

A Checklist of Marine Invertebrates (Polychaetes, Amphipods, Decapods and Molluscs) of Goseong-gun Gangwon-do Area

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Abstract: The study examined marine invertebrates (polychaetes, amphipods, decapods and molluscs) living in Goseong-gun, Gangwon-do. The study selected regions among the Goseong-gun waters including a high level of marine invertebrate diversity, and 4 sessions were conducted between March and September of 2010. As a result, 154 species of 68 families of marine invertebrates were observed, and the figure also included 11 unrecorded Korean species. The 154 marine invertebrates species observed in this study was added to the 188 species which were recorded in taxa encyclopedia to have been collected in Goseong-gun, thereby leading to 311 species of 99 families of marine invertebrates (polychaetes, amphipods, decapods and molluscs) living in Goseong-gun to be included in the inventory created.

Keywords:

Introduction

The northern Gangwon-do waters is heavily influenced by the North Korean cold current, and the site displays significant difference in terms of marine organisms when compared to that of the southern, western and eastern waters, which are influenced primarily by the Kuroshio current. Studies on the marine invertebrate fauna of Goseong-gun, Gangwon-do included only record in an encyclopedia based on findings of a private study, signifying that systematic studies on the region's marine invertebrate fauna have not been conducted. Therefore, this study examined the marine invertebrates (polychaetes, amphipods, decapods, and molluscs) of the Oho-ri, Jugwang-myeon coastal region, which has optimal conditions for various marine organisms as a result of its geological advantages, such as smooth tidal currents and widely developed uninhabited island, sea valleys, rock and sand dunes. Furthermore, the study organized species observed in the study and those recorded in past field records to create a species list of the marine invertebrates (polychaetes, amphipods, decapods, and molluscs) of the Goseong-gun, Gangwon-do region.

Materials and Methods

This study selected 5 subtidal zones, 1 intertidal zone and 1 port, which were expected to provide habitat for a wide range of sessile organism, and observed the study sites over 4 sessions between March and September of 2010 (Table 1, Fig. 1). In the case of subtidal zone, the researcher scuba-dived and the intertidal zone, sessile organisms were

Table 1. Investigation site information of the present study

Sites	Site name	Site detail	Maximum depth(m)	Habitat type
Site 1	Heukdo	East point	24	Rocky land, Sea cliff
		West point	15.6	
		North point	15	
Site 2	Goraebawi	East point	24	Rocky land, Sand dune, Valley
		West point	15.8	
Site 3	Jukdo	East point	24	Artificial reef, Rocky land
		West point	9	
		North point	8.6	
Site 4	Umultomg	-	14	Rocky land, Sand dune
Site 5	Artificial reef	-	14	Artificial reef, Rocky land, Sand dune
Site 6	Intertidal zone	-	-	Rocky shore
Site 7	Oho port (Gill net)	-	-	

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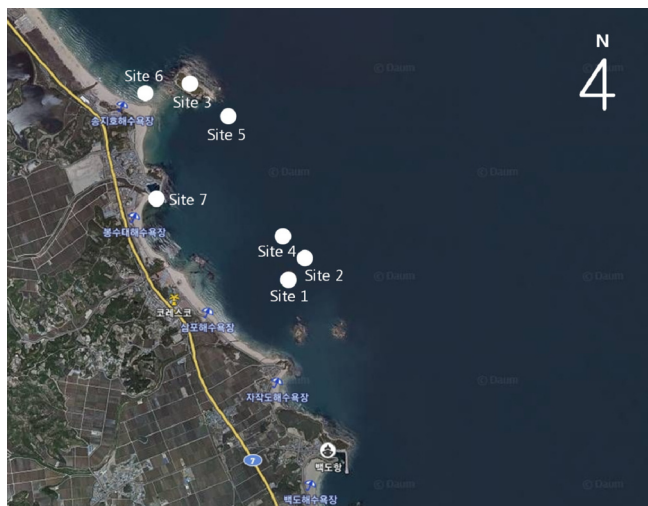


Fig. 1. A map shows the localities of the present study. Site 1. Heukdo; Site 2. Goraebawi; Site 3. Jukdo; Site 4. Umultong; Site 5. Artificial reef; Site 6. Intertidal zone; Site 7. Oho port (Gill net).

collected for individual identification using a chisel, and individuals caught in the nets of fishing vessels of nearby port were also collected. The collected individuals were fixed in 70% ethanol or 10% formalin and were moved to the Specimen production facility of the National Institute of Biological Resources to be made into immersion specimen. For species identification, documents by Choi, 1992; Choi *et al.*, 1999; Coan *et al.*, 2000; Okutani, 2000; Min *et al.*, 2004 were used for molluscs, Hartman, 1939; Imajima and Hartman 1964; Imajima, 1972; 1997; Paik, 1989; Barnich and Fiege, 2000; 2010 for polychaetes, Mayer, 1903; Arimoto, 1976; Barnard and Karaman, 1983; 1991; Hirayama, 1985; 1986; Kim, 1991; Lee and Lee, 1993; Coleman, 1994; Lee and Eun, 2002; Kim *et al.*, 2005; 2006; Eun *et al.*, 2006; Lim and Park, 2006; Kim, 2008; Kim and Lee, 2009; Kim and Min, 2010 for amphipods and Kim, 1973; Sakai, 1976; Kim, 1977; Cha *et al.*, 2001; Kim and Son, 2006 for decapods, and the identified specimen were registered into the National Institute of Biological Resource Management System before being stored in the Specimen Storage Facility of the National Institute of Biological Resources. Taxa classification system used was the same system used by the National Institute of Biological Resource Management System, and the taxa list was organized in alphabetical order.

Results

Habitat traits of each study site

Sites 1 to 5 are subtidal zone habitats (between 8.6 and 24m) and are characterized by sea cliffs, valleys, artificial reef, sand dunes between valleys and rocky lands. Site 6 is a rocky intertidal zone region, and is characterized by low

Table 2. Composition of invertebrate species

Phylum	Taxa	Species composition	Rate (%)
Arthropoda	Amphipoda	46	30
	Decapoda	28	18
Annelida	Polychaeta	20	13
Mollusca	-	60	39
Total		154	100

Table 3. Unrecorded species in Korean fauna of the present study

Phylum	Taxa	Unrecorded species of Korea
Arthropoda	Decapoda	<i>Spirontocaris</i> sp.1
		<i>Spirontocaris</i> sp.2
	Amphipoda	<i>Caprella</i> sp.1
		<i>Caprella</i> sp.2
		<i>Iphiplateia</i> sp. <i>Pleustes</i> sp. <i>Parallorchestes</i> sp.
Annelida	Polychaeta	<i>Arctonoe</i> sp.
		<i>Eunoe</i> sp.
		<i>Harmothoe</i> sp.
		<i>Lepidonotus</i> sp.

tidal difference and constant influx of sea water, as a distinct East Sea trait. In site 7, the marine invertebrates caught in the nets of fishermen working in Oho Port were examined.

Characteristics of the invertebrate fauna

Observed species: This study observed a total of 68 families and 154 species of invertebrates (polychaetes, amphipods, decapods, and molluscs). The species composition of the taxa include 10 families and 20 species of the Polychaetes, 18 families and 46 species of the amphipods, 13 families and 28 species of the decapods and 27 families and 60 species of molluscs, signifying the highest species diversity in molluscs (Table 2). Furthermore, a total of 11 unrecorded candidate species, including 4 species of the polychaeta, 5 species of the amphipoda and 2 species of the decapoda were observed in this study (Table 3, Fig. 2).

Species list: The 154 species of 68 families of invertebrates (polychaetes, amphipods, decapods, and molluscs) observed in this study was added to the 188 species of 62 families which were recorded in taxa encyclopedia to have been collected in Goseong-gun, thereby leading to 311 species of 99 families of marine invertebrates (polychaetes, amphipods, decapods, and molluscs) living in Goseong-gun to be included in the inventory created. In the species list, unrecorded candidate species were marked with an asterisk (*).

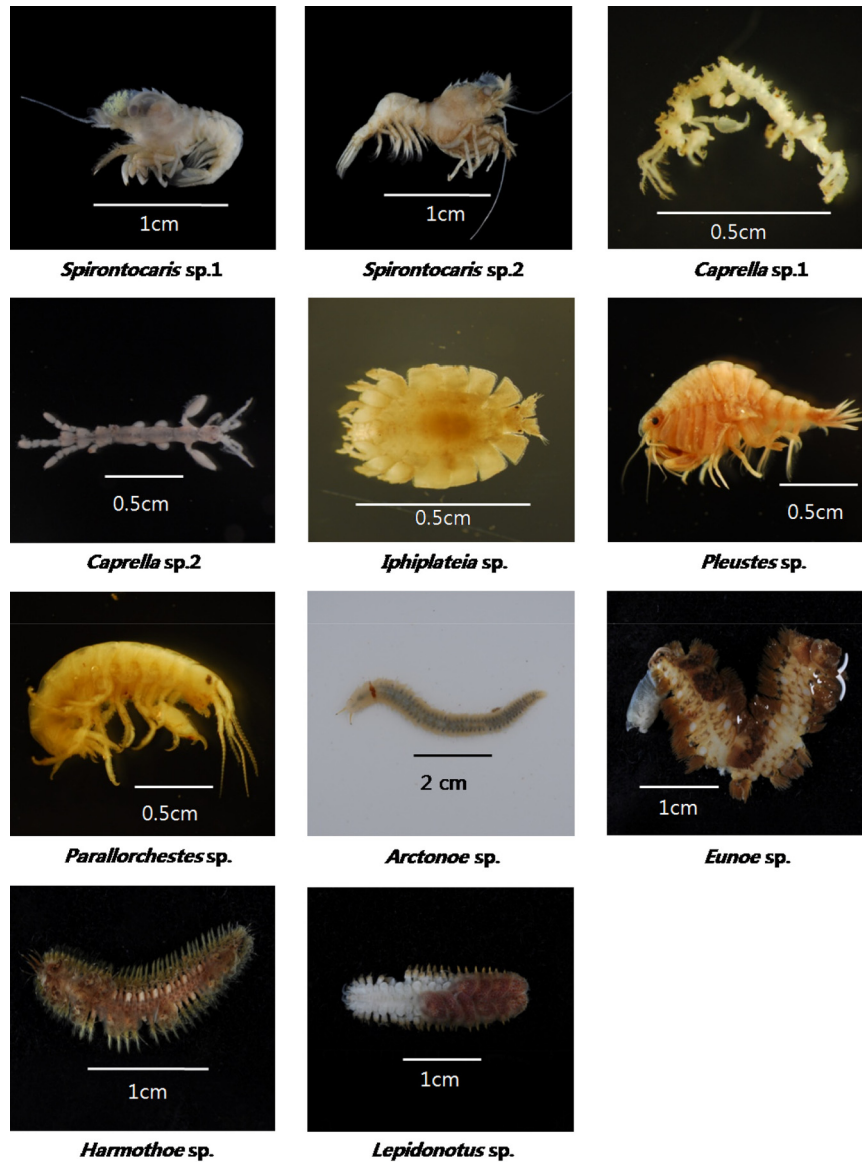


Fig. 2. Unrecorded species in Korean fauna of the present study.

Species list

Phylum Annelida 환형동물문

Class Polychaeta 다모강

Order Aciculata

Family Arabellidae 홍점갯지렁이과

1. *Arabella iricolor*

홍점갯지렁이

Material examined: 1 ind., 2010-3-24, St.3; 2 inds., 2010-03-24, St.5; 1 ind., 2010-06-23, St.3; 1 ind., 2010-06-24, St.2; 1 ind., 2010-07-21, St.3; 3 inds., 2010-9-16, St.2.

Literature: Paik 1989, 442p., Geojin-ri.

Family Eunicidae 털갯지렁이과

2. *Eunice mucronata*

가시털갯지렁이

Material examined: 1 ind., 2010-03-23, St.2; 1 ind., 2010-06-25, St.2; 3 inds., 2010-07-21, St.5; 1 ind., 2010-09-14, St.2; 1 ind., 2010-09-16, St.2.

Family Euphrosinidae 갈구리갯지렁이과

3. *Euphrosine superba*

등갈구리갯지렁이

Material examined: 1 ind., 2010-03-23, St.1.; 1 ind., 2010-06-24, St.4; 1 ind., 2010-09-14, St.2; 4 inds., 2010-09-16, St.2.

Family Glyceridae 미갯지렁이과

4. *Glycera capitata*

큰머리미갯지렁이

Material examined: 1 ind., 2010-06-23, St.3.

Family Lumbrinereidae 송곳갯지렁이과

5. *Lumbrineris japonica*

참송곳갯지렁이

Material examined: 1 ind. 2010-07-21, St. 3.

Family Nereididae 참갯지렁이과

6. *Nereis neoneanthes*

큰깨점박이참갯지렁이

Material examined: 1 ind., 2010-03-23, St.2; 1 ind., 2010-06-24, St.5; 1 ind., 2010-07-21 St.2; 1 ind., 2010-07-21, St.3; 1 ind., 2010-09-15 St.3.

7. *Nereis multignatha*

깨점박이참갯지렁이

Material examined: 3 inds., 2010-03-24, St.5; 2 inds., 2010-06-24, St.2.

8. *Nereis pelagic*

원참갯지렁이

Material examined: 1 ind., 2010-03-24, St.3; 1 ind., 2010-07-22, St.2.

Literature: Paik 1989, 333p., Geojin-ri.

9. *Perinereis nuntia*

눈썹참갯지렁이

Literature: Paik 1989, 311p., Geojin-ri.

10. *Platynereis bicanaliculata*

두점참갯지렁이

Material examined: 1 ind., 2010-03-24, St.5; 2 inds., 2010-07-21, St.3; 1 ind., 2010-07-22, St.1; 2 inds., 2010-07-21, St.3.

Family Phyllodocidae 부채발갯지렁이과

11. *Eulalia viridis*

녹색불꽃부채발갯지렁이

Material examined: 1 ind., 2010-03-24, St.5; 1 ind., 2010-09-16, St.2.

12. *Eumida sanguine*

심장부채발갯지렁이

Literature: Paik 1989, 219p., Geojin-ri.

Family Polynoidae 비늘갯지렁이과

13. **Arctonoe* sp.

Material examined: 1 ind., 2010-03-23, St.2; 1 ind., 2010-06-23, St.2; 1 ind., 2010-09-16, St.2.

14. *Eunoe oerstedii*

툽니수염비늘갯지렁이

Material examined: 1 ind., 2010-06-25, St.2; 1 ind., 2010-09-16, St.4.

15. **Eunoe* sp.

Material examined: 1 ind., 2010-06-24, St.2; 1 ind., 2010-06-24, St.4; 1 ind., 2010-09-16, St.4.

16. *Harmothoe imbricata*

옆눈비늘갯지렁이

Material examined: 1 ind., 2010-03-23, St.2.

17. **Harmothoe* sp.

Material examined: 1 ind., 2010-03-23, St.2.

18. *Halosydna brevisetosa* 짧은미룩비늘갯지렁이
 Material examined: 1 ind., 2010-03-23, St.1; 4 inds., 2010-03-23, St.2; 2 ind., 2010-06-23, St.2; 6 inds., 2010-06-23, St.3; 1 ind., 2010-06-24, St.2; 1 ind., 2010-06-24, St.3; 2 inds., 2010-06-24, St.4; 2 ind., 2010-06-24, St.5; 15 inds., 2010-06-25, St.2; 10 inds., 2010-07-21, St.2; 1 ind., 2010-07-21, St.3; 3 inds., 2010-07-21, St.5; 3 inds., 2010-07-22, St.1; 1 ind., 2010-07-22, St.2; 3 ind., 2010-09-14, St.1; 12 inds., 2010-09-14, St.2; 1 ind., 2010-09-14, St.3; 4 inds., 2010-09-15, St.2; 10 inds., 2010-09-15, St.3; 13 inds., 2010-09-16, St.2; 3 inds., 2010-09-16, St.4.
 Literature: Paik 1989, 377p., Geojin-ri.
19. *Lepidonotus spiculus* 비늘예쁜이비늘갯지렁이
 Material examined: 1 ind., 2010-03-23, St.2; 2 inds., 2010-06-23, St.3; 1 ind., 2010-09-14, St.1.
20. **Lepidonotus* sp.
 Material examined: 1 ind., 2010-07-21, St.2.
- Family Terebellidae 유령갯지렁이과
21. *Filograna implexa* 솜털석회관갯지렁이
 Material examined: 1 ind., 2010-06-24, St.5.
- Not Assigned to an Order
- Family Ophellidae 요정갯지렁이과
22. *Polyopthalmus pictus* 무늬요정갯지렁이
 Material examined: 1 ind., 2010-09-16, St.2
- Phylum Arthropoda 절지동물문
 Class Crustacea 갑각강
 Order Amphipoda 단각목
 Family Ampithoidae 참옆새우과
23. *Ampithoe valida shimizuensis* 오목손참옆새우
 Material examined: 2 inds., 2010-07-21, St.2.
24. *Ampithoe koreana* 큰손참옆새우
 Material examined: 21 inds., 2010-07-21, St.6.
 Literature: Kim and Kim 1988, 115p., Ayajin-ri
25. *Ampithoe ramondi* 갈래손참옆새우
 Material examined: 4 inds., 2010-07-22, St.2.
- Family Anamixidae 병신옆새우과
26. *Paranamixis denticulus* 곰보병신옆새우
 Material examined: 1 ind., 2010-06-24, St.4; 1 ind., 2010-07-21, St.5.
- Family Caprellidae 바다대벌레과
27. *Caprella acanthogaster* 가시투성바다대벌레
 Material examined: 12 inds., 2010-06-22, St.1; 12 inds., 2010-06-23, St.3; 30 inds., 2010-06-24, St.3; 78 inds., 2010-06-24, St.4; 1 ind., 2010-07-21, St.1; 5 inds., 2010-07-22, St.3; 20 inds., 2010-09-14, St.2.
28. *Caprella brevirostris* 가시다리바다대벌레
 Material examined: 88 inds., 2010-03-23, St.1; 1 ind., 2010-03-24, St.6. 1 ind., 2010-06-24, St.3; 4 inds., 2010-07-21, St.6.
29. *Caprella cristibrachium* 털보바다대벌레
 Material examined: 4 inds., 2010-07-21, St.6.

30. *Caprella equilibra* 가슴가시바다대벌레
Material examined: 2 inds., 2010-06-24, St.3.
31. *Caprella eximia* 두줄등가시바다대벌레
Material examined: 1 ind., 2010-03-23, St.1; 9 inds., 2010-03-23, St.2; 1 ind., 2010-06-22, St.1; 8 inds., 2010-06-24, St.3; 9 inds., 2010-06-24, St.4; 1 ind., 2010-07-21, St.2; 20 inds., 2010-07-22, St.3; 20 inds., 2010-09-14, St.2.
32. *Caprella japonica* 일본바다대벌레
Material examined: 1 ind., 2010-09-15, St.3; 1 ind., 2010-09-14, St.6.
33. *Caprella mixta* 긴마디더듬이바다대벌레
Material examined: 3 inds., 2010-06-24, St. 3.
34. *Caprella penantis* 둥근아가미바다대벌레
Material examined: 2 inds., 2010-03-23, St.3; 11 inds., 2010-03-23, St.6; 33 inds., 2010-07-21, St.6.
35. *Caprella polyacantha* 불꽃가시바다대벌레
Material examined: 3 inds., 2010-07-21, St.6; 1 ind., 2010-07-22, St.1.
36. *Caprella scaura* 뿔족머리바다대벌레
Material examined: 2 inds., 2010-03-23, St.1; 2 inds., 2010-03-23, St.6; 8 inds., 2010-03-24, St.3; 1 ind., 2010-03-24, St.5; 16 inds., 2010-06-24, St.3; 10 inds., 2010-06-24, St.4; 11 inds., 2010-06-23, St.3; 30 inds., 2010-07-21, St.1; 1 ind., 2010-07-22, St.1; 6 inds., 2010-07-22, St.3; 13 inds., 2010-09-14, St.1; 20 inds., 2010-09-14, St.2.
37. *Caprella simia* 뿔족머리긴팔바다대벌레
Material examined: 1 ind., 2010-06-23, St.2.
38. *Caprella simplex* 민다리바다대벌레
Material examined: 1 ind., 2010-06-22, St.1; 2 inds., 2010-06-23, St.3; 16 inds., 2010-06-24, St.4; 20 inds., 2010-09-14, St.2; 24 inds., 2010-09-15, St.2.
39. *Caprella subinermis* 갈고리손바다대벌레
Material examined: 1 ind., 2010-03-23, St.6.
40. *Caprella verrucosa* 흑등바다대벌레
Material examined: 1 ind., 2010-03-23, St.1; 1 ind., 2010-03-24, St.5; 3 inds., 2010-07-21, St.6; 1 ind., 2010-07-22, St.3.
41. **Caprella* sp. 1.
Material examined: 1 ind., 2010-09-14, St.1.
42. **Caprella* sp. 2.
Material examined: 1 ind., 2010-07-21, St.3.
- Family Colomastigidae 해면살이옆새우과
43. *Colomastix prionotos* 가시해면살이옆새우
Material examined: 3 inds., 2010-06-24, St.4.
- Family Photidae
44. *Gammaropsis japonicus* 극동육질꼬리옆새우
Material examined: 13 inds., 2010-03-23, St.1; 68 inds., 2010-06-24, St.3; 9 inds., 2010-09-14, St.1; 2 inds., 2010-09-14, St.2; 1 ind., 2010-09-15, St.3; 3 inds., 2010-09-15, St.3; 22 inds., 2010-06-24, St.4; 3 inds., 2010-07-22, St.2.

45. *Photis longicaudata* 볼록눈이형꼬리다리옆새우
Material examined: 5 inds., 2010-06-24, St.3; 1 ind., 2010-07-22, St.1.

Family Atylidae 날씬옆새우과

46. *Atylus ekmani* 갈래등납작붙은꼬리옆새우
Material examined: 1 ind., 2010-03-24, St.5; 29 inds., 2010-06-23, St.3; 8 inds., 2010-06-24, St.3.

47. *Atylus (Kamehatylus) japonicus* 일본납작붙은꼬리옆새우
Material examined: 19 inds., 2010-03-24, St.5; 18 inds., 2010-06-23, St.3; 6 inds., 2010-06-24, St.3; 6 inds., 2010-09-14, St.1.

Family Dexaminidae 붙은꼬리옆새우과

48. *Paradexamine jindoensis*
Material examined: 2 inds., 2010-06-23, St.3.

49. *Paradexamine fraudatrix* 보통옆가시붙은꼬리옆새우
Material examined: 3 inds., 2010-06-23, St.3.

Family Eusiridae 짧은채찍옆새우과

50. *Eusiroides monoculoides japonicus* 극동짧은채찍옆새우
Material examined: 4 inds., 2010-06-24, St.4.

51. *Pontogeneia rostrata* 북태평양짧은채찍옆새우
Material examined: 13 inds., 2010-03-24, St.3; 1 ind., 2010-03-24, St.5; 1 ind., 2010-07-22, St.2.

Family Hyalidae 해조숨이옆새우과

52. *Protohyale rubra* 긴채찍해조숨이옆새우
Material examined: 50 inds., 2010-07-21, St.6.

53. **Parallorchestes* sp.
Material examined: 35 inds., 2010-03-24, St.5; 27 inds., 2010-06-23, St.3; 67 inds., 2010-06-24, St.3; 10 inds., 2010-06-24, St.4; 47 inds., 2010-07-21, St.6; 2 inds., 2010-07-21, St.6; 15 inds., 2010-09-14, St.1.

Family Ischyoceridae 육질꼬리옆새우붙이과

54. *Erichthonius pugnax* 넓은마디육질꼬리옆새우붙이
Material examined: 23 inds., 2010-03-23, St.1; 30 inds., 2010-06-23, St.3; 7 inds., 2010-06-24, St.3.

55. *Jassa slatteryi*
Material examined: 3 inds., 2010-06-24, St.3; 5 inds., 2010-06-24, St.4; 1 ind., 2010-09-15, St.3.

56. *Ventojassa dentipalma* 가시손육질꼬리옆새우붙이
Material examined: 11 inds., 2010-06-24, St.3; 15 inds., 2010-09-14, St.2.

Family Leucothoidae 공생옆새우과

57. *Leucothoe nagatai* 짧은손가락공생옆새우
Material examined: 1 ind., 2010-03-23, St.1; 5 inds., 2010-07-21, St.5; 1 ind., 2010-09-14, St.1; 19 inds., 2010-09-15, St.3.

58. *Leucothoe spinicarpa* 긴손가락공생옆새우
Material examined: 19 inds., 2010-06-24, St.3; 1 ind., 2010-06-24, St.4.

Family Melitidae 멜리타옆새우과

59. *Melita koreana* 네모손멜리타옆새우
Material examined: 1 ind., 2010-07-21, St.6.

Family Oedicerotidae 붉은눈옆새우과

60. *Periculodes seohae* 등근꼬리붉은눈옆새우
Material examined: 1 ind., 2010-03-23, St.6.

61. *Synchelidium trioostegitum* 제주머니붉은눈옆새우
Material examined: 6 inds., 2010-07-21, St.3.

Family Phliantidae 붉은꼬리옆새우과

62. **Iphiplateia* sp.
Material examined: 1 ind., 2010-03-24, St.5; 1 ind., 2010-06-23, St.3; 1 ind., 2010-06-24, St.3; 1 ind., 2010-09-14, St.1.

63. *Pereionotus holmesi* 남작옆새우
Material examined: 1 ind., 2010-06-24, St.4; 1 ind., 2010-07-21, St.6.

Family Pleustidae 주걱턱옆새우과

64. *Parapleustes derzhavini* 북쪽주걱턱옆새우
Material examined: 7 inds., 2010-07-21, St.6.

65. **Pleustes* sp.
Material examined: 2 inds., 2010-09-16, St.2.

Family Podoceridae 긴배옆새우과

66. *Podocerus hoonsooi* 등빨긴배옆새우
Material examined: 3 inds., 2010-06-24, St.3; 8 inds., 2010-06-24, St.4; 1 ind., 2010-09-14, St.1; 2 inds., 2010-09-14, St.2.

67. *Podocerus ulreungensis* 가시손긴배옆새우
Material examined: 3 inds., 2010-03-23, St.1.

Family Stenothoidae 예뻐이옆새우과

68. *Stenothoe valida* 꼬마예뻐이옆새우
Material examined: 1 ind., 2010-07-21, St.3; 11 inds., 2010-07-21, St.6.

Order Decapoda 십각목

Suborder Pleocyemata 포란아목

Infraorder Anomura 집게하목

Family Albuneidae 게가재과

69. *Blepharipoda liberata* 게가재
Literature: Kim 1973, 194p., Geojin-ri.

70. *Lophomastix japonica* 북방게가재
Literature: Kim 1985, 76., Daejin-ri.

Family Diogenidae 넓적원손집게과

71. *Paguristes ortmanni* 털보긴눈집게
Material examined: 1 ind., 2010-06-24, St.3.

Family Paguridae 집게과

72. *Elassochirus cavimanus* 오목손참집게
Material examined: 1 ind., 2010-03-24, St.7.
Literature: Kim 1985, 76p., Geojin-ri.

73. *Labidochirus anomalus* 작은배참집게
Material examined: 12 inds., 2010-03-24, St.7.

74. *Pagurus brachiomastus* 털손참집게
 Material examined: 1 ind., 2010-06-23, St.3; 1 ind., 2010-06-24, St.3; 1 ind., 2010-06-24, St.5.
 Literature: Kim 1985, 74p., Geojin-ri.
75. *Pagurus gracilipes* 납작손참집게
 Material examined: 3 inds., 2010-03-24, St.7.
76. *Pagurus lanuginosus* 털다리참집게
 Material examined: 3 inds., 2010-03-24, St.7.
77. *Pagurus ochotensis* 북방참집게
 Literature: Kim 1985, 73p., Geojin-ri.
78. *Pagurus trigonocheirus* 세모손참집게
 Literature: Kim 1985, 74p., Geojin-ri.
- Family Porcellanidae 게불이과
79. *Pachycheles stevensii* 게불이
 Materials examined: 9 inds., 2010-06-24, St.3; 1 ind., 2010-07-21, St.5; 1 ind., 2010-09-15, St.3.
80. *Pisidia serratifrons* 알통게불이
 Material examined: 1 ind., 2010-09-15, St.3; 1 ind., 2010-09-16, St.4.
- Infraorder Brachyura 게하목
- Family Cancridae 은행게과
81. *Glebocarcinus amphioetus* 꼬마은행게
 Material examined: 1 ind., 2010-03-23, St.6; 1 ind., 2010-06-24, St.2; 1 ind., 2010-06-24, St.3; 1 ind., 2010-07-21, St.3.
- Family Dorippidae 조개치레과
82. *Paradorippe granulate* 움조개치레
 Literature: Kim and Kim 1972, 136p., Geojin-ri.
- Family Dromiidae 해변치레과
83. *Lauridromia dehaani* 해변치레
 Material examined: 1 ind., 2010-06-25, St.2; 2 inds., 2010-09-16, St.4.
- Family Epialtidae 물맞이게과
84. *Pisoides bidentatus* 어리물맞이게
 Literature: Kim 1985, 80p., Geojin-ri.
85. *Pugettia minor* 꼬마물맞이게
 Material examined: 1 ind., 2010-06-23, St.2; 8 inds., 2010-06-24, St.3; 7 inds., 2010-06-25, St.2.
86. *Pugettia quadridens* 빨물맞이게
 Material examined: 2 inds., 2010-03-24, St.6; 4 inds., 2010-03-24, St.7; 1 ind., 2010-06-22, St.1; 2 inds., 2010-06-23, St.2; 1 ind., 2010-06-23, St.3; 1 ind., 2010-06-24, St.2; 10 inds., 2010-06-25, St.2; 1 ind., 2010-07-22, St.1; 1 ind., 2010-09-14, St.1.
- Family Majidae 털다리게과
87. *Chionoecetes opilio* 대게
 Material examined: 1 ind., 2010-03-24, St.7.
 Literature: Kim 1985, 76p., Geojin-ri.

88. *Hyas coarctatus* 두꺼비게
 Material examined: 1 ind., 2010-03-23, St. 7; 2 inds., 2010-03-24, St. 7.
 Literature: Kim 1973, 523p., Oho-ri.

89. *Oregonia gracilis* 긴집게발게
 Material examined: 5 inds., 2010-03-24, St.7.

Family Plumnidae

90. *Pilumnus minutus* 애기털보부채게
 Material examined: 8 inds., 2010-06-24, St.3; 1 ind., 2010-09-15, St.3.

Family Varunidae 참게과

91. *Eriocheir japonica* 동남참게
 Materials examined: 1 ind., 2010-03-24, St.7.

92. *Gaetice depressus* 납작게
 Material examined: 7 inds., 2010-03-24, St.6.

93. *Hemigrapsus sanguineus* 무늬발게
 Material examined: 5 inds., 2010-03-23, St.6; 12 inds., 2010-03-23, St.6.

Family Xanthidae 부채게과

94. *Gaillardius orientalis* 털부채게
 Material examined: 1 ind., 2010-06-23, St.2; 1 ind., 2010-06-24, St.3; 1 ind., 2010-09-16, St.2.

Infraorder Caridea 생이하목

Family Crangonidae 자주새우과

95. *Argis lar* 진흙새우
 Material examined: 5 inds., 2010-03-24, St.7.

96. *Crangon affinis* 자주새우
 Literature: Kim 1977, 294p., Geojin-ri.

97. *Paracrangon echinata* 가시투성어리새우
 Material examined: 1 ind., 2010-03-23, St.2.

Family Hippolytidae 꼬마새우과

98. *Heptacarpus rectirostris* 좁은빨꼬마새우
 Material examined: 1 ind., 2010-06-24, St.4.

99. *Lebbeus groenlandicus* 가시배새우
 Material examined: 1 ind., 2010-03-24, St.7.

100. **Spirontocaris* sp.1
 Material examined: 1 ind., 2010-09-16, St.2.

101. **Spirontocaris* sp.2
 Material examined: 1 ind., 2010-06-24, St.2.

Family Pandalidae 도화새우과

102. *Pandalus borealis* 북쪽분홍새우
 Material examined: 2 inds., 2010-03-24, St.7.

103. *Pandalus hypsinotus* 도화새우
Material examined: 1 ind., 2010-06-22, St.1.
Literature: Kim 1977, 281p., Chodo-ri.
- Phylum Mollusca 연체동물문
Class Bivalvia 이매패강
Order Ostreoida 굴목
Family Anomidae 잠쟁이과
104. *Anomia chinensis* 잠쟁이
Material examined: 1 ind., 2010-06-24, St.5.
105. *Monia macroschisma* 두점잠쟁이
Literature: Min et al. 2004, 411p., Daejin-ri.
- Family Pectinidae 가리비과
106. *Chlamys (Azumapecten) lemniscata* 비늘비단가리비
Literature: Min et al. 2004, 405p., Daejin-ri, Geojin-ri.
107. *Chlamys (Chlamys) islandicus erythrocomatus* 둥근비단가리비
Literature: Min et al. 2004, 403p., Ayajin-ri, Gonghyeonjin-ri.
108. *Chlamys (Chlamys) islandicus islandicus* 북방비단가리비
Literature: Min et al. 2004, 403p., Ayajin-ri, Gonghyeonjin-ri.
109. *Chlamys (Chlamys) islandicus hindsii* 잔줄무늬비단가리비
Literature: Min et al. 2004, 403p., Ayajin-ri, Gonghyeonjin-ri.
110. *Delectopecten macrocheiricola* 반투명작은가리비
Literature: Min et al. 2004, 409p., Daejin-ri.
111. *Patinopecten (Mizuhopecten) yessoensis* 큰가리비
Literature: Min et al. 2004, 407p., Daejin-ri.
- Family Propeamussiidae
112. *Chlamys swifti* 고랑가리비
Material examined: 1 ind., 2010-06-22, St.1.
Literature: Min et al. 2004, 403p., Daejin-ri, geojin-ri, Gonghyeonjin-ri, Ayajin-ri.
- Order Arcolda 돌조개목
Family Arcidae 돌조개과
113. *Arca boucardi* 긴네모돌조개
Material examined: 1 ind., 2010-06-24, St.5.
Literature: Min et al. 2004, 383p., Daejin-ri.
- Family Glycymerididae 밤색무늬조개과
114. *Glycymeris (Glycymeris) aspersa* 밤색무늬조개
Material examined: Min et al. 2004, 389p., Geojin-ri.
115. *Glycymeris (Glycymeris) imperialis* 아랑줄조개
Literature: Min et al. 2004, 391p., Daejin-ri.
116. *Glycymeris (Glycymeris) yessoensis* 북방밤색무늬조개
Literature: Min et al. 2004, 391p., Geojin-ri, Gonghyeonjin-ri.

117. *Tucetonella munda* 꼬마밤색무의조개
Literature: Min et al. 2004, 391p., Daejin-ri, Gonghyeonjin-ri.
- Family Limopsidae 흰바탕무늬조개과
118. *Crenulilmopsis crenata* 작은흰바탕무의조개
Literature: Min et al. 2004, 389p., Daejin-ri.
119. *Empleconia cumingii* 계란흰바탕무늬조개
Literature: Min et al. 2004, 389p., Daejin-ri.
- Family Parallelodontidae 왕복털조개과
120. *Porterius dalli* 왕복털조개
Literature: Min et al. 2004, 389p., Daejin-ri.
- Order Myida 우럭목
Family Corbulidae 쇠방사늬조개 과
121. *Potamocorbula ustulata ustulata* 쇠방사늬조개
Literature: Min et al. 2004, 475p., Oho-ri.
- Family Gastrochaenidae 족사부착쇄조개 과
122. *Hiatella orientalis* 족사부착쇄조개
Literature: Min et al. 2004, 477p., Daejin-ri Geojin-ri.
123. *Panomya ampla* 북방구두주걱조개
Literature: Min et al. 2004, 477p., Daejin-ri.
124. *Panomya priapus* 두언덕코끼리조개
Literature: Min et al. 2004, 477p., Daejin-ri.
125. *Ponomya arctica* 북방코끼리조개
Literature: Min et al. 2004, 477p., Daejin-ri.
- Family Myidae 우럭과
126. *Mya (Nya) truncate* 북방우럭
Literature: Min et al. 2004, 473p., Geojin-ri.
- Family Pholadidae 석공조개 과
127. *Neoxylophaga rikuzenica* 나무속살이조개
Literature: Min et al. 2004, 481p., Geojin-ri.
- Order Veneroida 백합목
Family Astartidae 등줄조개 과
128. *Tridonta (Tridonta) alaskensis* 등줄조개
Literature: Min et al. 2004, 429p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri, Ayajin-ri.
129. *Tridonta (Tridonta) esquimalti* 작은등줄조개
Literature: Min et al. 2004, 429p., Daejin-ri.
130. *Tridonta (Tridonta) bennetti* 꼬마깜장등줄조개
Literature: Min et al. 2004, 429p., Daejin-ri.
131. *Tridonta (Tridonta) filatovae* 작은잔등줄조개
Literature: Min et al. 2004, 429p., Daejin-ri.

Family Cardiidae 새조개과

132. *Clinocardium (Keenocardium) buellowi* 굽은이랑새조개
Literature: Min et al. 2004, 433p., Daejin-ri.
133. *Clinocardium (Keenocardium) californiense* 잔이랑새조개
Literature: Min et al. 2004, 433p., Geojin-ri.
134. *Clinocardium ciliatum* 가는이랑새조개
Material examined: 1 ind., 2010-06-25, St.2.
Literature: Min et al. 2004, 433p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.
135. *Clinocardium (Clinocardium) nutallii* 큰이랑새조개
Literature: Min et al. 2004, 431p., Geojin-ri.
136. *Serripes laperoui* 갈색볼록새조개
Literature: Choe et al. 1999, 131p. Goseong-gun; Min et al. 2004, 433p., Daejin-ri, Geojin-ri.
137. *Serripes laperousii* 고운무늬새조개
Literature: Min et al. 2004, 433p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.

Family Carditidae 주름방사륙조개과

138. *Megacardita koreana* 동해이랑조개
Literature: Min et al. 2004, 425p., Daejin-ri.
139. *Cyclocardia ferruginea* 검은동근이랑조개
Literature: Min et al. 2004, 427p., Daejin-ri.

Family Lasaeidae

140. *Lasaea undulate* 파도가재더부리조개
Material examined: 2 inds., 2010-07-21, St.6.

Family Lucinidae 꽃잎조개과

141. *Pillucina (Pillucina) pisidium* 매화꽃잎조개
Literature: Min et al. 2004, 417p., Daejin-ri, Geojin-ri.

Family Mactridae 개랑조개과

142. *Mactra (Mactra) chinensis* 개랑조개
Literature: Min et al. 2004, 435p., Daejin-ri, Gonghyeonjin-ri.
143. *Mactra (Mactra) veneriformis* 동죽
Literature: Min et al. 2004, 435p., Geokin-ri.

Family Pharidae 작두통가리맛조개과

144. *Siliqua alta* 보라맛조개
Literature: Min et al. 2004, 439p., Daejin-ri, Geojin-ri.

Family Psammobiidae 자패과

145. *Gobraeus katusensis* 나무껍질빛조개
Literature: Min et al. 2004, 451p., Daejin-ri, Gonghyeonjin-ri.
146. *Nuttallia ezonis* 흑빛자패
Literature: Min et al. 2004, 453p., Bongpyeong-ri, Geojin-ri.

147. *Nuttallia commode* 겹정겹질빛조개
 Literature: Min et al. 2004, 453p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri, Ayajin-ri.

Family Solenidae 죽합과

148. *Solen (Ensisoen) krusensterni* 북방맛조개
 Literature: Min et al. 2004, 441p., Daejin-ri, Geojin-ri.

Family Tellinidae 접시조개 과

149. *Cadella lubrica* 매편이접시조개
 Literature: Min et al. 2004, 445p., Daejin-ri, Geojin-ri, Ayajin-ri.

150. *Megangulus venulosus* 접시조개
 Literature: Min et al. 2004, 443p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.

151. *Megangulus luteus* 남방접시조개
 Literature: Min et al. 2004, 443p., Daejin-ri, Gonghyeonjin-ri.

152. *Nitidotellina hokkaidoensis* 붉은줄접시조개
 Literature: Min et al. 2004, 447p., Geojin-ri.

153. *Macoma (Macoma) calcarea* 녹껍질둥근대양조개
 Literature: Min et al. 2004, 447p., Geojin-ri, Daejin-ri, Gonghyeonjin-ri.

154. *Macoma (Macoma) nipponica* 배불뚝이대양조개
 Literature: Min et al. 2004, 449p., Geojin-ri.

155. *Macoma (Macoma) middendolffi* 녹껍질높은대양조개
 Literature: Min et al. 2004, 449p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.

156. *Megangulus zyonoensis* 붉은속비단조개
 Literature: Min et al. 2004, 443p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.

157. *Macoma (Macoma) moesta* 북방대양조개
 Literature: Min et al. 2004, 449p., Geojin-ri.

158. *Rexithaerus sector* 흰대양조개
 Literature: Min et al. 2004, 449p., Geojin-ri.

Family Thyasiridae 말발조개 과

159. *Axinopsida subquadrata* 꼬마말발조개
 Literature: Min et al. 2004, 217p., Geojin-ri.

Family Unglulinidae 돌살이조개 과

160. *Cycladicama semiasperoides* 노랑돌살이조개
 Literature: Min et al. 2004, 421p., Geojin-ri.

Family Veneridae 백합과

161. *Callithaca adamsi* 아담스백합
 Literature: Min et al. 2004, 461p., Daejin-ri, Geojin-ri.

162. *Callista (Ezocallista) brevisiphonata* 주름백합
 Literature: Min et al. 2004, 463p., Daejin-ri, Geojin-ri, Oho-ri, Ayajin-ri.

163. *Callista chinensis* 중국주름백합
Material examined: 1 ind., 2010-09-15, St.3.
164. *Callithaca staminea* 큰북방살조개
Literature: Min et al. 2004, 461p., Geojin-ri.
165. *Irus macrophyllus* 굵은주름입조개
Material examined: 2 inds., 2010-06-24, St.2.
166. *Liocyma fluctuosa* 작은주름백합
Literature: Min et al. 2004, 469p., Daejin-ri.
167. *Mercenaria stimpsoni* 비늘백합
Literature: Min et al. 2004, 461p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.
168. *Protothaca (Novathaca) euglypta* 잔주름살조개
Literature: Min et al. 2004, 461p., Daejin-ri, Gonghyeonjin-ri.
169. *Venus (Ventricoloidea) cassinaeformis* 숨털백합
Literature: Min et al. 2004, 459p., Daejin-ri.
- Order Pholadomyoida 석공조개목
Family Lyonsiidae 안쪽인대조개 과
170. *Agriodesma navicula* 안쪽인대조개
Material examined: 1 ind., 2010-06-24, St.2.
Literature: Min et al. 2004, 487p., Sacheonjin-ri.
- Family Pandoridae 납작조개 과
171. *Cardiomya (Cardiomya) behringgenis behringgenis* 코쟁이국자조개개
Literature: Min et al. 2004, 491p., Daejin-ri.
172. *Heteroclidus pulchellus* 움푹등납작조개
Literature: Min et al. 2004, 489p., Geojin-ri, Gonghyeonjin-ri.
173. *Pandora wardiana* 납작조개
Literature: Min et al. 2004, 487p., Daejin-ri.
- Family Thraciidae 도기조개 과
174. *Eximiothracia concinna* 아기도기조개
Literature: Min et al. 2004, 485p., Gonghyeonjin-ri.
175. *Thracia itoi* 불룩도기조개
Literature: Min et al. 2004, 485p., Daejin-ri.
176. *Thracia kakumana* 고운도기조개
Literature: Min et al. 2004, 485p., Geojin-ri.
- Order Mytilooida 홍합목
Family Mytilidae 홍합과
177. *Crenomytilus grayanus* 동해담치
Literature: Min et al. 2004, 375p., Gonghyeonjin-ri.

178. *Dacrydium vitreum* 북방꼬마담치
Literature: Min et al. 2004, 383p., Daejin-ri.
179. *Musculus corrugates* 남작계란담치
Literature: Min et al. 2004, 381p., Daejin-ri.
180. *Musculus cupreus* 작은계란담치
Literature: Min et al. 2004, 381p., Geojin-ri, Daejin-ri.
181. *Modiolus (Modiolus) kurilensis* 털담치
Literature: Min et al. 2004, 377p., Ayajin-ri, Gonghyeonjin-ri.
182. *Musculus (Musculus) koreanus* 남작치마담치
Literature: Min et al. 2004, 381p., Geojin-ri, Daejin-ri.
183. *Modiolus modiolus* 말홍합
Material examined: 2 inds., 2010-03-23, St.1; 2 inds., 2010-06-23, St.3; 1 ind., 2010-03-24, St.3; 1 ind., 2010-03-24, St.6.
184. *Musculus minutes* 북방작은담치
Literature: Min et al. 2004, 381p., Geojin-ri.
185. *Musculus senhousia* 종뭇
Material examined: 1 ind., 2010-07-21 St.6.
186. *Mytilus coruscus* 홍합
Material examined: 1 ind., 2010-06-22, St.1.
Literature: Min et al. 2004, 375p., Daejin-ri, Gonghyeonjin-ri.
187. *Mytilus galloprovincialis* 지중해담치
Material examined: 2 inds., 2010-03-23, St.6.
188. *Septifer virgatus* 굽은줄격판담치
Material examined: 33 inds., 2010-03-23, St.6; 28 inds., 2010-03-24, St.3.
189. *Vilasina pillula* 자갈색반질이담치
Literature: Min et al. 2004, 379p., Daejin-ri.
- Class Cephalopoda 두족강
Order Sepiida
Family Sepiolidae
190. *Euprymna morsei* 귀꼴뚜기
Material examined: NIBRIV0000226027, 1 ind., 2010-03-24, St.7.
- Class Gastropoda 복족강
Superorder Cocculiniformia 무명천흰삿갓조개상목
Family Cocculinidae 무명천흰삿갓조개과
191. *Cocculina nipponica* 꼬마무명천흰삿갓조개
Literature: Min et al. 2004, 111p., Geojin-ri.
- Order Archaeogastropoda 원시복족목
Family Acmaeidae 흰삿갓조개과
192. *Collisella dorsuosa* 두드럭배말
Material examined: 3 inds., 2010-03-23, St.6; 2 inds., 2010-03-24, St.3.

193. *Collisella heroldi* 애기두드럭배말
Material examined: 10 inds., 2010-07-21, St.6.

194. *Notoacmea concinna fuscoviridis* 납작배무래기
Literature: Choe 1992, 227p., Geojin-ri.

195. *Notoacmea schrenckii* 배무래기
Literature: Choe 1992, 228p., Bongpyeong-ri.

Family Fissurellidae 구멍삿갓조개과

196. *Acmaea pallid* 흰삿갓조개
Material examined: 1 ind., 2010-03-23, St.1.

197. *Macroschisma dilatatum* 낮은구멍삿갓조개
Material examined: 1 ind., 2010-06-24, St.2.
Literature: Min et al. 2004, 89p., Gonghyeonjin-ri.

198. *Macroschisma sinsnsis* 구멍삿갓조개
Material examined: 2 inds., 2010-06-24, St.2.
Literature: Min et al. 2004, 89p., Gonghyeonjin-ri.

199. *Punctrella nobilis* 부리구멍삿갓조개
Material examined: 4 inds., 2010-06-24, St.2.
Literature: Min et al. 2004, 89p., Geojin-ri, Ayajin-ri, Gonghyeonjin -ri.

200. *Tugalina gigas* 빨럭지삿갓조개
Material examined: 1 ind., 2010-06-23, St.3.
Literature: Min et al. 2004, 87p., Ayajin-ri.

201. *Tugalina vadososinuata* 작은빨럭지삿갓조개
Material examined: 1 ind., 2010-03-23, St.2.

Family Haliotidae 전복과

202. *Nordotis discus* 등근전복
Material examined: 1 ind., 2010-03-23, St.6; 1 ind., 2010-03-24, St.3.
Literature: Choe et al. 1999, 25p., Ayajin-ri.

203. *Nordotis discus hannai* 북방전복
Literature: Min et al. 2004, 85p., Gonghyeonjin-ri.

Family Patellidae 삿갓조개과

204. *Cellana grata* 진주배말
Material examined: 1 ind., 2010-03-23, St.6; 1 ind., 2010-03-24, St.3.
Literature: Choe 1992, 232p., Bongpyeong-ri (Hwajinpo).

205. *Cellana toreuma* 애기삿갓조개
Material examined: 1 ind., 2010-03-23, St.6; 1 ind., 2010-03-24, St.3.
Literature: Choe 1992, 233p., Bongpyeong-ri (Hwajinpo).

Family Trochidae 밤고둥과

206. *Calliostoma multiliratum* 얼룩방석고둥
Material examined: 1 ind., 2010-03-23, St.; 2 inds., 2010-03-24, St.3; 2 inds., 2010-03-24, St.6.

207. *Cantharidus callichroa* 얼룩고둥
Material examined: 1 ind., 2010-06-24, St.2.
208. *Chlorostoma argyrostoma*
Material examined: 10 inds., 2010-03-23, St.6; 19 inds., 2010-03-24, St.3; 7.
209. *Chlorostoma argyrostoma lischkei* 밤고둥
Literature: Choe 1992, 257p., Geojin-ri; Choe et al. 1999, 30p., Geojin-ri.
210. *Conotalopia mustelina* 깨알밤고둥
Material examined: 18 inds., 2010-06-24, St.2.
211. *Margarites (Margarites) helycinus pilsbryi* 북방반질이고둥
Literature: Min et al. 2004, 99p., Geojin-ri, Daejin-ri.
212. *Monodonta labio* 울타리고둥
Material examined: 4 inds., 2010-03-24, St.3
213. *Turcica coreensis* 바위고둥
Material examined: 1 ind., 2010-03-23, St.1.
214. *Umbonium costatum* 비단고둥
Material examined: 5 inds., 2010-03-23, St.6; 2 inds., 2010-07-21, St.3.
- Family Turbinidae 소라과
215. *Homalopoma amussitatum* 누더기팔알고둥
Material examined: 1 ind., 2010-03-23, St.1; 10 inds., 2010-03-23, St.2.
Literature: Min et al. 2004, 91p., Gonghyeonjin-ri.
216. *Homalopoma nocturnum* 팔알고둥
Material examined: 10 inds., 2010-07-22, St.1.
217. *Homalopoma sangarense* 산팔알고둥
Material examined: 1 ind., 2010-06-25, St.2.
Literature: Choe 1992, 277p., Ayajin-ri.
218. *Neocollonia pilula pilula* 쇠팔알고둥
Literature: Min et al. 2004, 93p., Gonghyeonjin-ri.
- Order Basommatophora 기안목
Family Siphonariidae
219. *Siphonaria japonica* 고랑따개비
Material examined: 1 ind., 2010-03-23, St.6; 2 inds., 2010-03-24, St.6.
Literature: Choe 1992, 436p., Bongpyeong-ri (Hwajinpo).
220. *Siphonaria laciniosa* 검은고랑따개비
Material examined: 1 ind., 2010-03-24, St.3.
- Order Mesogastropoda 중복종목
Family Barleeidae 깨고둥과
221. *Barleeia angustata* 깨고둥
Material examined: 5 inds., 2010-03-24, St.3.

Family Lacunidae

222. *Epheria decorate* 긴갈색취방울고둥
Material examined: 3 inds., 2010-03-24, St.6.
Literature: Min et al. 2004, 136p., Daejin-ri, Gonghyeonjin-ri.

223. *Temanella turrita* 방울고둥
Material examined: 1 ind., 2010-06-24, St.2.

Family Lamellariidae 배고둥붙이과

224. *Limneria conica* 높은탐배고둥붙이
Material examined: 2 inds., 2010-06-24, St.2.

225. *Velutina (Velutella) plicatilis* 큰입배고둥
Literature: Min et al. 2004, 169p., Daejin-ri.

226. *Velutina pusio* 큰입배고둥붙이
Material examined: 2 inds., 2010-06-24, St.2.
Literature: Min et al. 2004, 169p., Daejin-ri.

Family Littorinidae 총알고둥과

227. *Neritrema sitkana* 큰총알고둥
Material examined: 6 inds., 2010-03-23, St.6; 12 inds., 2010-03-24, St.3.

228. *Temanella turrita* 방울고둥
Literature: Min et al. 2004, 135p., Daejin-ri, Gonghyeonjin-ri.

Family Naticidae 구슬우렁이과

229. *Glossaulax didyma* 큰구슬우렁이
Material examined: 1 ind., 2010-03-23, St.1.

230. *Bulbus falavus falavus* 얇은갈색구슬우렁이
Literature: Min et al. 2004, 171p., Daejin-ri, Geojin-ri, Ayajin-ri.

231. *Cryptonatica (Cryptonatica) clausa* 회색구슬우렁이
Literature: Min et al. 2004, 177p., Daejin-ri, Geojin-ri, Ayajin-ri.

232. *Cryptonatica (Sulconatica) hirasei* 예쁜띠줄구슬우렁이
Literature: Min et al. 2004, 179p., Geojin-ri, Ayajin-ri.

233. *Cryptonatica (Sulconatica) janthostomoides* 돌구슬우렁이
Literature: Min et al. 2004, 179p., Ayajin-ri, Gonghyeonjin-ri.

234. *Cryptonatica (Cryptonatica) ranzii* 흐린띠구슬우렁이
Literature: Min et al. 2004, 177p., Daejin-ri, Geojin-ri.

235. *Cryptonatica (Cryptonatica) russa* 빨강구슬우렁이
Literature: Min et al. 2004, 177p., Daejin-ri, Geojin-ri.

236. *Cryptonatica (Cryptonatica) wakkanaiensis* 큰돌우렁이
Literature: Min et al. 2004, 177p., Daejin-ri.

237. *Cryptonatica (Cryptonatica) zenryumaruae* 뽕족탐구슬우렁이
Literature: Min et al. 2004, 177p., Daejin-ri.

238. *Glossaulax didyma ampla* 높은탐큰구슬우렁이
Literature: Min et al. 2004, 173p., Gonghyeonjin-ri.
239. *Lunatia plicispira* 꽃빛구슬우렁이
Literature: Min et al. 2004, 171p., Daejin-ri, Gonghyeonjin-ri.
- Order Neogastropoda 신복족목
Family Buccinidae 물레고등과
240. *Buccinum bayani* 고운띠물레고등
Literature: Min et al. 2004, 233p., Daejin-ri, Geojin-ri.
241. *Buccinum middendolffi* 미텐도르프물레고등
Literature: Min et al. 2004, 231p., Geojin-ri.
242. *Buccinum oedematum* 주름물레고등
Literature: Min et al. 2004, 233p., Daejin-ri.
243. *Buccinum opisoplectum* 잘록외줄물레고등
Literature: Min et al. 2004, 231p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.
244. *Buccinum ochotensis ochotensis* 오호츠크물레고등
Literature: Min et al. 2004, 231p., Daejin-ri, Geojin-ri.
245. *Buccinum rossicum* 러시아물레고등
Literature: Min et al. 2004, 235p., Geojin-ri, Ayajin-ri.
246. *Buccinum plectrum* 굵은빛줄물레고등
Literature: Min et al. 2004, 233p., Geojin-ri.
247. *Buccinum tsubai* 깊은골물레고등
Literature: Min et al. 2004, 235p., Geojin-ri, Ayajin-ri.
248. *Buccinum kushiroensis* 깊은골둥근물레고등
Literature: Min et al. 2004, 235p., Geojin-ri, Ayajin-ri.
249. *Buccinum zelotes* 잔고리물레고등
Literature: Min et al. 2004, 231p., Geojin-ri.
250. *Buccinum opisoplectum* 세고리물레고등
Material examined: 1 ind., 2010-03-24, St.7.
Literature: Choe et al. 1999, 85p., Daejin-ri; Min et al. 2004, 231p., Geojin-ri.
251. *Lussivoltopsius emphaticus* 명주실타래물레고등
Literature: Min et al. 2004, 231p., Geojin-ri; Min et al. 2004, 219p., Daejin-ri, Geojin-ri.
252. *Colus (Colus) esychus* 황색잔주름고등
Literature: Min et al. 2004, 221p., Geojin-ri, Ayajin-ri.
253. *Lussivoltopsius filusis ochotensis* 높은탐물레고등
Literature: Min et al. 2004, 219p., Daejin-ri.
254. *Habevoltopsius hirasei* 좁은입물레고등
Literature: Min et al. 2004, 219p., Daejin-ri.

255. *Neptunea arthritica* 관절매물고둥
 Material examined: 1 ind., 2010-03-23, St.2; 1 ind., 2010-03-24, St.3; 4 inds., 2010-03-24, St.6; 2 inds., 2010-06-24, St.5.
 Literature: Choe 1992, 383p., Ayajin-ri; Choe et al. 1999, 79p., Ayajin-ri; Min et al. 2004, 225p., Geojin-ri, Daejin-ri.
256. *Neptunea cumingi* 갈색띠매물고둥
 Material examined: 1 ind., 2010-03-24, St.6.
 Literature: Choe 1992, 384p., Ayajin-ri; Choe et al. 1999, 80p., Ayajin-ri.
257. *Neptunea (Neptunea) lamellose* 잔띠매물고둥
 Literature: Min et al. 2004, 223p., Daejin-ri.
258. *Neptunea (Neptunea) elegantula* 굵은고리매물고둥
 Literature: Min et al. 2004, 225p., Geojin-ri, Daejin-ri.
259. *Neptunea (Neptunea) constricta* 명주매물고둥
 Literature: Min et al. 2004, 223p., Daejin-ri.
260. *Neptunea (Neptunea) lyrata* 북해도매물고둥
 Literature: Min et al. 2004, 225p., Daejin-ri.
261. *Neptunea (Neptunea) polycostata* 북방매물고둥
 Literature: Min et al. 2004, 221p., Daejin-ri.
262. *Neptunea (Neptunea) intersculpta* 조각매물고둥
 Literature: Min et al. 2004, 223p., Daejin-ri.
263. *Plicifusus (Plicifusus) aurantius* 방추물레고둥
 Literature: Min et al. 2004, 221p., Daejin-ri, Geojin-ri.
264. *Plicifusus (Plicifusus) croceus* 높은탑방추물레고둥
 Literature: Min et al. 2004, 221p., Geojin-ri, Ayajin-ri.
265. *Plicifusus (Helicofusus) minor* 녹갈색매끈이고둥
 Literature: Min et al. 2004, 221p., Geojin-ri.
266. *Plicifusus (Plicifusus) scissuratus* 보라세로주름고둥
 Literature: Min et al. 2004, 221p., Daejin-ri, Geojin-ri, Ayajin-ri.
267. *Plicifusus (Plicifusus) rhyssus* 어깨방추물레고둥
 Literature: Min et al. 2004, 221p., Geojin-ri.
268. *Reticubuccinum acutispiratum* 뽕족물레고둥
 Literature: Min et al. 2004, 235p., Daejin-ri, Ayajin-ri, Gonghyeonjin-ri, Geojin-ri.
269. *Retimohnia frielei* 입비뿔이주름고둥
 Literature: Min et al. 2004, 219p., Geojin-ri, Daejin-ri.
270. *Retimohnia vernalis* 작은녹색매끈이고둥
 Literature: Min et al. 2004, 221p., Daejin-ri.
271. *Volutharpa ampullacea limnaeiformis* 얇은수랑
 Literature: Min et al. 2004, 237p., Daejin-ri.

272. *Searlesia fuscolabiata* 긴빨매물고둥
Material examined: 4 inds., 2010-09-14, St.1.
273. *Pseudoliomesus ooides ooides* 구슬고둥
Literature: Min et al. 2004, 219p., Geojin-ri, Daejin-ri, Gonghyeonjin-ri.
- Family Muricidae 뿔소라과
274. *Boreotrophon candelabrum* 지느러미빨고둥
Literature: Min et al. 2004, 209p., Daejin-ri.
275. *Boreotrophon cymatus* 갈색입지느러미빨고둥
Literature: Min et al. 2004, 209p., Daejin-ri, Geojin-ri.
276. *Boreotrophon pacificus* 지느러미둥근빨고둥
Literature: Min et al. 2004, 209p., Daejin-ri.
277. *Boreotrophon paucicostatus* 넓은지느러미빨고둥
Literature: Min et al. 2004, 207p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.
278. *Boreotrophon pacificus aomoriensis* 밤색지느러미작은빨고둥
Literature: Min et al. 2004, 209p., Daejin-ri.
279. *Ceratostoma burnetti* 입빨고둥
Material examined: 1 ind., 2010-03-24, St.3; 1 ind., 2010-07-21, St.5.
Literature: Min et al. 2004, 211p., Geojin-ri.
280. *Ceratostoma rorifluum* 맵사리
Material examined: 1 ind., 2010-03-24, St.3; 1 ind., 2010-03-24, St.6.
Literature: Min et al. 2004, 211p., Geojin-ri.
281. *Volutopsius middendorffi middendorffi* 넓은입물레고둥
Literature: Min et al. 2004, 219p., Daejin-ri, Geojin-ri.
282. *Nipponotrophon scitulus* 격자무늬작은고둥
Literature: Min et al. 2004, 209p., Geojin-ri.
283. *Nucella freycineti* 팽이옆주름고둥
Material examined: 2 inds., 2010-03-23, St.6.
Literature: Choe 1992, 362p., Bongpyeong-ri (Hwajinpo), Min et al. 2004, 215p., Gonghyeonjin-ri.
284. *Nucella lamellosa*
Material examined: 1 ind., 2010-03-23, St.1.
285. *Ocinebrellus aduncus* 날개빨고둥
Material examined: 1 ind., 2010-07-21, St.3.
286. *Pteropurpura (Ocinebrellus) falcata falcate* 대롱빨고둥
Literature: Min et al. 2004, 213p., Daejin-ri.
287. *Reishia bronni* 두드럭고둥
Material examined: 1 ind., 2010-03-24, St.3.

288. *Reishia clavigera* 대수리
 Material examined: 9 inds., 2010-03-24, St.3.
 Literature: Choe 1992, 358p., Bongpyeong-ri (Hwajinpo); Min et al. 2004, 215p., Daejin-ri.

Family Columellidae

289. *Mitrella bicincta* 보리무룩
 Material examined: 3 inds., 2010-03-23, St.1.

Family Olividae 대추고둥과

290. *Oella japonica* 밤색띠고둥
 Material examined: 1 ind., 2010-03-23, St.1.

Family Pyrenidae 무룩과

291. *Mitrella tenuis* 날씬이보리무룩
 Literature: Choe 1992, 373p., Bongpyeong-ri (Hwajinpo).

Order Nudibranchia 나새목

Family Dendrodorididae 수지갯민숭달팽이과

292. *Doriopsilla miniata* 그물무늬갯민숭달팽이
 Literature: Koh 2006, 141p., Gonghyeonjin-ri.

Family Dironidae 큰버들잎갯민숭이과

293. *Dirona aurantia* 금빛큰버들잎갯민숭이
 Literature: Koh 2006, Sacheon-ri.

Family Polyceridae 능선갯민숭이과

294. *Triopha catalinae* 가시능선갯민숭이
 Literature: Koh 2006, 79p., Gonghyeonjin-ri.

Order Patellogastropoda 삿갓조개목

Family Lottiidae 두드럭배말과

295. *Problacmaea moskalevi* 빨강꼬마삿갓조개
 Literature: Min et al. 2004, 81p., Daejin-ri, Geojin-ri.

296. *Problacmaea sybaritica* 분홍햇살꼬마삿갓조개
 Literature: Min et al. 2004, 81p., Daejin-ri.

Family Lepetidae 무새흰삿갓조개과

297. *Lepeta kuragiensis* 잔줄무늬무새흰삿갓조개
 Literature: Min et al. 2004, 77p., Daejin-ri.

298. *Lepeta caeca pacifica* 줄무늬무새흰삿갓조개
 Literature: Min et al. 2004, 77p., Daejin-ri, Geojin-ri, Gonghyeonjin-ri.

299. *Limalepeta lima* 무새흰삿갓조개
 Literature: Min et al. 2004, 77p., Daejin-ri.

Order Sacoglossa 낭설목

Family Limapontiidae 꼭지갯민숭불이과

300. *Ercolania boodleae* 주홍꼭지갯민숭불이
 Literature: Koh 2006, 34p., Ayajin-ri.

- Order Sorbeoconcha **흡강목**
 Family Turritellidae **나사고등과**
 301. *Neohaustator fortilirata fortilirata* **갈비큰나사고등**
 Literature: Min et al. 2004, 131p., Geojin-ri, Gonghyeonjin-ri.
- Class Polyplacophora **다판강**
 Order Neoloricata **신군부목**
 Family Acanthochitonidae
 302. *Acanthochitona circellata* **참털군부**
 Material examined: 4 inds., 2010-07-21, St.6.
303. *Cryptochiton stelleri* **말군부**
 Material examined: 3 inds., 2010-03-23, St.2; 6 ind., 2010-03-23.
304. *Lepidozona albrechtii* **북방줄군부**
 Literature: 2 inds., 2010-06-24, St.2.
305. *Placiphorella stimpsoni* **따가리**
 Material examined: 1 ind., 2010-06-24, St.6.
- Family Ischnochitonidae **연두군부과**
 306. *Cryptochiton stelleri stelleri* **말군부**
 Literature: Min et al. 2004, 75p., Geojin-ri, Daejin-ri.
307. *Ischnochiton (Ischnochiton) hakodadensis* **굵은줄연두군부**
 Literature: Min et al. 2004, 71p., Geojin-ri.
308. *Lepidozona (Tripoplax) aalbrechtii* **북방줄군부**
 Literature: Min et al. 2004, 71p., Geojin-ri, Daejin-ri.
309. *Lepidozona (Tripoplax) andrijaschevi* **거친무늬줄군부**
 Literature: Min et al. 2004, 71p., Geojin-ri, Daejin-ri.
310. *Tonicella squamigera* **북방꼬마군부**
 Literature: Min et al. 2004, 71p., Geojin-ri, Daejin-ri.
311. *Tonicella zotini* **붉은반점북방작은군부**
 Literature: Min et al. 2004, 71p., Geojin-ri, Daejin-ri.

Discussion

This study was the first study to examine the marine invertebrate fauna of the Goseong-gun, Gangwon-do region, where effective underwater research has not been possible for a very long time for military reasons. It is expected that the invertebrate fauna observed and examined by this study will be used as basic data for future studies on the effect of climate changes and low water temperature on the East Sea coast fauna. Furthermore, a total of 11 unrecorded candidate species, including 4 species of the polychaeta, 5 species of the amphipoda and 2 species of the decapoda were observed in this study (Table 3, Fig. 2). The

habitat of the 11 unrecorded candidate species included primarily between rocks of the subtidal zone or basal part of sessile organisms. While past subtidal zone collection methods of using grabs, dredges and light traps were not easy to use in complicated rocky terrain, this study enabled collection in new habitats by incorporating scuba-diving. As a result, a number of unrecorded candidate species of Korea were able to be found.

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