 1854)**

Notes: Reported from Marado by Lee (1991) and this study.

⁹Family Siliquariidae

¹⁰Genus *Tenagodus* Guettard, 1770

¹¹**63. *Tenagodus cumingii* Mörch, 1861**

Notes: Reported from Marado by Lee (1991).

¹²Class Polyplacophora

¹³Order Chitonida

¹⁴Family Acanthochitonidae

¹⁵Genus *Acanthochitona* J. E. Gray, 1821

¹⁶**64. *Acanthochitona achates* (A. Gould, 1859)**

Notes: Reported from Marado by this study.

¹⁷**65. *Acanthochitona rubrolineata* (Lischke, 1873)**

Notes: Reported from Marado by this study.

¹⁸Family Chitonidae

Genus *Liolophura* Pilsbry, 1893

¹⁹**66. *Liolophura japonica* (Lischke, 1873)**

Notes: Reported from Marado by Lee (1991) and this

study.

²⁰Genus *Onithochiton* J. E. Gray, 1847

²¹**67. *Onithochiton hirasei* Pilsbry, 1901**

Notes: Reported from Marado by this study.

²²Genus *Rhyssoplax* J. E. Gray, 1847

68. *Rhyssoplax kurodai* (Is. Taki and Iw. Taki, 1929)

Notes: Reported from Marado by Lee (1991).

²³Family Ischnochitonidae

²⁴Genus *Ischnochiton* J. E. Gray, 1847

²⁵**69. *Ischnochiton comptus* (A. Gould, 1859)**

Notes: Reported from Marado by Lee (1991).

²⁶Phylum Arthropoda

²⁷Subphylum Chelicerata

²⁸Class Arachnida

²⁹Order Araneae

³⁰Family Agelenidae

³¹Genus *Agelena* Walckenaer, 1805

³²**1. *Agelena labyrinthica* (Clerck, 1757)**

Notes: Reported from Marado by Kim et al. (2016).

³³Genus *Tegenaria* Latreille, 1804

³⁴**2. *Tegenaria domestica* (Clerck, 1757)**

Notes: Reported from Marado by Kim et al. (2016).

³⁵Family Araneidae

³⁶Genus *Araneus* Clerck, 1757

³⁷**3. *Araneus ventricosus* (L. Koch, 1878)**

Notes: Reported from Marado by Kim et al. (2016).

³⁸Genus *Argiope* Audouin, 1826

³⁹**4. *Argiope amoena* L. Koch, 1878**

Notes: Reported from Marado by Kim et al. (2016).

⁴⁰**5. *Argiope bruennichi* (Scopoli, 1772)**

Notes: Reported from Marado by Kim et al. (2016).

Korean name: ¹배무래기, ²테두리고둥속, ³애기두드럭배말, ⁴테두리고둥, ⁵애기삿갓조개과, ⁶진주배말속, ⁷진주배말, ⁸흑색배말, ⁹지렁이고둥과, ¹⁰지렁이고둥속, ¹¹지렁이고둥, ¹²다관강, ¹³군부목, ¹⁴가시군부과, ¹⁵가시군부속, ¹⁶좀털군부, ¹⁷애기털군부, ¹⁸군부과, ¹⁹군부, ²⁰비단군부속, ²¹비단군부, ²²꼬마군부속, ²³연두군부과, ²⁴연두군부속, ²⁵연두군부, ²⁶절지동물문, ²⁷혈각아문, ²⁸거미강, ²⁹거미목, ³⁰풀거미과, ³¹풀거미속, ³²대륙풀거미, ³³집가게거미속, ³⁴집가게거미, ³⁵왕거미과, ³⁶왕거미속, ³⁷산왕거미, ³⁸호랑거미속, ³⁹호랑거미, ⁴⁰긴호랑거미

¹Genus *Cyclosa* Menge, 1866

²6. *Cyclosa japonica* Bösenberg and Strand, 1906

Notes: Reported from Marado by Kim et al. (2016).

³Genus *Lariniaria* Grasshoff, 1970

⁴7. *Lariniaria argiopiformis* (Bösenberg and Strand, 1906)

Notes: Reported from Marado by Kim et al. (2016).

⁵Genus *Leviellus* Wunderlich, 2004

⁶8. *Leviellus stroemi* (Thorell, 1870)

Notes: Reported from Marado by Kim et al. (2016).

⁷Genus *Neoscona* Simon, 1864

⁸9. *Neoscona subpullata* (Bösenberg and Strand, 1906)

Notes: Reported from Marado by Kim et al. (2016).

⁹10. *Neoscona theisi* (Walckenaer, 1841)

Notes: Reported from Marado by Kim et al. (2016).

¹⁰Genus *Trichonephila* Dahl, 1911

¹¹11. *Trichonephila clavata* (L. Koch, 1878)

Notes: Reported from Marado by Kim et al. (2016).

¹²Family Atypidae

¹³Genus *Calommata* Lucas, 1837

¹⁴12. *Calommata signata* Karsch, 1879

Notes: Reported from Marado by Kim et al. (2016).

¹⁵Family Clubionidae

Genus *Bucliona* Benoit, 1977

¹⁶13. *Bucliona jucunda* (Karsch, 1879)

Notes: Reported from Marado by Kim et al. (2016).

¹⁷Family Ctenidae

¹⁸Genus *Anahita* Karsch, 1879

¹⁹14. *Anahita fauna* Karsch, 1879

Notes: Reported from Marado by Kim et al. (2016).

²⁰Family Lycosidae

²¹Genus *Alopecosa* Simon, 1885

²²15. *Alopecosa albostrata* (Grube, 1861)

Notes: Reported from Marado by Kim et al. (2016).

²³Genus *Lycosa* Latreille, 1804

²⁴16. *Lycosa coelestis* L. Koch, 1878

Notes: Reported from Marado by Kim et al. (2016).

²⁵Genus *Pardosa* C. L. Koch, 1847

²⁶17. *Pardosa astrigera* L. Koch, 1878

Notes: Reported from Marado by Kim et al. (2016).

²⁷Genus *Trochosa* C. L. Koch, 1847

²⁸18. *Trochosa rucicola* (De Geer, 1778)

Notes: Reported from Marado by Kim et al. (2016).

²⁹Family Pholcidae

³⁰Genus *Pholcus* Walckenaer, 1805

³¹19. *Pholcus manueli* Gertsch, 1937

Notes: Reported from Marado by Kim et al. (2016).

³²Family Tetragnathidae

³³Genus *Leucauge* White, 1841

³⁴20. *Leucauge blanda* (L. Koch, 1878)

Notes: Reported from Marado by Kim et al. (2016).

³⁵Family Theridiidae

³⁶Genus *Anelosimus* Simon, 1891

³⁷21. *Anelosimus crassipes* (Bösenberg and Strand, 1906)

Notes: Reported from Marado by Kim et al. (2016).

³⁸Genus *Paidiscura* Archer, 1950

³⁹22. *Paidiscura subpallens* (Bösenberg and Strand, 1906)

Notes: Reported from Marado by Kim et al. (2016).

Korean name: ¹먼지거미속, ²복먼지거미, ³어리호랑거미속, ⁴어리호랑거미, ⁵레비왕거미속, ⁶스트로엠잎말이왕거미, ⁷어리왕거미속, ⁸분왕거미, ⁹석어리왕거미, ¹⁰무당거미속, ¹¹무당거미, ¹²땅거미과, ¹³고운땅거미속, ¹⁴고운땅거미, ¹⁵염낭거미과, ¹⁶실깃염낭거미, ¹⁷너구리거미과, ¹⁸너구리거미속, ¹⁹너구리거미, ²⁰늑대거미과, ²¹줄무늬늑대거미속, ²²아로페늑대거미, ²³짧은마디늑대거미속, ²⁴제주늑대거미, ²⁵긴마디늑대거미속, ²⁶별늑대거미, ²⁷곤봉표늑대거미속, ²⁸촌티늑대거미, ²⁹유령거미과, ³⁰유령거미속, ³¹대륙유령거미, ³²갈거미과, ³³백금거미속, ³⁴중백금거미, ³⁵꼬마거미과, ³⁶앞무늬꼬마거미속, ³⁷가시앞무늬꼬마거미, ³⁸무늬꼬마거미속, ³⁹회색무늬꼬마거미

¹Genus *Parasteatoda* Archer, 1946

²**23. *Parasteatoda tepidariorum* (C. L. Koch, 1841)**

Notes: Reported from Marado by Kim et al. (2016).

³Genus *Rhomphaea* L. Koch, 1872

⁴**24. *Rhomphaea sagana* (Dönitz and Strand, 1906)**

Notes: Reported from Marado by Kim et al. (2016).

⁵Genus *Yunohamella* Yoshida, 2007

⁶**25. *Yunohamella lyrica* (Walckenaer, 1841)**

Notes: Reported from Marado by Kim et al. (2016).

⁷Family Thomisidae

⁸Genus *Ebrechtella* Dahl, 1907

⁹**26. *Ebrechtella tricuspidata* (Fabricius, 1775)**

Notes: Reported from Marado by Kim et al. (2016).

¹⁰Genus *Runcinia* Simon, 1875

¹¹**27. *Runcinia insecta* (L. Koch, 1875)**

Notes: Reported from Marado by Kim et al. (2016).

¹²Genus *Xysticus* C. L. Koch, 1835

¹³**28. *Xysticus ephippiatus* Simon, 1880**

Notes: Reported from Marado by Kim et al. (2016).

¹⁴**29. *Xysticus pseudobliteus* (Simon, 1880)**

Notes: Reported from Marado by Kim et al. (2016).

¹⁵Family Salticidae

¹⁶Genus *Attulus* Simon, 1889

¹⁷**30. *Attulus penicillatus* (Simon, 1875)**

Notes: Reported from Marado by Kim et al. (2016).

¹⁸Genus *Bristowia* Reimoser, 1934

¹⁹**31. *Bristowia heterospinosa* Reimoser, 1934**

Notes: Reported from Marado by Kim et al. (2016).

²⁰Genus *Hakka* Berry and Proszynski, 2001

²¹**32. *Hakka himeshimensis* (Dönitz and Strand, 1906)**

Notes: Reported from Marado by Kim et al. (2016).

²²Genus *Helicius* Zabka, 1981

²³**33. *Helicius chikunii* (Logunov and Marusik, 1999)**

Notes: Reported from Marado by Kim et al. (2016).

²⁴Genus *Marpissa* C. L. Koch, 1846

²⁵**34. *Marpissa pulla* (Karsch, 1879)**

Notes: Reported from Marado by Kim et al. (2016).

²⁶Genus *Mendoza* Peckham and Peckham, 1894

²⁷**35. *Mendoza elongata* (Karsch, 1879)**

Notes: Reported from Marado by Kim et al. (2016).

²⁸Genus *Plexippus* C. L. Koch, 1846

²⁹**36. *Plexippus setipes* Karsch, 1879**

Notes: Reported from Marado by Kim et al. (2016).

³⁰Genus *Siler* Simon, 1889

³¹**37. *Siler cupreus* Simon, 1889**

Notes: Reported from Marado by Kim et al. (2016).

Genus *Synageles*

38. *Synageles hilarulus* (C. L. Koch, 1846)

Notes: Reported from Marado by Kim et al. (2016) and Kim et al. (2016).

³²Family Sparassidae

³³Genus *Sinopoda* Jäger, 1999

³⁴**39. *Sinopoda koreana* (Paik, 1968)**

Notes: Reported from Marado by Kim et al. (2016).

³⁵Subphylum Crustacea

³⁶Class Thecostraca

Order Balanomorpha

³⁷Family Balanidae

³⁸Genus *Balanus* Costa, 1778

³⁹**40. *Balanus crenatus* Bruguière, 1789**

Korean name: ¹여리반달꼬마거미속, ²말꼬마거미, ³창거미속, ⁴창거미, ⁵탐라꼬마거미속, ⁶서리꼬마거미, ⁷게거미과, ⁸꽃게거미속, ⁹꽃게거미, ¹⁰흰줄게거미속, ¹¹흰줄게거미, ¹²참게거미속, ¹³대륙게거미, ¹⁴등신게거미, ¹⁵깡충거미과, ¹⁶다섯점마른깡충거미속, ¹⁷다섯점마른깡충거미, ¹⁸금오깡충거미속, ¹⁹꼬마금오깡충거미, ²⁰해안깡충거미속, ²¹해안깡충거미, ²²골풀무깡충거미속, ²³안면골풀무깡충거미, ²⁴왕깡충거미속, ²⁵사충깡충거미, ²⁶살깃깡충거미속, ²⁷살깃깡충거미, ²⁸두줄깡충거미속, ²⁹세줄깡충거미, ³⁰띠깡충거미속, ³¹청띠깡충거미, ³²농발거미과, ³³별농발거미속, ³⁴한국농발거미, ³⁵갑각아문, ³⁶조갑강, ³⁷따개비과, ³⁸따개비속, ³⁹북방흰따개비

Notes: Reported from Marado by Lee (1991).

¹Family Chthamalidae

Genus *Hexechamaesipho* Poltarukha, 1996

41. *Hexechamaesipho pilsbryi* (Hiro, 1936)

Notes: Reported from Marado by Lee (1991).

²Family Tetracitidae

³Genus *Tetracitella* Schumacher, 1817

42. *Tetracitella japonica* (Pilsbry, 1916)

Notes: Reported from Marado by Lee (1991) and this study.

⁵Order Pollicipedomorpha

⁶Family Pollicipedidae

Genus *Capitulum* Gray, 1825

43. *Capitulum mitella* (Linnaeus, 1758)

Notes: Reported from Marado by Lee (1991) and this study.

⁸Class Malacostraca

⁹Order Decapoda

¹⁰Family Diogenidae

Genus *Calcinus* Dana, 1851

11* 44. *Calcinus laevimanus* (Randall, 1840)

Notes: Reported from Marado by this study.

¹²Genus *Clibanarius* Dana, 1852

13 45. *Clibanarius virescens* (Krauss, 1843)

Notes: Reported from Marado by Oh (1983).

¹⁴Genus *Dardanus* Paulson, 1875

15 46. *Dardanus arrosor* (Herbst, 1796)

Notes: Reported from Marado by Lee (1991).

16 47. *Dardanus crassimanus* (H. Milne Edwards, 1836)

Notes: Reported from Marado by Han et al. (2016).

¹⁷Genus *Paguristes* Dana, 1851

18 48. *Paguristes ortmanni* Miyake, 1978

Notes: Reported from Marado by Oh (1983).

¹⁹Family Epialtidae

²⁰Genus *Scyra* Dana, 1851

21 49. *Scyra quadridens* (De Haan, 1839)

Notes: Reported from Marado by Lee (1991).

²²Family Grapsidae

²³Genus *Pachygrapsus* Randall, 1840

24 50. *Pachygrapsus crassipes* Randall, 1840

Notes: Reported from Marado by Lee (1991) and this study.

²⁵Family Lithodidae

²⁶Genus *Hapalogaster* Brandt, 1850

27 51. *Hapalogaster dentata* (De Haan, 1849)

Notes: Reported from Marado by Lee (1991).

²⁸Family Paguridae

²⁹Genus *Boninpagurus* Asakura and Tachikawa, 2004

30 52. *Boninpagurus pilosipes* (Stimpson, 1858)

Notes: Reported from Marado by Lee (1991).

³¹Genus *Pagurus* Fabricius, 1775

32 53. *Pagurus filholi* (De Man, 1887)

Notes: Reported from Marado by Oh (1983).

33 54. *Pagurus japonicus* (Stimpson, 1858)

Notes: Reported from Marado by Oh (1983).

34 55. *Pagurus lanuginosus* De Haan, 1849

Notes: Reported from Marado by Oh (1983).

³⁵Family Porcellanidae

³⁶Genus *Petrolisthes* Stimpson, 1858

37 56. *Petrolisthes japonicus* (De Haan, 1849)

Notes: Reported from Marado by Oh (1983) and Lee (1991).

³⁸Family Rhynchocinetidae

³⁹Genus *Rhynchocinetes* H. Milne Edwards, 1837

Korean name: ¹조무래기따개비과, ²사각따개비과, ³사각따개비속, ⁴검은큰따개비, ⁵거북손목, ⁶거북손과, ⁷거북손, ⁸연갑강, ⁹십각목, ¹⁰넓적원손집게과, ¹¹*산호집게 (신칭), ¹²긴눈집게속, ¹³청색가로가위집게, ¹⁴원손집게속, ¹⁵털줄원손집게, ¹⁶벽돌길원손집게, ¹⁷긴눈집게속, ¹⁸털보긴눈집게, ¹⁹뿔물맞이게과, ²⁰납작뿔게속, ²¹뿔물맞이게, ²²바위게과, ²³바위게속, ²⁴바위게, ²⁵왕게과, ²⁶가시투성어리게속, ²⁷가시투성어리게, ²⁸집게과, ²⁹줄무늬참집게속, ³⁰줄무늬참집게, ³¹참집게속, ³²참집게, ³³붉은눈자루참집게, ³⁴털다리참집게, ³⁵게불이과, ³⁶갯가게불이속, ³⁷갯가게불이, ³⁸꼬덕새우과, ³⁹꼬덕새우속

¹57. *Rhynchocinetes uritai* Kubo, 1942

Notes: Reported from Marado by Han et al. (2016).

²Family Sesarmidae

³Genus *Parasesarma* De Man, 1895

⁴58. *Parasesarma pictum* (De Haan, 1835)

Notes: Reported from Marado by Lee (1991).

⁵Family Xanthidae

⁶Genus *Actaea* De Haan, 1833

⁷59. *Actaea semblatae* Guinot, 1976

Notes: Reported from Marado by Han et al. (2016).

⁸Order Isopoda

⁹Family Armadillidae

¹⁰Genus *Armadillidium* Brandt, 1830

¹¹60. *Armadillidium vulgare* (Latreille, 1804)

Notes: Reported from Marado by this study.

¹²Family Ligiidae

¹³Genus *Ligia* Fabricius, 1798

¹⁴61. *Ligia exotica* Roux, 1828

Notes: Reported from Marado by Lee (1991).

¹⁵Phylum Annelida

¹⁶Class Polychaeta

¹⁷Order Eunicida

¹⁸Family Eunicidae

Genus *Leodice* Lamarck, 1818

¹⁹1. *Leodice antennata* Savigny in Lamarck, 1818

Notes: Reported from Marado by Han et al. (2016).

²⁰Order Sabellida

²¹Family Serpulidae

²²Genus *Filograna* Berkeley, 1835

²³2. *Filograna implexa* Berkeley, 1835

Notes: Reported from Marado by Han et al. (2016).

²⁴Phylum Bryozoa

²⁵Class Gymnolaemata

²⁶Order Cheilostomatida

²⁷Family Adeonidae

²⁸Genus *Adeonella* Busk, 1884

²⁹1. *Adeonella lichenoides* (Lamarck, 1816)

Notes: Reported from Marado by Han et al. (2016).

³⁰Family Thalamoporellidae

³¹Genus *Thalamoporella* Hincks, 1887

³²2. *Thalamoporella lioticha* (Ortmann, 1890)

Notes: Reported from Marado by Han et al. (2016).

³³Phylum Echinodermata

³⁴Class Asteroidea

³⁵Order Forcipulatida

³⁶Family Asteroiidae

³⁷Genus *Coscinasterias* Verrill, 1867

³⁸1. *Coscinasterias acutispina* (Stimpson, 1862)

Notes: Reported from Marado by Lee (1991).

³⁹Order Valvatida

Family Ophidiasteridae

⁴⁰Genus *Certonardoa* H.L. Clark, 1921

⁴¹2. *Certonardoa semiregularis* (Muller and Troschel, 1842)

Notes: Reported from Marado by Han et al. (2016).

⁴²Class Echinoidea

⁴³Order Camarodonta

⁴⁴Family Echinometridae

⁴⁵Genus *Heliocidaris* L. Agassiz and Desor, 1846

⁴⁶3. *Heliocidaris crassispina* (A. Agassiz, 1864)

Notes: Reported from Marado by Lee (1991), Han et al. (2016), and this study.

⁴⁷Family Strongylocentrotidae

⁴⁸Genus *Hemicentrotus* Mortensen, 1942

⁴⁹4. *Hemicentrotus pulcherrimus* (A. Agassiz, 1864)

Notes: Reported from Marado by Lee (1991).

⁵⁰Order Clypeasteroida

Korean name: ¹끄덕새우, ²사각게과, ³사각게속, ⁴사각게, ⁵부채게과, ⁶옴부채게속, ⁷옴부채게, ⁸등각목, ⁹남방공벌레과, ¹⁰공벌레속, ¹¹공벌레, ¹²갯강구과, ¹³갯강구속, ¹⁴갯강구, ¹⁵완형동물문, ¹⁶다모강, ¹⁷털갯지렁이목, ¹⁸털갯지렁이과, ¹⁹고리털갯지렁이, ²⁰꽃갯지렁이목, ²¹석회관갯지렁이과, ²²숨털석회관갯지렁이속, ²³숨털석회관갯지렁이, ²⁴태형동물문, ²⁵나후강, ²⁶순구목, ²⁷사슴뿔이끼벌레과, ²⁸아데오넬라속, ²⁹넓적부리이끼벌레, ³⁰안방이끼벌레과, ³¹안방이끼벌레속, ³²미끈안방이끼벌레, ³³극피동물문, ³⁴불가사리강, ³⁵차극목, ³⁶불가사리과, ³⁷채관불가사리속, ³⁸팔손이불가사리, ³⁹연변목, ⁴⁰빨강불가사리속, ⁴¹빨강불가사리, ⁴²성게강, ⁴³공치성게목, ⁴⁴만두성게과, ⁴⁵보라성게속, ⁴⁶보라성게, ⁴⁷등근성게과, ⁴⁸말뚝성게속, ⁴⁹말뚝성게, ⁵⁰연잎성게목

¹Family Clypeasteridae²Genus *Clypeaster* Lamarck, 1801³**5. *Clypeaster japonicus* Döderlein, 1885**

Notes: Reported from Marado by Han et al. (2016).

⁴Class Holothuroidea⁵Order Holothuriida⁶Family Holothuriidae⁷Genus *Holothuria* Linnaeus, 1767⁸**6. *Holothuria pervicax* Selenka, 1867**

Notes: Reported from Marado by Lee (1991).

Order Synallactida

⁹Family Stichopodidae¹⁰Genus *Apostichopus* Liao, 1980¹¹**7. *Apostichopus japonicus* (Selenka, 1867)**

Notes: Reported from Marado by Lee (1991).

¹²Class Ophiuroidea¹³Order Amphilepidida¹⁴Family Hemieuryalidae¹⁵Genus *Ophioplocus* Lyman, 1861¹⁶**8. *Ophioplocus japonicus* H. L. Clark, 1911**

Notes: Reported from Marado by Han et al. (2016).

A total of 30 species were collected in this study, 12 of which (two arthropod and ten mollusks) were newly reported (Appendix 5). These new records account for 6.56% of the total listed species. Consequently, the updated fauna comprises 183 species across seven phyla, 14 classes, 40 orders, 94 families, and 148 genera (Table 3). The specific taxonomic composition for each phylum is as follows: Porifera (1 class, 8 orders, 15 families, 15 genera, 20 species), Cnidaria (1 class, 5 orders, 12 families, 16 genera, 21 species), Mollusca (3 classes, 13 orders, 29 families, 50 genera, 69 species), Arthropoda (3 classes, 5 orders, 27 families, 55 genera, 61 species), Annelida (1 class, 2 orders, 2 families, 2 genera, 2 species), Bryozoa (1 class, 1 order, 2 families, 2 genera, 2 species), and Echinodermata (4 classes, 6 orders, 7 families, 8 genera, 8 species) (Table 3, Fig. 2).

Specifically, within the phylum Mollusca, the class Gastropoda was dominant, comprising 59 species (32.24%), followed by Polyplacophora with six species (3.28%) and Bivalvia with four species (2.19%). Among the Arthropoda, the class Arachnida accounted for the largest proportion with 39 species (21.31%), followed by Malacostraca with 18 species (9.83%) and Thecostraca with four species (2.19%).

Table 3. Taxonomic composition and number of identified species from Marado Island by phylum, class, order, family, genus, and species, with relative proportions (%)

Phylum	Class	Order	Family	Genus	Species	Ratio (%)
Porifera	Demospongiae	8	15	15	20	10.93
Cnidaria	Anthozoa	5	12	16	21	11.48
Mollusca	Bivalvia	2	4	4	4	2.19
	Gastropoda	10	22	41	59	32.24
	Polyplacophora	1	3	5	6	3.28
Subtotal		13	29	50	69	37.71
Arthropoda	Arachnida	1	12	36	39	21.31
	Malacostraca	2	11	15	18	9.83
	Thecostraca	2	4	4	4	2.19
Subtotal		5	27	55	61	33.33
Annelida	Polychaeta	2	2	2	2	1.09
Bryozoa	Gymnolaemata	1	2	2	2	1.09
Echinodermata	Asteroidea	2	2	2	2	1.09
	Echinoidea	1	2	3	3	1.64
	Holothuroidea	2	2	2	2	1.09
	Ophiuroidea	1	1	1	1	0.55
Subtotal		6	7	8	8	4.37
Total (All phylum)		40	94	148	183	100

Korean name: ¹방패연잎성게과, ²방패연잎성게속, ³방패연잎성게, ⁴해삼강, ⁵해삼목, ⁶해삼과, ⁷해삼속, ⁸눈해삼, ⁹돌기해삼과, ¹⁰아포돌기해삼속, ¹¹돌기해삼, ¹²거미불가사리강, ¹³양린사미목, ¹⁴반넙적거미불가사리과, ¹⁵곱슬거미불가사리속, ¹⁶왜곱슬거미불가사리

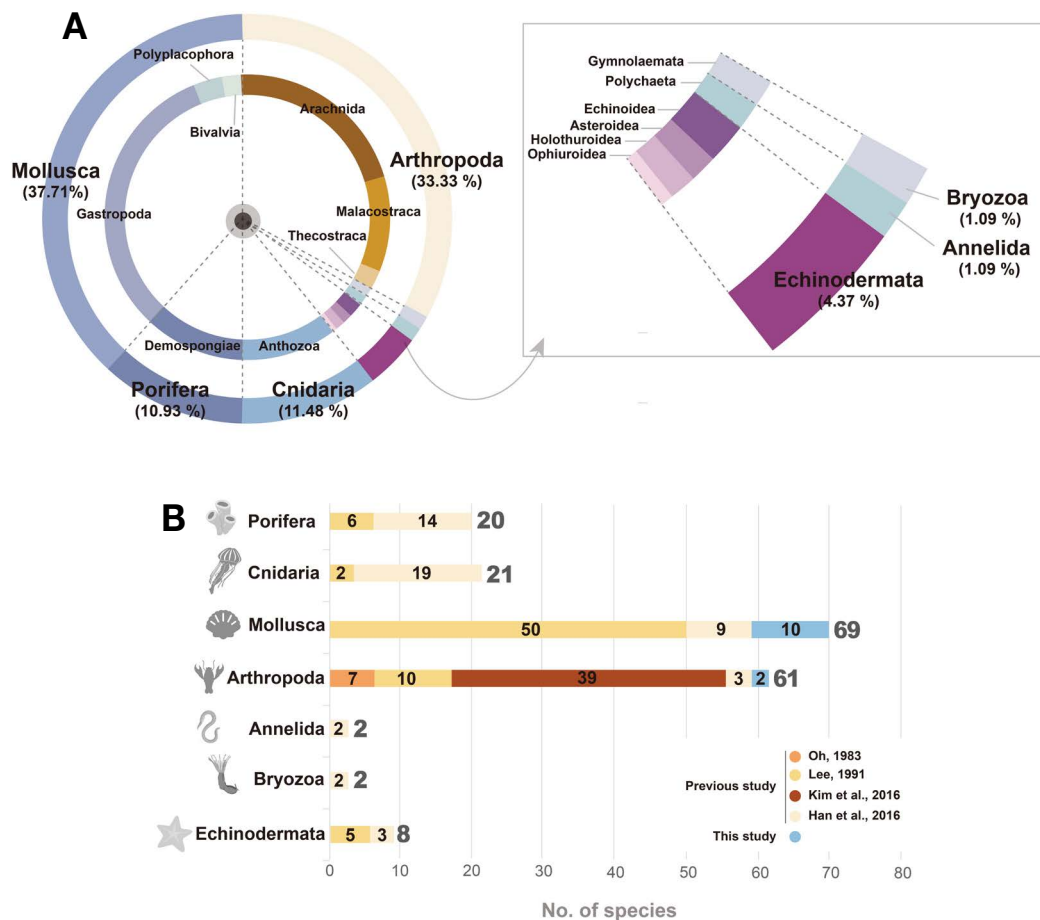


Fig. 2. A, Composition of the indigenous species classified by major taxonomic groups in Marado Island; B, The number of newly added species classified by major taxonomic groups inhabiting the Marado Islands through the four present studies and this study.

Finally, the species composition of Echinodermata included three species of the class Echinoidea (1.64%), two of Asteroidea (1.09%), two of Holothuroidea (1.09%), and one of Ophiuroidea (0.55%).

Under the Wildlife Protection and Management Act (Republic of Korea, 2004), two cnidarian species in our list are designated as Endangered Wildlife Class II, indicating species with substantial population declines due to natural or anthropogenic threats (Table 4, Appendix 6). Additionally, seven cnidarian species are designated as “Marine Organisms under Protection in South Korea” by the Republic of Korea (2006), recognizing their declining numbers, endemism, or high academic and economic value (Table 4, Appendix 6). Among the species, *Myriopathes japonica* and *Myriopathes lata* are designated as Natural monument (Cultural Heritage Administration of Korea, 2009) (Table 4, Appendix 6).

Among the twelve species that are newly recorded in this study, the hermit crab *Calcinus laevimanus* is newly report-

Table 4. Number of recorded species from Marado Island classified according to legal protection and conservation status

Classification	Endangered wildlife	Marine organism under protection	Natural monument
Porifera	–	–	–
Cnidaria	2	7	2
Mollusca	–	–	–
Arthropoda	–	–	–
Annelida	–	–	–
Bryozoa	–	–	–
Echinodermata	–	–	–
Total	2	7	2

ed from Korean invertebrate fauna which marked as single asterisk (*) in the species list. Detailed morphological characteristics and diagnostic characters of this species are provided below.

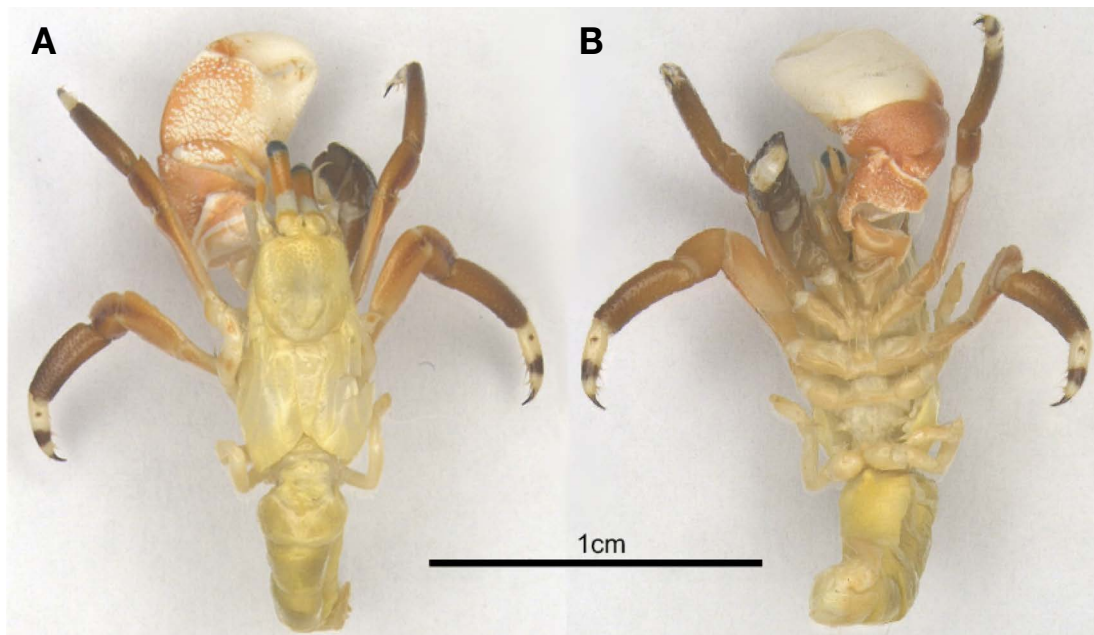


Fig. 3. Dorsal (A) and ventral (B) views of *Calcinus laevimanus* (Randall, 1840) ♂ from Marado Island, Korea (HNIBRIV12833). Scale bar: A, B = 1 cm.

Phylum Arthropoda

Class Malacostraca Latreille, 1802

Order Decapoda Latreille, 1803

Family Diogenidae Ortmann, 1892

Genus *Calcinus* Dana, 1851

¹Calcinus laevimanus* (Randall, 1840) (Fig. 3)**

Pagurus laevimanus Randall, 1840: 135.

Calcinus herbstii - Estampador, 1937: 505; Yap-Chiongco, 1938: 205–206; Estampador, 1959: 53.

Calcinus herbstii - Fize and Serène, 1955: 41–49, fig. 6.

Calcinus laevimanus - Buitendijk, 1937: 267; Wooster, 1984: 156–158; Haig and Ball, 1988: 160; Morgan, 1991: 888–890, figs. 30–33; Gherardi and McLaughlin, 1994: 619–622; Poupin, 1997: 702–703, figs. 2F, 3G, 4E; McLaughlin et al., 2007: 162–164; Malay and Paulay, 2010, appendix S1; Malay et al., 2018: 26–28, fig. 1D; Yoshikawa et al., 2026: 1–6.

Material examined. Korea: 1 ♂ (HNIBRIV12833), Jeju-do: Seogwipo-si, Daejeong-eup, Mara-ri, intertidal zone, 33°6'48.96"N, 126°16'0.12"E, 1 Aug 2024, collectors: Park B, Kim G, Shin CR; 1 ♂ (LEGOA030130), same locality to HNI-BRIV12833, 1 Aug 2024, collectors: Park B, Kim G, Shin CR.

Diagnosis. Shield longer than broad. Left cheliped much

larger than right; surface of propodus partly smooth and polished; left carpus with a strong upper-lateral tubercle. Upper edge of right chela entire, not serrate. Ocular acicles simple; ocular peduncles long and slender, basal half cobalt blue and distal half orange. Dactyls of second and third pereopods white, with a reddish-brown submedian ring and a distinct red-brown spot proximally. Ventral margin of dactyl of third pereopod non-setose. Telson asymmetrical, left lobe larger than right, armed with spines along the posterior margin.

Distribution. Korea (new record), Indo-West Pacific.

Habitat. Prefers to inhabit globose gastropod shells such as Neritidae sp. in intertidal flats, reef flats and rock platforms. The specimens were collected from small pools in the intertidal zone along the reef flat.

Remarks. This species is distinguished from its congeners by the subsemiovate anterior lobe of the sternite of the third pereopods and the dactyls of the second pereopods being about 3 times longer than deep. It also differs from *Calcinus vachoni* Forest, 1958 in general body coloration, particularly the bright cobalt blue and orange ocular peduncles.

DISCUSSION

This study aimed to establish a comprehensive and integrated species list of biological resources from both terrestrial

Korean name: ¹*산호집게 (신칭)

and marine habitats on Marado Island through direct field surveys and an extensive review of previous studies. As a result, we documented species belonging to seven invertebrate phyla—Porifera, Cnidaria, Mollusca, Arthropoda, Annelida, Bryozoa, and Echinodermata. The compiled species list comprises 14 classes, 40 orders, 94 families, 148 genera, and a total of 183 species. Notably, several species included in the list are designated under national or international conservation frameworks, such as endangered wildlife, protected marine organisms, and natural monuments. These designations highlight the conservation value and ecological importance of Marado Island.

The occurrence of some species listed in this study may not fully reflect their present-day distribution. In particular, the marine ecosystem around Marado Island is likely subject to temporal variability driven by environmental factors such as seawater temperature, which may lead to changes in species composition over time (Han et al., 2016). Consequently, further detailed field surveys and long-term monitoring are necessary to verify the current distribution and persistence of the recorded species.

Furthermore, in this study, we report the first record of the hermit crab, *Calcinus laevimanus*, from Marado Island, South Korea. The occurrence of *C. laevimanus* on Marado Island is biogeographically significant. This species is widely distributed across the tropical and subtropical Indo-West Pacific regions, with its type locality being the Hawaiian Islands (Morgan, 1991). Its presence on Marado Island, the southernmost island of Korea, suggests a northward range expansion likely driven by rising sea surface temperatures associated with global climate change (Kim et al., 2025). The Tsushima Warm Current likely transports planktonic larvae to the island, while the intertidal rocky shores and tide pools of Marado Island provide suitable microhabitats (Oda et al., 2022). Consequently, Marado Island may serve as a primary settlement site and a gateway for subtropical marine invertebrates entering Korean waters (Kang and Kim, 2014).

The species list presented in this study is expected to have broad applications in future research and conservation efforts. As the most up-to-date and comprehensive inventory of biological resources from Marado Island, it provides essential baseline data for securing national biodiversity and supporting the conservation and management of indigenous species. In particular, this dataset enables comparative analyses of biodiversity across the Korean Peninsula, with a special focus on its southernmost region. Ultimately, such information will play a critical role in the long-term management and sustainable use of biological resources on Marado Island.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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Appendix 1. Species list of Marado Island through this study

No.	Classification	Species (Scientific name and Korean name)	S1	S2	N1
1	Mollusca	<i>Naria helvola</i> 처녀개오지	•		
2		<i>Tegula rugata</i> 밤고둥	•		
3		<i>Astralium haematragum</i> 바퀴고둥	•		
4		<i>Nerita originalis</i> 원큰입술갈고둥	•		
5		<i>Turcica monilifera</i> 바위고둥		•	
6		<i>Turbo cornutus</i> 소라		•	
7		<i>Anachis miser</i> 보살고둥		•	
8		<i>Ergalatax contracta</i> 탐뿔고둥		•	
9		<i>Acanthochitona achates</i> 좀털군부		•	
10		<i>Acanthochitona rubrolineata</i> 애기털군부		•	
11		<i>Gyroscala commutata</i> 실패고둥			•
12		<i>Lunella correensis</i> 눈알고둥	•	•	
13		<i>Tegula turbinata</i> 구멍밤고둥	•	•	
14		<i>Cellana grata</i> 진주배말	•	•	
15		<i>Onithochiton hirasei</i> 비단군부	•	•	
16		<i>Reishia luteostoma</i> 뿔두드럭고둥	•	•	
17		<i>Nerita japonica</i> 갈고둥	•	•	
18		<i>Japeuthria ferrea</i> 타래고둥	•	•	
19		<i>Patelloida pygmaea</i> 애기두드럭배말	•	•	
20		<i>Monodonta confuse</i> 개울타리고둥	•		•
21		<i>Liolophura japonica</i> 군부	•	•	•
22		<i>Reishia clavigera</i> 대수리	•	•	•
23		<i>Cellana nigrolineata</i> 흑색배말	•	•	•
24		<i>Patelloida saccharina</i> 테두리고둥	•	•	•
25		<i>Nerita albicilla</i> 큰입술갈고둥	•	•	•
1	Arthropoda	<i>Armadillidium vulgare</i> 공벌레	•		
2		<i>Capitulum mitella</i> 거북손	•	•	
3		<i>Tetraclita japonica</i> 검은큰따개비	•	•	
4		<i>Pachygrapsus crassipes</i> 바위게		•	•
1	Echinodermata	<i>Heliocidaris crassispina</i> 보라성게		•	

Appendix 2. Confirmed species identified through re-examination of previous literature

No.	Phylum	Scientific name	References	Reason
1	Porifera	<i>Callyspongia johannesthielei</i>	Han et al. (2016)	Not yet reflected in recent taxonomic revisions
2	Porifera	<i>Callyspongia lindgreni</i>	Han et al. (2016)	Not yet reflected in recent taxonomic revisions
3	Mollusca	<i>Tetrarca boucardi</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
4	Mollusca	<i>Olivella mandarina</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
5	Mollusca	<i>Tegula nigerrima</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
6	Mollusca	<i>Tegula pfeifferi</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
7	Mollusca	<i>Tegula rugata</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
8	Mollusca	<i>Tegula rustica</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
9	Mollusca	<i>Tegula turbinata</i>	Lee (1991)	Not yet reflected in recent taxonomic revisions
10	Arthropoda	<i>Bucliona jucunda</i>	Kim et al. (2016)	Not yet reflected in recent taxonomic revisions
11	Arthropoda	<i>Synageles hilarulus</i>	Kim et al. (2016)	Not yet reflected in recent taxonomic revisions
12	Arthropoda	<i>Hexechamaesipho pilsbryi</i>	Lee (1991)	Supported by subsequent literature
13	Annelida	<i>Filograna implexa</i>	Park et al. (2011), Han et al. (2016)	Supported by subsequent literature

These species are regarded as valid components of the regional fauna based on current taxonomic standards by WoRMS and World Spider Catalog. None of these species are currently listed in the National Species List of Korea, likely due to recent taxonomic revisions that have not yet been incorporated.

Appendix 3. Unresolved taxa reported in previous literature

No.	Phylum	Scientific name	Korean name	References	Reason
1	Porifera	<i>Halichondria japonica</i>	주황해변해면	Lee (1991)	Mismatch between Korean and scientific names
2	Mollusca	<i>Aplysia parvula</i>	붉은 군소	Lee (1991)	No corresponding Korean name
3	Mollusca	<i>Reticunassa fratercula</i>	고운띠무늬	Lee (1991)	Mismatch between Korean and scientific names
4	Mollusca	<i>Trochus maculatus verrimus</i>	바퀴고둥	Lee (1991)	Mismatch between Korean and scientific names
5	Mollusca	<i>Umbonium suturale</i>	비단고둥	Lee (1991)	Mismatch between Korean and scientific names
6	Arthropoda	<i>Pagurus samuelis</i>	참집게	Lee (1991)	Mismatch between Korean and scientific names
7	Echinodermata	<i>Pentacta australis</i>	애기해삼	Lee (1991)	Mismatch between Korean and scientific names

These species were excluded from the confirmed species list due to nomenclatural inconsistencies between Korean and scientific names or no corresponding Korean name, potential synonymy, or ambiguity in the original identification. Although reported in earlier studies, their taxonomic identity could not be reliably validated based on current taxonomic standards.

Appendix 4. Unverified species records reported in previous literature

No.	Phylum	Scientific name	Korean name	References
1	Arthropoda	<i>Pagurus angustus</i>	–	Oh (1983)
2	Arthropoda	<i>Cirolana harfordi japonica</i>	–	Lee (1991)
3	Echinodermata	<i>Actinopyga varians</i>	모나카리해삼	Han et al. (2016)

These species are not included in the National Species List of Korea and lack supporting evidence from subsequent studies. In some cases, their known biogeographic distribution further questions their occurrence in Korea.

Appendix 5. Species list newly recorded through this study

No.	Classification	Species (Scientific name and Korean name)
1	Mollusca	<i>Acanthochitona achates</i> 종털군부
2		<i>Acanthochitona rubrolineata</i> 애기털군부
3		<i>Ergalatax contracta</i> 탐뿔고둥
4		<i>Gyroscala commutate</i> 실패고둥
5		<i>Lunella correensis</i> 눈알고둥
6		<i>Monodonta confusa</i> 개울타리고둥
7		<i>Naria helvola</i> 처녀개오지
8		<i>Nerita originalis</i> 원큰입술갈고둥
9		<i>Onithochiton hirasei</i> 비단군부
10		<i>Turcica monilifera</i> 바위고둥
11	Arthropoda	<i>Armadillidium vulgare</i> 공벌레
12		<i>Calcinus laevimanus</i> 산호집게

Appendix 6. Species list of the phylum Cnidaria which designated as a species subject to Endangered wildlife, Marine Protection and Natural monument

No.	Scientific name and Korean name	Endangered wildlife	Marine organism under protection	Natural monument
1	<i>Euplexaura crassa</i> 둔한진총산호	–	•	–
2	<i>Ellisella ceratophyta</i> 별혹산호	–	•	–
3	<i>Tubastraea coccinea</i> 금빛나팔돌산호	• (Grade II)	•	–
4	<i>Myriopathes japonica</i> 해송	• (Grade II)	•	•
5	<i>Myriopathes lata</i> 긴가지해송	–	•	•
6	<i>Antipathes densa</i> 빗자루해송	–	•	–
7	<i>Cirrihiathes anguina</i> 실해송	–	•	–