

**Appendix 1.** List of marine algae recorded in previous studies.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
<b>Chlorophyta</b>														
1.	<i>Bryopsis hypnoides</i>	+												
2.	<i>Bryopsis plumosa</i>		+			+				+				
3.	<i>Codium arabicum</i>			+						+			+	
4.	<i>Codium fragile</i>	+	+	+		+		+		+	+			
5.	<i>Chaetomorpha spiralis</i>	+												
6.	<i>Cladophora albida</i>	+		+	+									
7.	<i>Cladophora flexuosa</i>		+			+				+				
8.	<i>Cladophora sericea</i>		+			+								
9.	<i>Lychaete japonica</i> var. <i>kajimurae</i>	+												
10.	<i>Lychaete sakaii</i>				+									
11.	<i>Monostroma nitidum</i>									+				
12.	<i>Ulothrix flacca</i>									+				
13.	<i>Ulva australis</i>	+	+	+	+	+		+	+	+	+	+		
14.	<i>Ulva clathrata</i>	+												
15.	<i>Ulva compressa</i>	+			+					+				+
16.	<i>Ulva conglobata</i>		+	+		+		+						
17.	<i>Ulva intestinalis</i>									+				
18.	<i>Ulva linza</i>	+	+	+	+	+		+		+	+	+		
19.	<i>Ulva ohnoi</i>													+
20.	<i>Ulva</i> sp.				+									
<b>Ochrophyta</b>														
21.	<i>Chorda asiatica</i>	+	+	+		+		+						
22.	<i>Desmarestia viridis</i>		+		+	+				+	+			
23.	<i>Dictyopteris divaricata</i>	+	+	+		+								
24.	<i>Dictyopteris latiuscula</i>												+	
25.	<i>Dictyota coriacea</i>				+									
26.	<i>Dictyota dichotoma</i>	+		+	+			+		+				
27.	<i>Dictyota implexa</i>		+			+				+				
28.	<i>Acinetospora crinita</i>	+												
29.	<i>Leathesia marina</i>	+	+	+	+	+		+						
30.	<i>Sphaerotrichia firma</i>	+												
31.	<i>Vimineoleathesia japonica</i>	+												
32.	<i>Ectocarpus acutus</i>	+												
33.	<i>Ectocarpus</i> sp.									+				
34.	<i>Colpomenia peregrina</i>									+				
35.	<i>Colpomenia sinuosa</i>		+	+	+	+		+						
36.	<i>Myelophycus cavus</i>									+				
37.	<i>Myelophycus simplex</i>	+	+	+	+	+		+	+	+	+	+	+	+

Appendix 1. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
38.	<i>Petalonia binghamiae</i>				+									
39.	<i>Petalonia fascia</i>	+			+									
40.	<i>Scytosiphon lomentaria</i>		+		+	+				+	+			+
41.	<i>Sargassum fusiforme</i>	+	+	+	+	+	+			+				
42.	<i>Sargassum horneri</i>				+							+		
43.	<i>Sargassum micracanthum</i>				+									
44.	<i>Sargassum pallidum</i>		+			+								
45.	<i>Sargassum sagamianum</i>	+												
46.	<i>Sargassum thunbergii</i>	+	+	+	+	+	+			+		+	+	
47.	<i>Sargassum</i> sp. 1		+			+								
48.	<i>Sargassum</i> sp. 2									+				
49.	<i>Ishige okamurae</i>									+		+		
50.	<i>Undaria pinnatifida</i>	+	+	+	+	+	+		+	+	+	+	+	+
51.	<i>Saccharina japonica</i>		+			+								
52.	<i>Ralfsia verrucosa</i>	+												
53.	<i>Sphacelaria rigidula</i>	+			+									
<b>Rhodophyta</b>														
54.	<i>Neopyropia tenera</i>									+				
55.	<i>Neopyropia yezoensis</i>		+			+				+				
56.	<i>Pyropia dentata</i>									+				
57.	<i>Pyropia seriata</i>		+		+	+			+	+				
58.	<i>Pyropia suborbiculata</i>									+	+			+
59.	<i>Ahnfeltia plicata</i>													
60.	<i>Ahnfeltia</i> sp.									+				
61.	<i>Bonnemaisonia hamifera</i>	+								+				
62.	<i>Antithamnion nipponicum</i>	+	+			+						+		
63.	<i>Ceramium boydenii</i>	+	+			+								
64.	<i>Ceramium japonicum</i>	+										+		
65.	<i>Ceramium kondoi</i>	+	+		+	+				+	+			
66.	<i>Pterothamnion yezoense</i>		+			+								
67.	<i>Acrosorium ciliolatum</i>									+				
68.	<i>Acrosorium flabellatum</i>	+												
69.	<i>Acrosorium polyneurum</i>				+								+	
70.	<i>Acrosorium yendoi</i>	+												
71.	<i>Dasya sessilis</i>	+								+				
72.	<i>Dasysiphonia japonica</i>		+			+						+		
73.	<i>ErythroGLOSSUM minimum</i>									+				
74.	<i>Heterosiphonia pulchra</i>		+			+						+		
75.	<i>Heterosiphonia</i> sp.									+				

## Appendix 1. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
76.	<i>Pseudopolyneura japonica</i>											+		
77.	<i>Chondria atropurpurea</i>													+
78.	<i>Chondria crassicaulis</i>	+	+		+	+	+			+	+			
79.	<i>Chondrophycus cartilagineus</i>													+
80.	<i>Laurencia nipponica</i>	+	+			+								
81.	<i>Laurencia okamurae</i>	+			+				+	+	+			
82.	<i>Laurencia venusta</i>	+												
83.	<i>Melanothamnus forfex</i>	+												
84.	<i>Melanothamnus notoensis</i>	+												
85.	<i>Melanothamnus yendoi</i>	+												
86.	<i>Palisada intermedia</i>	+												
87.	<i>Polysiphonia morrowii</i>		+		+	+			+	+	+			
88.	<i>Polysiphonia</i> sp.									+				
89.	<i>Symphyclocladia latiuscula</i>	+			+		+			+	+	+		+
90.	<i>Symphyclocladia marchantioides</i>											+		
91.	<i>Vertebrata fucoides</i>	+												
92.	<i>Colaconema daviesii</i>	+												
93.	<i>Corallina officinalis</i>	+	+			+				+				
94.	<i>Corallina pilulifera</i>	+	+	+	+	+	+			+	+	+	+	+
95.	<i>Corallina</i> sp. 1								+					
96.	<i>Corallina</i> sp. 2		+			+								
97.	<i>Amphiroa anceps</i>											+		
98.	<i>Amphiroa ephedraea</i>	+												
99.	<i>Lithophyllum okamurae</i>	+												
100.	<i>Lithophyllum</i> sp.									+				
101.	<i>Gelidiophycus freshwateri</i>	+	+	+	+	+		+				+	+	
102.	<i>Gelidium elegans</i>	+	+	+	+	+	+			+	+	+	+	+
103.	<i>Gelidium vagum</i>	+												
104.	<i>Pterocladiaella capillacea</i>	+					+	+		+		+		
105.	<i>Caulacanthus okamurae</i>										+	+		
106.	<i>Hypnea spinella</i>													+
107.	<i>Dumontia simplex</i>		+	+		+		+						
108.	<i>Gloiopeltis frutex</i>	+												
109.	<i>Gloiopeltis furcata</i>	+	+		+	+			+	+				
110.	<i>Gloiopeltis tenax</i>	+	+			+								
111.	<i>Chondracanthus intermedius</i>		+			+	+				+			
112.	<i>Chondracanthus tenellus</i>	+									+	+	+	+
113.	<i>Chondrus ocellatus</i>		+		+	+	+			+	+	+	+	
114.	<i>Gymnogongrus flabelliformis</i>	+	+		+	+			+	+				

Appendix 1. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
115.	<i>Agarophyton vermiculophyllum</i>		+			+								
116.	<i>Gracilaria textorii</i>									+	+	+		+
117.	<i>Grateloupia acuminata</i>		+			+								
118.	<i>Grateloupia asiatica</i>		+			+				+				
119.	<i>Grateloupia porracea</i>											+		
120.	<i>Grateloupia turuturu</i>		+			+				+				
121.	<i>Grateloupia</i> sp.		+			+								
122.	<i>Polyopes affinis</i>	+	+			+				+	+			
123.	<i>Helminthocladia yendoana</i>									+				
124.	<i>Nemalion vermiculare</i>	+												
125.	<i>Schizymenia dubyi</i>										+			
126.	<i>Champia recta</i>		+			+								
127.	<i>Lomentaria hakodatensis</i>	+			+									
128.	<i>Lomentaria lubrica</i>	+												
129.	<i>Botryocladia wrightii</i>	+	+		+	+					+	+	+	+
130.	<i>Rhodymenia intricata</i>										+		+	
131.	<i>Stylonema alsidii</i>	+												
	<b>Ochrophyta</b>	9	7	6	6	7	0	4	1	10	3	3	1	1
No. Species	<b>Chlorophyta</b>	16	14	9	15	14	3	8	2	13	4	6	3	2
	<b>Rhodophyta</b>	38	30	4	15	30	8	5	6	30	17	18	11	8
	<b>Total</b>	63	51	19	36	51	11	17	9	53	24	27	15	11

1, Lee and Yoo (1978); 2, NIE (2007b); 3, NIE (2016b); 4, KMI (2006); 5, KHOA (2011); 6, ME (2001); 7, NIE (2007a); 8, KOEM (2015); 9, NIE (2016a); 10, KOEM (2017); 11, KOEM (2019)

## Appendix 2. List of marine invertebrate recorded in previous studies.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
<b>Annelida</b>														
1.	<i>Schistomeringos</i> sp.				+									
2.	<i>Eunice indica</i>												+	
3.	<i>Eunice</i> sp.												+	
4.	<i>Lumbrineris</i> sp.				+									
5.	<i>Arabella iricolor</i>		+			+								
6.	<i>Diopatra sugokai</i>												+	
7.	<i>Naineris laevigata</i>													+
8.	<i>Micropodarke dubia</i>				+									
9.	<i>Cheilonereis cyclurus</i>		+											
10.	<i>Namanereis littoralis</i>				+									
11.	<i>Nereis heterocirrata</i>				+									
12.	<i>Platynereis bicanaliculata</i>				+						+			
13.	<i>Platynereis dumerilii</i>				+									
14.	<i>Eulalia viridis</i>					+								
15.	<i>Eumida sanguinea</i>													+
16.	<i>Nereiphylla castanea</i>													+
17.	<i>Halosydna brevisetosa</i>													+
18.	<i>Harmothoe</i> sp.													+
19.	<i>Hermilepidonotus helotypus</i>		+			+				+	+			+
20.	<i>Lepidonotus</i> sp. 1									+				
21.	<i>Lepidonotus</i> sp. 2										+			
22.	<i>Lepidonotus</i> sp. 3													+
23.	Polynoidae sp. 1										+			
24.	Polynoidae sp. 2													+
25.	<i>Syllis prolifera</i>				+									
26.	<i>Syllis variegata</i>				+									
27.	Syllidae sp. 1				+									
28.	Syllidae sp. 2				+									
29.	Syllidae sp. 3										+			
30.	Syllidae sp. 4													+
31.	<i>Chone</i> sp.				+									
32.	<i>Sabellastarte spectabilis</i>													+
33.	<i>Hydroides ezoensis</i>									+	+			
34.	<i>Neodexiospira alveolata</i>					+								
35.	<i>Neodexiospira foraminosa</i>									+	+			+
36.	<i>Salmacina dysteri</i>		+			+				+	+			+
37.	<i>Serpula vermicularis</i>		+			+								
38.	<i>Spirobranchus kraussii</i>		+			+								

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyeongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
39.	<i>Serpulidae</i> sp.				+									
40.	<i>Cirriformia tentaculata</i>											+		
41.	<i>Amphitrite cirrata</i>											+		
42.	<i>Thelepus toyamaensis</i>				+									
43.	<i>Polychaeta</i> sp.				+									
	<b>Arthropoda</b>													
44.	<i>Ampithoe lacertosa</i>								+	+			+	+
45.	<i>Ampithoe</i> sp. 1							+						
46.	<i>Pleonexes koreana</i>									+				
47.	<i>Ampithoidae</i> sp. 1							+						
48.	<i>Ampithoidae</i> sp. 2							+						
49.	<i>Grandidierella japonica</i>									+	+			
50.	<i>Caprella acanthogaster</i>									+	+			
51.	<i>Caprella brevirostris</i>									+	+			
52.	<i>Caprella equilibra</i>										+			
53.	<i>Caprella penantis</i>	+									+			
54.	<i>Caprella polyacantha</i>										+			
55.	<i>Caprella scaura</i>							+			+			
56.	<i>Caprella tsugarensis</i>										+			
57.	<i>Caprella</i> sp. 1										+			
58.	<i>Paracaprella</i> sp.										+			
59.	<i>Monocorophium acherusicum</i>									+	+			
60.	<i>Guernea</i> sp.										+			
61.	<i>Apohyale punctata</i>										+			
62.	<i>Protohyale (Boreohyale) rubra</i>									+				
63.	<i>Erichthonius pugnax</i>										+			
64.	<i>Jassa</i> sp.										+			
65.	<i>Leucothoe spinicarpa</i>										+			
66.	<i>Liljeborgia</i> sp.										+			
67.	<i>Ceradocus (Denticeradocus) koreanus</i>									+	+			
68.	<i>Ceradocus</i> sp.										+			
69.	<i>Orientomaera brevispina</i>										+			
70.	<i>Melita rylovae</i>										+			
71.	<i>Gammaropsis japonica</i>										+		+	
72.	<i>Pleustidae</i> sp.										+			
73.	<i>Podocerus</i> sp.										+			
74.	<i>Pontogeneia rostrata</i>										+			
75.	<i>Stenothoe valida</i>									+	+			
76.	<i>Stenothoe</i> sp.										+			

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
77.	<i>Amphipoda</i> sp. 1				+									
78.	<i>Amphipoda</i> sp. 2													
79.	<i>Amphipoda</i> sp. 3													
80.	<i>Amphipoda</i> sp. 4													
81.	<i>Amphipoda</i> sp. 5													
82.	<i>Amphipoda</i> sp. 6													
83.	<i>Amphipoda</i> sp. 7													
84.	<i>Alpheus bisincisus</i>													+
85.	<i>Athanas japonicus</i>													+
86.	<i>Glebocarcinus amphioetus</i>		+							+	+			
87.	<i>Romaleon gibbosulum</i>		+				+							
88.	<i>Paguristes ortmanni</i>		+				+			+	+			
89.	<i>Paguristes</i> sp.		+				+							
90.	<i>Paradromia japonica</i>													+
91.	<i>Hyastenus diacanthus</i>													+
92.	<i>Pisoides bidentatus</i>		+							+	+			
93.	<i>Pugettia incisa</i>						+							
94.	<i>Pugettia intermedia</i>													+
95.	<i>Pugettia quadridens</i>		+				+			+	+		+	
96.	<i>Pugettia</i> sp.													+
97.	<i>Scyra compressipes</i>		+				+							
98.	<i>Galathea orientalis</i>		+				+			+	+		+	
99.	<i>Pachygrapsus crassipes</i>													+
100.	<i>Hapalogaster dentata</i>		+	+			+			+	+		+	
101.	<i>Hapalogaster</i> sp. 1									+				
102.	<i>Hapalogaster</i> sp. 2		+				+							
103.	<i>Hapalogaster</i> sp. 3										+			
104.	<i>Hapalogaster</i> sp. 4													+
105.	<i>Oedignathus inermis</i>	+	+							+	+		+	
106.	Hippolytidae.										+			
107.	<i>Sphaerozius nitidus</i>		+				+			+	+		+	
108.	<i>Oregonia gracilis</i>		+											
109.	<i>Pagurus brachiomastus</i>		+							+	+		+	
110.	<i>Pagurus nigrivittatus</i>													+
111.	<i>Pagurus ochotensis</i>		+				+							+
112.	<i>Pagurus pectinatus</i>										+		+	
113.	<i>Pagurus</i> sp.		+											
114.	<i>Pilumnus minutus</i>		+				+			+	+		+	
115.	<i>Arcotheres cyclinus</i>										+			

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
116.	<i>Pimnotheres pholadis</i>		+			+								
117.	<i>Pachycheles stevensii</i>									+		+		
118.	<i>Pisidia serratifrons</i>					+			+	+		+		
119.	<i>Charybdis (Charybdis) japonica</i>		+			+		+		+		+		
120.	<i>Rhynchocinetes uritai</i>									+				
121.	<i>Eualus sinensis</i>													+
122.	<i>Heptacarpus rectirostris</i>		+						+	+		+		
123.	<i>Heptacarpus</i> sp.					+								
124.	<i>Gaetice depressus</i>								+	+				
125.	<i>Helicana wuana</i>								+					
126.	<i>Hemigrapsus sanguineus</i>	+	+			+				+		+		
127.	<i>Gaillardiiellus orientalis</i>								+	+		+		
128.	<i>Medaeops granulosis</i>		+			+								
129.	<i>Medaeops</i> sp.		+											
130.	<i>Xenophthalmus pinnotheroides</i>								+					
131.	<i>Cleantiella isopus</i>							+						
132.	<i>Ligia exotica</i>	+							+	+		+		
133.	<i>Ligia</i> sp.				+									
134.	<i>Dynoides</i> sp.									+				
135.	<i>Holotelson tuberculatus</i>							+						
136.	<i>Pycnogonida</i> sp. 1									+				
137.	<i>Pycnogonida</i> sp. 2									+				
138.	<i>Capitulum mitella</i>	+	+	+	+	+		+	+	+	+	+	+	
139.	<i>Amphibalanus improvisus</i>													+
140.	<i>Balanus rostratus</i>		+			+						+		
141.	<i>Balanus trigonus</i>										+	+		
142.	<i>Megabalanus rosa</i>			+				+						
143.	<i>Megabalanus volcano</i>		+			+			+	+		+		
144.	<i>Chthamalus challengerii</i>		+	+	+	+		+	+	+	+	+		
145.	<i>Tetraclita japonica</i>	+	+		+	+	+		+	+	+	+	+	
	<b>Brachiopoda</b>													
146.	<i>Coptothyris grayi</i>								+	+		+		
	<b>Bryozoa</b>													
147.	<i>Akatopora tinctoria</i>							+				+		
148.	<i>Bugulina californica</i>								+	+				
149.	<i>Cauloramphus korensis</i>			+				+						
150.	<i>Amastigia rudis</i>		+											
151.	<i>Caberea lata</i>		+			+						+		
152.	<i>Tricellaria occidentalis</i>											+		



## Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
153.	<i>Catenicella elegans</i>					+								
154.	<i>Cellaria punctata</i>		+										+	
155.	<i>Celleporina porosissima</i>													+
156.	<i>Fenestrulina</i> sp.													+
157.	<i>Gregarinidra corbula</i>													+
158.	<i>Calyptotheca symmetrica</i>													+
159.	<i>Biflustra perfragilis</i>													+
160.	Membraniporidae sp. 1		+				+							
161.	Membraniporidae sp. 2		+											
162.	<i>Phidolopora pacifica</i>		+											
163.	<i>Reteporellina denticulata</i>								+	+				+
164.	<i>Schizoporella unicornis</i>			+										
165.	<i>Smittoidea pacifica</i>		+				+							
166.	<i>Smittoidea prolifica</i>			+				+						
167.	<i>Watersipora subtorquata</i>		+	+	+									+
168.	Cheilostomata sp. 1									+				
169.	Cheilostomata sp. 2									+				
170.	<i>Amathia distans</i>		+											
171.	<i>Crisia eburneodenticulata</i>													+
<b>Chordata</b>														
172.	<i>Didemnum moseleyi</i>		+				+		+	+				+
173.	<i>Didemnum</i> sp.													+
174.	<i>Aplidium pliciferum</i>		+											
175.	<i>Synoicum</i> sp.													+
176.	Polyclinidae sp.		+				+							
177.	<i>Botryllus tuberatus</i>		+											
178.	<i>Halocynthia hilgendorfi igaboja</i>													+
179.	<i>Styela clava</i>			+			+							+
180.	Asciacea sp. 1								+					
181.	Asciacea sp. 2									+				
<b>Cnidaria</b>														
182.	<i>Anthopleura fuscoviridis</i>		+				+		+					
183.	<i>Anthopleura japonica</i>		+		+				+	+				
184.	<i>Anthopleura kurogane</i>													+
185.	<i>Anthopleura pacifica</i>				+									
186.	Actiniidae sp.									+				
187.	<i>Diadumene lineata</i>		+		+	+				+				+
188.	<i>Eleutherobia rigida</i>			+				+		+				+
189.	<i>Eleutherobia rubra</i>								+	+				

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
190.	<i>Eleutherobia</i> sp.		+			+								
191.	<i>Melithaea flabellifera flabellifera</i>		+	+		+			+	+			+	
192.	<i>Rhizopsammia minuta mutsuensis</i>		+	+		+		+					+	
193.	<i>Culicia stellata</i>									+				
194.	<i>Oulangia stokesiana miltoni</i>												+	
195.	<i>Eudendrium tenellum</i>					+								
196.	<i>Eudendrium</i> sp.												+	
197.	<i>Solanderia misakinensis</i>		+			+		+					+	
198.	<i>Solanderia secunda</i>									+				
199.	<i>Tubularia mesembryanthemum</i>		+											
200.	<i>Aglaophenia whiteleggei</i>		+							+				
201.	<i>Macrorhynchia</i> sp.												+	
202.	<i>Thecocarpus niger</i>					+								
203.	<i>Campanularia crenata</i>					+								
204.	<i>Eucalix paradoxus</i>		+			+								
205.	<i>Obelia geniculata</i>					+			+	+				
206.	<i>Obelia longissima</i>		+			+								
207.	<i>Pycnotheca mirabilis</i>		+											
208.	<i>Plumularia</i> sp.												+	
209.	<i>Dynamena crisioides</i>		+											
210.	<i>Sertularella gotoi</i>					+								
211.	<i>Sertularella levigata</i>		+											
212.	<i>Sertularella miurensis</i>												+	
213.	<i>Sertularella tenella</i>												+	
214.	<i>Sertularella</i> sp.												+	
215.	<i>Sertularia distans</i>					+								
216.	<i>Thuiaria cupressina</i>		+											
217.	<i>Thuiaria triserialis</i>					+								
218.	Scyphozoa sp.									+				
<b>Echinodermata</b>														
219.	<i>Aphelasterias japonica</i>		+	+		+			+	+			+	
220.	<i>Asterias amurensis</i>		+	+				+	+	+			+	
221.	<i>Asterias amurensis versicolor</i>									+				
222.	<i>Distolasterias nipon</i>		+							+			+	
223.	<i>Astropecten polyacanthus</i>												+	
224.	<i>Henricia</i> sp. 1									+				
225.	<i>Henricia</i> sp. 2												+	
226.	<i>Aquilonastra batheri</i>												+	
227.	<i>Patiria pectinifera</i>	+	+	+	+	+		+	+	+		+	+	

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
228.	<i>Crossaster japonicus</i>									+				
229.	<i>Crossaster papposus</i>		+							+		+		
230.	<i>Solaster uchidai</i>		+			+				+		+		
231.	Asteroidea sp.				+									
232.	<i>Antedon serrata</i>												+	
233.	Comatulidae sp.									+				
234.	<i>Heliocidaris crassispina</i>		+						+	+				
235.	<i>Hemicentrotus pulcherrimus</i>		+	+		+				+		+		
236.	<i>Mesocentrotus nudus</i>					+	+			+		+		
237.	<i>Strongylocentrotus intermedius</i>								+	+				
238.	<i>Temnopleurus hardwickii</i>								+	+				
239.	Temnopleuridae sp.		+			+								
240.	<i>Glyptocidaris crenularis</i>												+	
241.	Echinoidea sp.				+									
242.	<i>Pentacta doliolum</i>													+
243.	<i>Plesiocolochirus inornatus</i>		+											
244.	Cucumariidae sp.												+	
245.	Colochirinae sp.									+				
246.	<i>Eupentacta quinquesemita</i>					+								
247.	<i>Holothuria (Mertensiothuria) hilla</i>												+	
248.	<i>Apostichopus japonicus</i>		+	+		+	+	+	+	+		+	+	
249.	<i>Ophioplocus japonicus</i>												+	
250.	<i>Ophiothrix (Ophiothrix) exigua</i>		+	+		+	+	+	+	+		+		
251.	Ophiacanthidae sp.									+				
252.	Ophiocomidae sp.					+								
253.	<i>Ophiarachnella gorgonia</i>												+	
254.	Ophiuroidea sp. 1				+									
255.	Ophiuroidea sp. 2									+				
<b>Mollusca</b>														
256.	<i>Hiatella arctica</i>		+			+								
257.	<i>Arca avellana</i>							+	+					
258.	<i>Arca boucardi</i>		+			+	+						+	
259.	<i>Arca</i> sp.	+												
260.	<i>Porterius dalli</i>												+	
261.	<i>Lasaea undulata</i>									+	+	+	+	+
262.	<i>Modiolus auriculatus</i>					+				+		+	+	
263.	<i>Modiolus kurilensis</i>						+					+		
264.	<i>Musculus cupreus</i>					+								+
265.	<i>Musculus</i> sp.				+									

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
266.	<i>Mytilisepta virgata</i>									+		+	+	
267.	<i>Mytilus galloprovincialis</i>		+	+	+	+		+		+		+	+	
268.	<i>Mytilus unguiculatus</i>	+		+		+	+	+		+	+	+	+	
269.	<i>Magallana gigas</i>							+					+	
270.	<i>Ostrea circumpicta</i>												+	
271.	<i>Ostrea denselamellosa</i>								+	+				
272.	<i>Atrina pectinata</i>									+		+		
273.	<i>Anomia chinensis</i>											+		
274.	<i>Azumapecten farreri</i>		+	+		+						+	+	
275.	<i>Chlamys farreri nipponensis</i>								+	+				
276.	<i>Leukoma jedoensis</i>									+		+		
277.	<i>Saxidomus purpurata</i>									+		+		
278.	<i>Entodesma navicula</i>					+								
279.	<i>Nerita japonica</i>	+	+			+			+	+		+		
280.	<i>Scelidotoma hoonsooi</i>		+											
281.	<i>Haliotis discus</i>		+	+				+	+	+		+		
282.	<i>Calyptraea morbida</i>			+										
283.	<i>Echinolittorina radiata</i>	+	+		+	+			+	+		+	+	
284.	<i>Littorina brevicula</i>	+	+	+	+	+		+	+	+		+		
285.	<i>Littorina sitkana</i>				+									
286.	<i>Cryptonatica andoi</i>		+											
287.	<i>Neverita didyma</i>		+											
288.	<i>Primovula frumentum</i>					+								
289.	<i>Primovula</i> sp.					+								
290.	<i>Sandalia triticea</i>		+		+							+		
291.	<i>Ovulidae</i> sp.									+				
292.	<i>Buccinum yokomaruae</i>		+											
293.	<i>Neptunea cumingii</i>		+			+				+		+		
294.	<i>Neptunea subdilata</i>											+		
295.	<i>Mitrella bicincta</i>												+	+
296.	<i>Mitrella burchardi</i>								+	+				
297.	<i>Ceratostoma burnetti</i>								+	+	+	+	+	
298.	<i>Ceratostoma fournieri</i>									+				
299.	<i>Ceratostoma roriflum</i>		+	+	+	+		+	+	+		+		
300.	<i>Ocinebrellus inornatus</i>	+	+			+			+	+		+		
301.	<i>Rapana venosa</i>								+	+		+	+	
302.	<i>Reishia bronni</i>		+			+	+					+	+	
303.	<i>Reishia clavigera</i>	+	+	+	+	+	+		+	+	+	+		
304.	<i>Reishia luteostoma</i>								+	+				

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
305.	<i>Nassarius fraterculus</i>									+		+		
306.	<i>Nassarius livescens</i>		+			+								
307.	<i>Nassarius variciferus</i>				+									
308.	<i>Cadlina japonica</i>					+				+		+		
309.	<i>Cadlina</i> sp.									+				
310.	<i>Cuthona</i> sp.		+											
311.	<i>Dendrodoris fumata</i>		+											
312.	<i>Dendrodoris</i> sp.									+				
313.	<i>Diaulula sandiegensis</i>		+											
314.	<i>Sakuraeolis gerberina</i>		+			+	+		+			+		
315.	<i>Okenia hiroi</i>		+			+								
316.	<i>Tritonia festiva</i>		+			+							+	
317.	<i>Nudibranchia</i> sp.									+				
318.	<i>Turcica monilifera</i>		+										+	
319.	<i>Siphonaria acmaeoides</i>				+									
320.	<i>Siphonaria japonica</i>				+				+	+		+		
321.	<i>Siphonaria rucuana</i>				+									
322.	<i>Calliostoma koma</i>		+							+				
323.	<i>Tristichotrochus unicus</i>			+			+		+	+		+	+	
324.	<i>Chlorostoma lischkei</i>								+	+				
325.	<i>Omphalius rusticus</i>	+	+			+	+	+	+	+		+	+	
326.	<i>Clanculus cognatus</i>													+
327.	<i>Monodonta confusa</i>				+									
328.	<i>Monodonta labio</i>	+							+	+				
329.	<i>Lunella correensis</i>		+		+	+			+	+		+		
330.	<i>Lottia dorsuosa</i>				+					+		+		
331.	<i>Nipponacmea concinna</i>	+												
332.	<i>Niveotectura pallida</i>						+		+	+		+		
333.	<i>Patelloida conulus</i>									+		+		
334.	<i>Patelloida pygmaea</i>												+	
335.	<i>Patelloida saccharina lanx</i>	+												
336.	<i>Acanthochitona achates</i>	+			+									
337.	<i>Liolophura japonica</i>				+									
338.	<i>Ischnochiton boninensis</i>						+							
339.	<i>Ischnochiton comptus</i>								+	+				
340.	<i>Ischnochiton hakodadensis</i>		+			+								
341.	<i>Lepidozonia coreanica</i>		+			+			+	+		+		
342.	<i>Lepidozonia iyoensis</i>		+											
<b>Porifera</b>														

Appendix 2. Continued.

No.	Species name	Previous studies												
		Donggyeongnyeol			Seogyongnyeol				Bukgyeongnyeol					
		1	2	3	4	2	5	3	6	7	8	9	10	11
343.	<i>Halichondria panicea</i>		+			+			+	+				
344.	<i>Halichondria</i> sp.												+	
345.	<i>Hymeniacidon sinapium</i>		+			+			+	+			+	
346.	<i>Halichondridae</i> sp.		+											
347.	<i>Callyspongia bispicula</i>										+			
348.	<i>Callyspongia differentiata</i>		+			+			+	+				
349.	<i>Haliclona permollisimilis</i>		+											
350.	<i>Haliclona</i> sp.												+	
351.	<i>Petrosia corticata</i>													+
352.	<i>Echinoclathria noto</i>								+	+			+	
353.	<i>Microcionidae</i> sp.					+								
354.	<i>Polymastia murrayi</i>													+
355.	<i>Suberites</i> sp.												+	
356.	<i>Tethya</i> sp.												+	
357.	Demospongiae sp. 1												+	
358.	Demospongiae sp. 2												+	
359.	Demospongiae sp. 3												+	
360.	Porifera sp.				+									
	<b>Sipuncula</b>													
361.	<i>Phascolosoma (Phascolosoma) agassizii</i>												+	
	<b>Annelida</b>	0	6	0	15	7	4	0	5	8	0	13	0	0
	<b>Arthropoda</b>	6	28	4	5	23	16	5	29	58	4	29	4	5
	<b>Brachiopoda</b>	0	0	0	0	0	0	0	1	1	0	1	0	0
	<b>Bryozoa</b>	0	9	4	1	4	0	3	2	4	0	12	0	0
	<b>Chordata</b>	0	4	1	0	3	0	0	2	2	0	5	0	0
No. Species	<b>Cnidaria</b>	0	15	3	3	15	0	3	5	11	0	13	0	0
	<b>Echinodermata</b>	1	12	6	4	10	0	5	8	20	0	19	3	0
	<b>Mollusca</b>	12	32	9	17	27	5	13	22	43	3	40	15	4
	<b>Porifera</b>	0	5	0	1	4	0	1	4	5	0	9	1	0
	<b>Sipuncula</b>	0	0	0	0	0	0	0	0	0	0	1	0	0
	<b>Total</b>	19	111	27	46	93	25	30	78	152	7	142	23	9

1, Kim and Lee (1978); 2, NIE (2007a); 3, NIE (2016b); 4, KMI (2006); 5, NIE (2007b); 6, KHOA (2011); 7, ME (2001); 8, KOEM (2015); 9, NIE (2016a); 10, KOEM (2017); 11, KOEM (2019)

**Appendix 3.** List of marine fish recorded in previous studies.

No.	Species name	Previous studies					
		Donggyeongnyeol		Seogyongnyeol			Bukgyeongnyeol
		1	2	3	4	2	2
<b>Chordata</b>							
<b>Actinopterygii</b>							
<b>Perciformes</b>							
<b>Lateolabracidae</b>							
1.	<i>Lateolabrax japonicus</i>			+			
<b>Oplegnathidae</b>							
2.	<i>Oplegnathus fasciatus</i>				+		
<b>Pleuronectiformes</b>							
<b>Paralichthyidae</b>							
3.	<i>Paralichthys olivaceus</i>	+					
<b>Pleuronectidae</b>							
4.	<i>Platichthys bicoloratus</i>		+			+	+
<b>Scorpaeniformes</b>							
<b>Hexagrammidae</b>							
5.	<i>Hexagrammos agrammus</i>				+		
6.	<i>Hexagrammos otakii</i>	+					
7.	Hexagrammidae sp.				+		
<b>Sebastidae</b>							
8.	<i>Sebastes schlegelii</i>	+		+	+		
		<hr/>					
	<b>Lateolabracidae</b>	0	0	1	0	0	0
	<b>Oplegnathidae</b>	0	0	0	1	0	0
	<b>Paralichthyidae</b>	1	0	0	0	0	0
No. Species	<b>Pleuronectidae</b>	0	1	0	0	1	1
	<b>Hexagrammidae</b>	1	0	0	2	0	0
	<b>Sebastidae</b>	1	0	1	1	0	0
		<hr/>					
	<b>Total</b>	3	1	2	4	1	1

1, FIRA (2013); 2, Jun et al. (2009); 3, KMI (2006); 4, KHOA (2011)