

Systematic Review of Heavy Metal Concentrations in Fish and Shellfish in Korea

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Objectives: Heavy metals ingested through the consumption of aquatic products can accumulate in the human body over the long-term and cause various health problems. This study aims to present comprehensive data on the amount of heavy metals found in fish and shellfish in Korea using a systematic review of studies that report on that issue.

Methods: The study used the following databases: PubMed, Korean Studies Information Service System, and Research Information Sharing Service. The search terms for PubMed included fish OR shellfish OR seafood AND mercury OR cadmium OR lead OR heavy metal AND Korea. The search terms for Korean Studies Information Service System and Research Information Sharing Service included eoryu sueun, eoryu kadeumyum, eoryu nab, eoryu jung-geumsog, paeryu sueun, paeryu kadeumyum, paeryu nab, paeryu jung-geumsog, eopaeryu sueun, eopaeryu kadeumyum, eopaeryu nab, and eopaeryu jung-geumsog.

Results: A total of 32 articles were selected for review. The total mercury, lead, and cadmium concentrations in fish and shellfish reported in each of the articles are summarized, as are the species of fish and shellfish with relatively high concentrations of heavy metals. Total mercury concentrations tended to be higher in predatory fish species, such as sharks, billfishes, and tuna, while lead and cadmium concentrations tended to be higher in shellfish.

Conclusion: This paper is the first to report a comprehensive summary of the concentrations of heavy metals in fish and shellfish. This data could be used as evidence to protect Koreans from exposure to heavy metals due to the consumption of highly polluted aquatic products. (*Ewha Med J* 2018;41(1):1-7)

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Key Words

Metals, heavy; Fishes; Shellfish

Introduction

Due to heavy metal pollution across the globe, aquatic products contain heavy metals. Mercury (Hg), cadmium (Cd), and lead (Pb) are the primary heavy metals contained in aquatic products [1]. These heavy metals are reported to accumulate in living organisms [2] and cause various harmful health effects to

humans such as neurophysiological dysfunction, kidney dysfunction, and decreases in bone mineral density, even at low concentrations [3-5]. Heavy metal contamination of aquatic products is transmitted to humans through food, so the heavy metal content of aquatic products has a significant impact on human health.

In Korea, 30% of all food containing protein and 80% of all

animal proteins are consumed as aquatic products [6]. Aquatic products also contain various nutrients, such as selenium and omega-3 fatty acids [7]. However, since aquatic products are one of the largest sources of human exposure to hazardous heavy metals [1], there is a social concern about heavy metal contamination of marine products, and various studies have reported on the heavy metal concentrations in fish and shellfish.

Although several studies [6,8,9] have reported on the amount of heavy metals in fish and shellfish in Korea, it is difficult for researchers or the general public to obtain integrated information on the heavy metal content in fish and shellfish in Korea due to data is not found in one source.

Therefore, this study aims to present comprehensive data on the amount of heavy metals in fish and shellfish in Korea through a systematic review of studies that have investigated and reported on that issue.

Methods

1. Search strategy

To search for articles written in English and Korean, we conducted comprehensive database searches of the literature published from January 1998 to September 2017 using three databases: PubMed, Korean Studies Information Service System, and Research Information Sharing Service. The search terms for PubMed included fish OR shellfish OR seafood AND mercury OR cadmium OR lead OR heavy metal AND Korea. The search terms for Korean Studies Information Service System and Research Information Sharing Service included eoryu sueun, eoryu kadeumyum, eoryu nab, eoryu jung-geumsog, paeryu sueun, paeryu kadeumyum, paeryu nab, paeryu jung-geumsog, eopaeryu sueun, eopaeryu kadeumyum, eopaeryu nab, and eopaeryu jung-geumsog. The bibliographic records were imported, duplicates were removed, and the articles were screened to ensure that they met the inclusion criteria.

2. Article screening and inclusion and exclusion criteria

The titles and abstracts of the articles were screened by one investigator (SY) to ensure that they included English or Korean-language studies that reported original data on the three heavy metals (total Hg, Pb, and Cd) concentrations in fish and shellfish in Korea. Reviews were included at this level. Two investigators (SY and JS) independently screened the studies using

exclusion criteria, and then they extracted the data. The following exclusion criteria were used to screen the articles: 1) did not report the three heavy metals concentrations; 2) heavy metal concentration unit is not convertible to ppm; 3) did not report the heavy metal concentration based on the type of fish and shellfish species; and 4) did not report the numbers or mean values of the analytical samples.

3. Data extraction

In the selected articles, the number of species samples examined, the means, the standard deviation, and the minimum and maximum values were extracted and summarized. After unifying the fish and shellfish species on the basis of Korean names, scientific names, or English names, the average of each heavy metal concentration in the same species was calculated from the data collected from several articles using the number of samples and mean values (formula 1). When recalculating the averages using formula 1, undetectable values were considered as zero.

$$\text{Formula 1: } f(x) = \frac{\sum_{n=1}^i (N_n \text{ mean}_n)}{\sum_{n=1}^i N_n}$$

Results

After removing duplicate records, 398 bibliographic records were identified. Among these records, 345 articles did not meet the inclusion criteria at the first screening, 53 full-text articles were selected for full-text screening, and 32 articles were obtained and screened. Information about the searching and screening process, and the study inclusion criteria are summarized in the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow diagram presented in Fig. 1.

Studies that examined the concentrations of three heavy metals, Hg, Pb, and Cd, in fish and shellfish in Korea are summarized in Supplementary Table 1. The number of samples analyzed, and the mean, standard deviation, and minimum and maximum values of the total Hg, Pb, and Cd concentrations in fish and shellfish reported in the selected literature are summarized in Supplementary Tables 2, 3, and 4, respectively. Of the 32 articles that reported on the concentrations of heavy metals in fish and shellfish, 15 reported Hg concentrations [10–24], 12 reported heavy metal concentrations for Hg, Pb, and Cd [6,8,9,25–33], and 5 reported Pb and Cd concentrations [34–38]. The mean values for each of the heavy metal con-

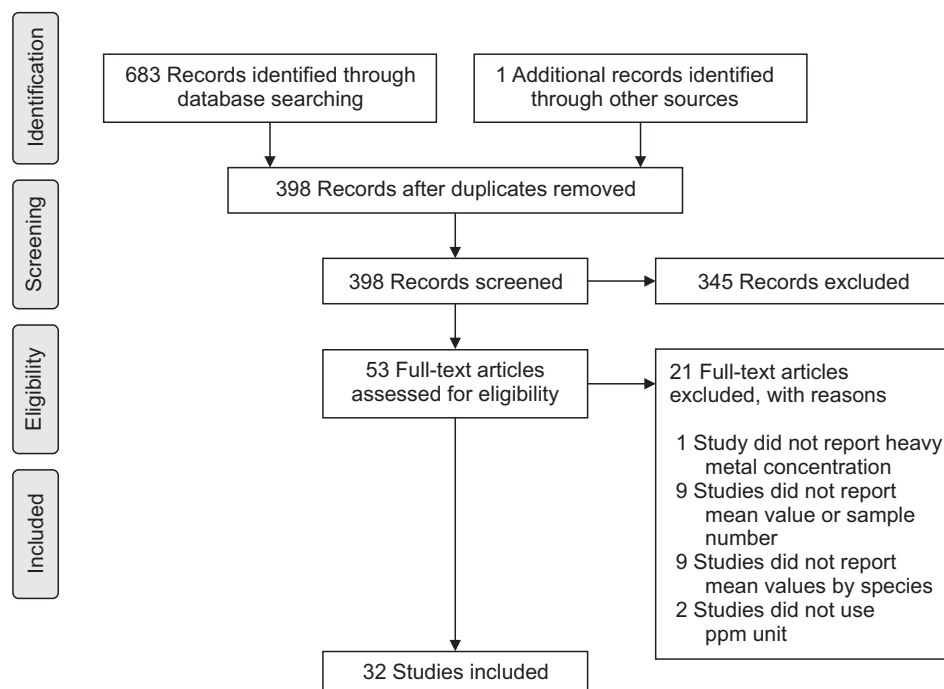


Fig. 1. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow diagram of database search evidence and inclusion inclusion criteria.

centrations for the same species were calculated using the data collected from several articles (Supplementary Tables 5–7).

Figs. 2, 3, and 4 present information on 30 kinds of fish and shellfish with high total Hg, Pb, and Cd concentrations, respectively. The concentration of total Hg tended to be higher in predatory fish, such as sharks, billfishes, and tuna, while the concentrations of Pb and Cd tended to be higher in shellfish. The criteria for heavy metal concentrations in fish and shellfish used by the Korea Food and Drug Administration (KFDA) are as follows: total Hg concentration should be below 0.5 ppm for all fish and shellfish, except deep sea fish, tuna fish, and billfish. The concentration of methyl Hg in deep sea fish, tuna fish, and billfish should not exceed 1.0 ppm. All fish and shellfish should have Pb concentrations below 2.0 ppm, and the concentration of Cd should be 2.0 ppm or less in shellfish. After considering the concentration of methyl Hg in deep sea fish, tuna, and billfish as being 70% of the total Hg concentration [15], fish and shellfish with concentrations of heavy metals that exceeded the KFDA standards were identified. Total Hg was higher than the KFDA standards in inshore hagfish and oil fish (Fig. 2). Concentrations of methyl Hg were higher than the KFDA standards in blue sharks, smooth hammerheads, shortfin mako sharks, crocodile sharks, and pelagic thresher sharks (Fig.

2). Concentrations of Pb and Cd were higher than the KFDA standard in Mediterranean mussels (Figs. 3, 4). Therefore, among the fish and shellfish with relatively high concentrations of heavy metals it is necessary to be particularly careful about consuming those that exceed the KFDA standards.

Figs. 5, 6, and 7 illustrate 30 kinds of fish and shellfish with low total concentrations of Hg, and low Pb and Cd concentrations, respectively. Among the 30 kinds of fish and shellfish with low total concentrations of Hg, oysters and gizzard shads are known to contain high levels of omega-3 fatty acids (Fig. 5). Among the 30 kinds of fish and shellfish with low concentrations of Pb, river salmon and Coho salmon are known to contain high levels of omega-3 fatty acids (Fig. 6). Among the 30 kinds of fish and shellfish with low concentrations of Cd, Coho salmon is known to contain high levels of omega-3 fatty acids (Fig. 7).

Discussion

The concentration of Hg was higher in predatory fish and the concentrations of Pb and Cd were higher in shellfish. Several types of fish and shellfish exceeded the KFDA heavy metal standards. Inshore hagfish and oil fish exceeded the KFDA

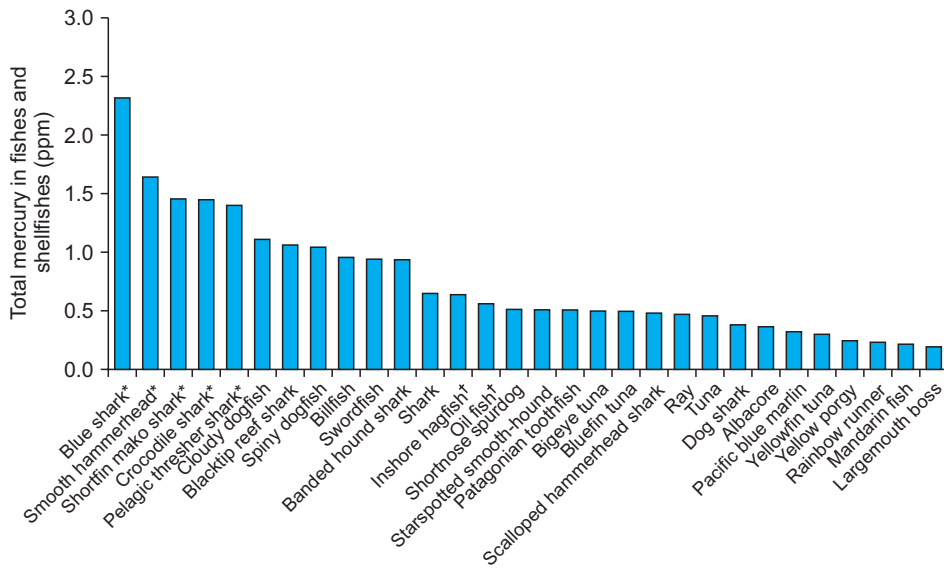


Fig. 2. Thirty types of fish and shellfish with high total mercury concentrations. *Sharks above the Korea Food and Drug Administration concentration standards for methyl mercury (1.0 ppm). †Fish above the Korea Food and Drug Administration concentration standards for total mercury (0.5 ppm).

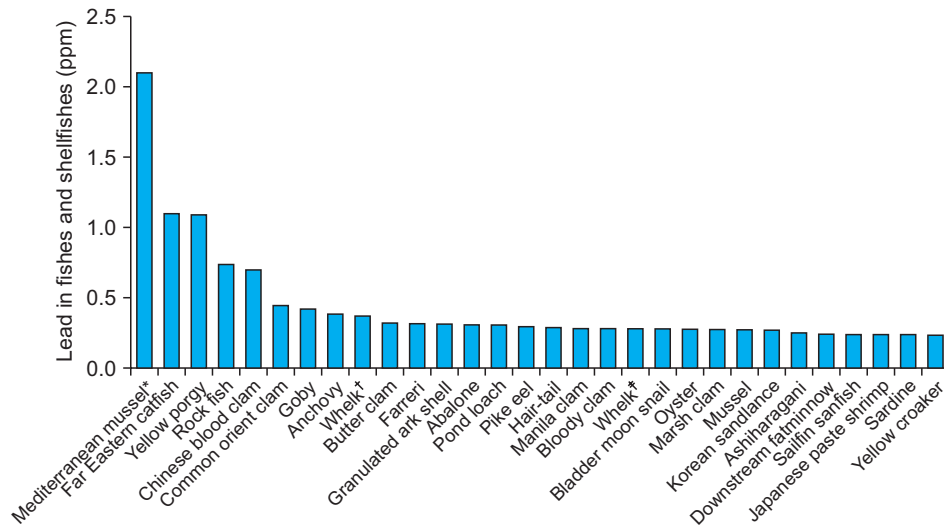


Fig. 3. Thirty types of fish and shellfish with high lead concentrations. *Shellfish above the Korea Food and Drug Administration concentration standards for lead (2.0 ppm). †The scientific name of the whelk is Neptunea arctica and the Korean name is Soragodung. ‡The scientific name of the whelk is Buccinum striatissimum and Korean name is Golbaeng-i.

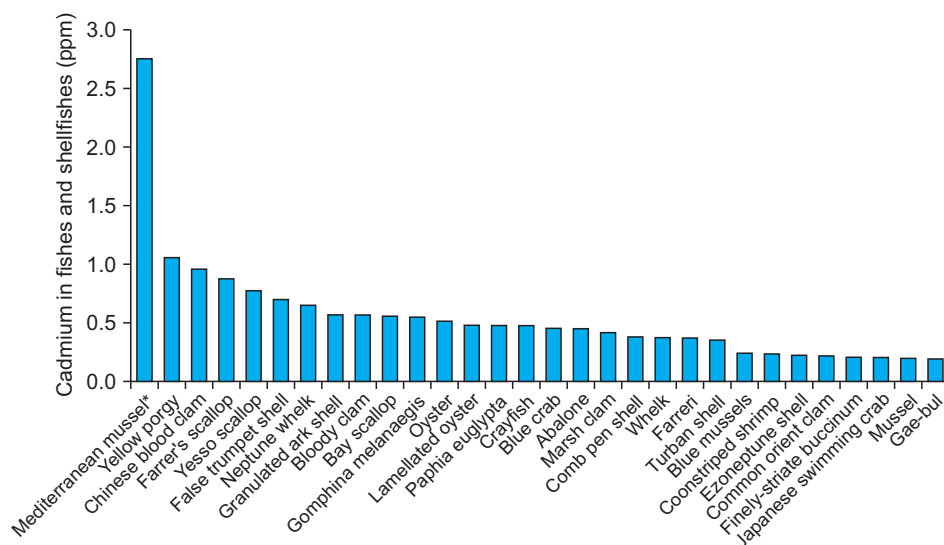


Fig. 4. Thirty types of fish and shellfish with high cadmium concentrations. *Shellfish above the Korea Food and Drug Administration concentration standards for cadmium (2.0 ppm).

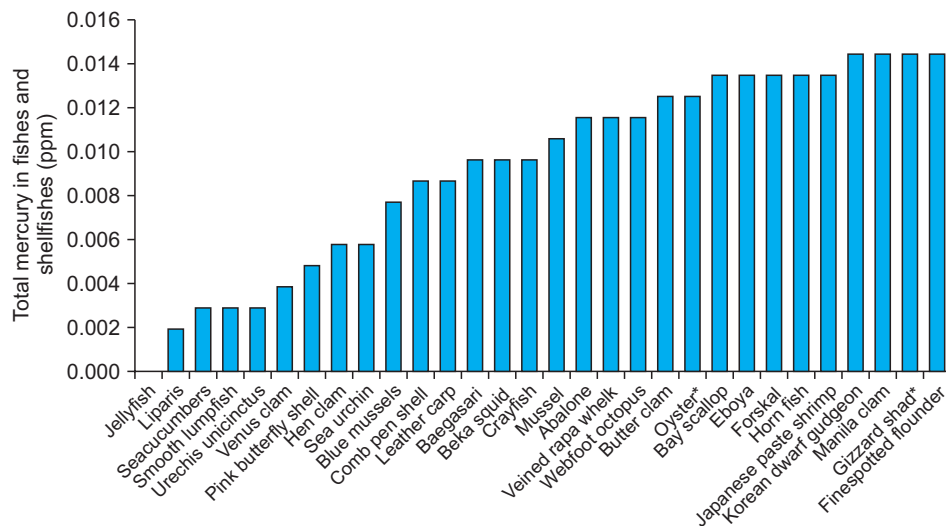


Fig. 5. Thirty types of fish and shellfish with low total mercury concentrations. *Fish and shellfish known to contain high levels of omega-3 fatty acids.

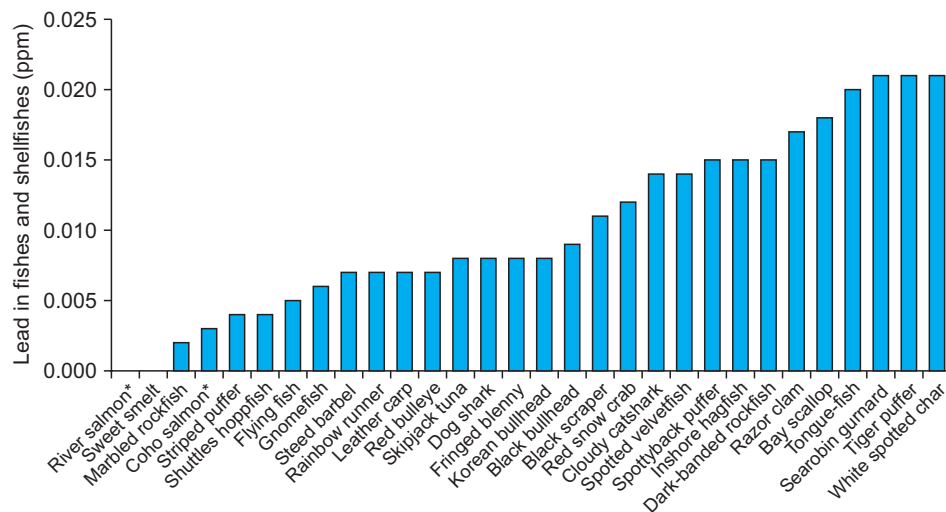


Fig. 6. Thirty types of fish and shellfish with low lead concentrations. *Fish and shellfish known to contain high levels of omega-3 fatty acids.

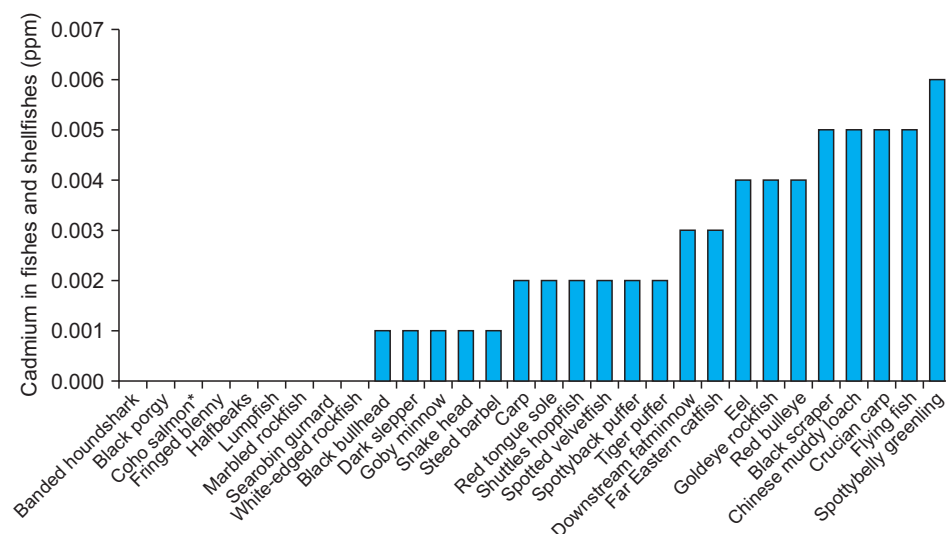


Fig. 7. Thirty types of fish and shellfish with low cadmium concentrations. *Fish and shellfish known to contain high levels of omega-3 fatty acids.

standards for total Hg; blue sharks, smooth hammerheads, shortfin mako sharks, crocodile sharks, and pelagic thresher sharks exceeded the KFDA standards for methyl Hg; and Mediterranean mussel exceeded the KFDA standards for Pb and Cd. Thus, as the results of this study demonstrate, some types of fish and shellfish may be highly contaminated by heavy metals.

However, fish and shellfish also contain the most biologically active form of omega-3 fatty acids, docosahexaenoic acid and eicosapentaenoic acid. Pacific saury, hairtail, chub mackerel, Spanish mackerel, anchovies, oysters, gizzard shad, Atka mackerel, salmon, Bluefin tuna, swordfish, and trout are known to contain high concentrations of omega-3 fatty acids [39,40]. With the exception of Bluefin tuna and swordfish, which have high concentrations of Hg, hairtail, which has a high concentration of Pb, and oysters, which have high concentrations of Pb and Cd, the present study found that other types of fish were relatively low in heavy metals. According to the results of the study, salmon and gizzard shad had low concentrations of all three types of heavy metals. Consequently, the present study can be used as a basis for recommending foods with high nutrients and low concentrations of Hg, Pb, and Cd.

Of the papers that reported on the concentrations of heavy metals in fish and shellfish, most of the studies reported on Hg concentrations, while only a few reported on Pb and Cd concentrations. Fish and shellfish are major sources of Pb and Cd; therefore, further research is needed. In addition, further research on the levels of other contaminants, such as arsenic, methyl Hg, and endocrine disruptors, such as persistent organic pollutants, are also needed in the future.

This paper is the first to present a comprehensive summary of articles that investigated the concentrations of heavy metals (Hg, Pb, and Cd) in fish and shellfish. The findings could be used as evidence to protect Koreans from exposure to heavy metals due to the consumption of highly polluted aquatic products. The findings could also be useful for health researchers investigating the effects of exposure to heavy metals.

Supplementary material

Supplementary Tables are available from: <https://doi.org/10.12771/emj.2018.41.1.1>.

Supplementary Table 1. The reviewed studies that examined the concentrations of three heavy metals (Hg, Pb, Cd) in fish and

shellfish

Supplementary Table 2. Mean, SD, Min, and Max values of the total Hg concentrations in fish and shellfish reported in the reviewed articles

Supplementary Table 3. Mean, SD, Min, and Max values of the Pb concentrations in fish and shellfish reported in the reviewed articles

Supplementary Table 4. Mean, SD, Min, and Max values of the Cd concentrations in fish and shellfish reported in the reviewed articles

Supplementary Table 5. Mean values of the total Hg concentrations calculated by species from the mean values reported in the reviewed articles

Supplementary Table 6. Mean values of the Pb concentrations calculated by species from the mean values reported in the reviewed articles

Supplementary Table 7. Mean values of the Cd concentrations calculated by species from the mean values reported in the reviewed articles

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Supplementary Table 1. The reviewed studies that examined the concentrations of three heavy metals (Hg, Pb, Cd) in fish and shellfish

Author	Year of publication	Type of heavy metals reported	Species of fish or shellfish examined
Kang et al.	2017	Hg	Bigeye tuna, Bluefin tuna, Inshore hagfish, Marbled rockfish, Patagonian toothfish, Shark, Skipjack tuna, Swordfish, Yellowfin tuna
Choi et al.	2016	Hg	Common eel, Far Eastern catfish, Israeli carp, Korean bullhead, Korean rock fish, Nile mouth breeder, Olive flounder, Rainbow trout, Red seabream, River salmon, Snakehead, Starry flounder
Kim et al.	2016	Hg	Banded hound shark, Blacktip reef shark, Blue shark, Cloudy dogfish, Crocodile shark, Hammerhead shark, Milk shark, Oceanic whitetip shark, Pelagic thresher shark, Shortfin mako shark, Shortnose spurdog, Spiny dogfish, Starspotted smooth-hound
Kim et al.	2016	Pb, Cd	Alaska pollock, Anchovy, Blackmouth angler, Brown croaker, Chub mackerel, Conger eel, Filefish, Flounder, Hair-tail, Herring, Korean rockfish, Olive flounder, Pacific cod, Pacific saury, Red stingray, Skipjack tuna, Spanish mackerel, Yellow croaker
Jo et al.	2015	Hg	Alaska pollack, Anchovy, Blackmouth angler, Brown croaker, Brown sole, Chub mackerel, Conger eel, Filefish, Hair-tail, Herring, Korean Rock fish, Olive flounder, Pacific cod, Pacific saury, Red stingray, Small yellow croaker, Spanish mackerel
Mok et al.	2015	Hg, Pb, Cd	Oyster
Yang et al.	2015	Hg	Chub mackerel, Hammerhead shark, Neptune whelk, Pacific saury, Sardine, Tuna
Mok et al.	2014	Hg, Pb, Cd	Abalone, Bay scallop, Bloody clam, Blue crab, Blue mussels, Comb pen shell, Common octopus, Japanese flying squid, Long arm octopus, Manila clam, Mussel, Oyster, Red snow crab, Snow crab, Turban shell, Veined rapa whelk, Webfoot

			octopus
Kim et al.	2013	Hg	Billfish, Patagonian toothfish, Shark, Tuna
Jeon et al.	2013	Pb, Cd	Mediterranean mussel
Choi et al.	2012	Hg	A rock trout, Abalone, Alaska pollack, Anchovy, Beka squid, Blackmouth angler, Bloody clam, Chub mackerel, Common eel, Common octopus, Crab, Croaker, Eboya, Far Eastern catfish, Flathead grey mullet, Flounder, Gae-bul, Gizzard shad, Granulated ark shell, Hair-tail, Harvest fish, Herring, Horse mackerel, Jellyfish, Korean Rock fish, Lobster, Long arm octopus, Manila clam, Mussel, Neptune whelk, Olive flounder, Orient hard clam, Oyster, Pacific cod, Pacific saury, Red seabream, Sailfin sanfish, Salmon, Sea bass, Sea mustard, Sea squirt, Sea urchin, Seacucumbers, Shark, Shrimp, Small yellow croaker, Snail, Spanish mackerel, Spottybelly greenling, Squid, Swordfish, Tuna, Webfoot octopus
Kim et al.	2012	Hg	Alaska pollack, Asiatic ricefish, Baegasari, Barbel chub, Black bullhead, Black porgy, Blackmouth angler, Blue gill, Brown croaker, Butterfish, Carp, Chinese muddy loach, Chub mackerel, Common eel, Conger eel, Crucian carp, Dark chub, Dark slepper, Deep body bitterling, Downstream fatminnow, Estuarine tapertail, Far Eastern catfish, Flat bitterling, Flathead grey mullet, Floating goby, Gizzard shad, Goby minnow, Gold fish, Hair-tail, Korean aucha perch, Korean bullhead, Korean dwarf gudgeon, Korean gudgeon, Korean oily shiner, Korean piscivorous chub, Korean rockfish, Korean sharpbelly, Korean shinner, Korean striped bitterling, Korean torrent catfish, Large striped bitterling, Largemouth bass, Long-nosed barbel, Manchurian trout, Mandarin fish, Mud hopper, Oily shinner, Olive flounder, Pacific cod, Pale chub, Pond smelt, Red horsehead, Red seabream, River salmon, Rough skin sculpin, Sea perch, Sea rundace, Sharpbelly, Short barbel gudgeon, Shotted halibut, Skygager, Slender bitterling, Slender catfish, Snakehead, South torrent catfish, Spanish mackerel, Spine loach, Steed barbel, Strip mullet, Striped beakperch, Striped shinner, Sweet smelt, Yellow croaker
Park et al.	2011	Hg	Armorclad rockfish, Bigeye tuna, Blackmouth angler, Bluefin tuna, Chub mackerel, Oil fish, Pacific blue marlin, Pacific cod,

			Pacific sailfish, Pacific saury, Salmon, Spanish mackerel, Starspotted smooth-hound, Swordfish
Moon et al.	2011	Hg	Alaska pollack, Anchovy, Blackmouth angler, Bloody clam, Blue crab, Bluefin tuna, Chub mackerel, Common eel, Common octopus, Far Eastern catfish, Filefish, Flounder, Hair-tail, Herring, Korean rockfish, Manila clam, Mussel, Olive flounder, Oyster, Pacific cod, Pacific saury, Ray, Shrimp, Small yellow croaker, Spanish mackerel, Squid
Joo et al.	2010	Hg	Alaska pollack, Blue crab, Chub mackerel, Far Eastern catfish, Hair-tail, Japanese flying squid, Long arm octopus, Manila clam, Mussel, Oyster, Small yellow croaker, Snake Head
Byeon et al.	2010	Hg	Blue gill, Carp, Culter brevicauda, Dark chub, Downstream fatminnow, Eastern spine loach, Goby minnow, Korean aucha perch, Korean chub, Korean piscivorous chub, Korean shinner, Korean torrent catfish, Largemouth bass, Long-nosed barbel, Pale chub, Sharpbelly, Siberian stone loach, Striped shinner
Oh et al.	2010	Hg	Dark-banded rockfish, Flathead grey mullet, Gizzard shad, Goby, Sea bass, Spottybelly greenling
Mok et al.	2010	Pb, Cd	Abalone, Armorclad rockfish, Beka squid, Bladder moon snail, Bloody clam, Blue crab, Blue mussels, Butter clam, Chinese blood clam, Comb pen shell, Common octopus, Common orient clam, Coonstriped shrimp, Crayfish, Cuttle fish, Divaricate short razor, Eboya, Ezoneptune shell, False trumpet shell, Farreri, Farrer's scallop, Finely-striate buccinum, Fleshy shrimp, Gae-bul, Gomphina melanaegis, Gould's razor shell, Granulated ark shell, Helmet hairy trail, Hen clam, Japanese flying squid, Japanese dosinia, Japanese swimming crab, Korean common sea hare, Lamellated oyster, Long arm octopus, Manila clam, Mussel, Oriental shrimp, Oyster, Paphia euglypta, Razor clam, Sakhalin surf clam, Sea squirt, Seacucumbers, Snow crab, Solen grandis, Southern rough shrimp, Surf clam, Turban shell, Veined rapa whelk, Webfoot octopus, Yesso scallop
Mok et al.	2009	Pb, Cd	A rock trout, Anchovy, Atka mackerel, Banded houndshark, Bartail flathead, Black scraper, Black porgy, Blackmouth angler, Brown croaker, Brown sole, Butterfish, Chub mackerel, Cloudy catshark, Coho salmon, Conger eel, Dark-banded rockfish, Filefish, Finespotted flounder, Flathead grey mullet, Fringed blenny, Gizzard shad, Gnomefish, Goldeye rockfish, Hair-tail,

			Halfbeaks, Herring, Horse mackerel, Inshore hagfish, Japanese amberjack, Korean rockfish, Lumpfish, Marbled rockfish, Northern sand lance, Pacific cod, Pacific saury, Panther puffer, Pike eel, Purple puffer, Red sea bream, Red stingray, Red tongue sole, Sea raven, Searobin gurnard, Skate ray, Small yellow croaker, Spottyback puffer, Spottybelly greenling, Striped puffer, Tanaka's snailfish, Tiger puffer, Vermiculated puffer, White-edged rockfish, Willowy flounder
Oh et al.	2008	Hg	Bigeye tuna, Blackmouth angler, Brown sole, Chub mackerel, Dark-banded rockfish, Hair-tail, Japanese flying squid, Long arm octopus, Olive flounder, Pacific cod, Pacific saury, Red seabream, Small yellow croaker, Spanish mackerel, Swordfish
Kim et al.	2007	Hg, Pb, Cd	A rock trout, Alaska pollack, Armorclad rockfish, Atka mackerel, Atlantic cutlassfish, Bartail flathead, Blackmouth angler, Brown croaker, Butterfish, Carp, Chinese muddy loach, Chub mackerel, Common eel, Conger eel, Crucian carp, Dog shark, Far Eastern catfish, Filefish, Flatfish, Flathead, Flathead grey mullet, Flounder, Flying fish, Gizzard shad, Hair-tail, Herring, Horse mackerel, Korean bullhead, Korean rockfish, Leathercarp, Long arm octopus, Mud hopper, Pacific cod, Pacific saury, Purple puffer, Rainbow runner, Red bulleye, Red seabream, Red tongue sole, River salmon, Sailfin sanfish, Sand smelt, Sardine, Sea bass, Sea rundace, Shuttles hopfish, Small yellow croaker, Snake head, Spanish mackerel, Spotted velvetfish, Sweet smelt, Tongue-fish, White spotted char, Yellow croaker
Jun et al.	2007	Hg, Pb, Cd	Brown sole, Japanese flying squid, Smooth lumpfish, Smooth lumpsucker, Tanaka's snailfish
Hwang	2006	Hg, Pb, Cd	Alaska pollack, Armorclad rockfish, Atka mackerel, Brown croaker, Chub mackerel, Crucian carp, Gizzard shad, Gold fish, Herring, Horse mackerel, Japanese amberjack, Pacific cod, Red sea bream, Red seabream, Slender shad, Small yellow croaker, Spanish mackerel, Yellow croaker, Yellow porgy
Kim et al.	2005	Hg	Albacore, Bigeye tuna, Blacktip shark, Bluefin tuna, Pacific blue marlin, Pacific sailfish, Red horsehead, Salmon, Scalloped hammerhead shark, Shortfin mako shark, Skipjack tuna, Striped marlin, Swordfish, Yellowfin tuna

Ha	2004	Hg, Pb, Cd	Armorclad rockfish, Butter clam, Dark-banded rockfish, Finespotted flounder, Flathead grey mullet, Japanese amberjack, Manila clam, Mussel, Oyster, Red seabream, Rock fish, Sea bass, Spottybelly greenling
Jeong et al.	2003	Hg, Pb, Cd	Armorclad rockfish, Flatfish, Manila clam, Olive flounder, Spottybelly greenling, Turban shell
Kim et al.	2003	Hg, Pb, Cd	Alaska pollack, Anchovy, Atka mackerel, Chub mackerel, Flounder, Hair-tail, Pacific cod, Pacific saury, Small yellow croaker
Kim et al.	2003	Hg, Pb, Cd	Bloody clam, Blue mussels, Manila clam, Oyster
Ham	2002	Hg, Pb, Cd	Alaska pollack, Armorclad rockfish, Arrow squid, Three-spined shore crab, Atka mackerel, Bartail flathead, Beka squid, Black porgy, Blackmouth angler, Bloody clam, Blue crab, Brown croaker, Butter clam, Butterfish, Chinese muddy loach, Chub mackerel, Comb pen shell, Common eel, Common octopus, Common orient clam, Crayfish, Crucian carp, Cuttle fish, Eboya, Finespotted flounder, Flatfish, Flathead, Flathead grey mullet, Fleshy shrimp, Flexed shrimp, Flounder, Forskal, Gae-bul, Gizzard shad, Gould's razor shell, Granulated ark shell, Hair-tail, Halfbeaks, Herring, Hiodoshiebi, Horn fish, Japanese paste shrimp, Long arm octopus, Manila clam, Marsh clam, Mussel, Oriental river prawn, Oyster, Pacific cod, Pacific saury, Pink butterfly shell, Pond loach, Red horsehead, Red sea bream, Red seabream, Red tongue sole, Sakhalin surf clam, Sea bass, Sea squirt, Seacucumbers, Shiba shrimp, Shore crab, Shortnecked clam, Skate ray, Small yellow croaker, Snail, Spanish mackerel, Squid, Surf clam, Turban shell, Webfoot octopus, Whelk, Yellow croaker
Sho et al.	2000	Hg, Pb, Cd	Abalone, Alaska pollock, Anchovy, Armorclad rockfish, Bloody clam, Brown croaker, Butterfish, Chub mackerel, Common orient clam, Filefish, Flathead grey mullet, Flounder, Gizzard shad, Goby, Granulated ark shell, Hair-tail, Horse mackerel, Korean sandlance, Manila clam, Mussel, Neptune whelk, Olive flounder, Oyster, Pacific saury, Pike eel, Red seabream, Sailfin sanfish, Sardine, Spanish mackerel, Tuna, Whelk, Yellow croaker
Kim et al.	1999	Hg, Pb, Cd	Black bullhead, Bloody clam, Butter clam, Carp, Chinese muddy loach, Comb pen shell, Common eel, Common orient clam,

Hong et al.	1999	Pb, Cd	Dark slepper, Crucian carp, Downstream fatminnow, Far Eastern catfish, Goby minnow, Gould's razor shell, Hen clam, Manila clam, Mussel, Oyster, Shortnecked clam, Snake head, Steed barbel, Surf clam, Turban shell, Venus clam, Whelk Manila clam, Manila clam, Turban shell, Turban shell
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Supplementary Table 2. Mean, SD, Min, and Max values of the total Hg concentrations in fish and shellfish reported in the reviewed articles

Scientific name	Korean common name	English common name	N	Mean	SD	Min	Max	Reference
Hexagrammos otakii	쭈노래미	A rock trout	14	0.0452		0.0143	0.1006	Choi (2012)
Hexagrammos otakii	쭈노래미	A rock trout	21	0.052		0.028	0.098	Kim (2007)
Nordotis discus	전복	Abalone	46	0.0126		0.002	0.046	Choi (2012)
Nordotis discus	전복	Abalone	12	0.004	0.001	0.002	0.005	Mok (2014)
Nordotis discus	전복	Abalone	64	0.013		ND	0.048	Sho (2000)
Theragra chalcogramma	명태	Alaska pollock	56	0.0374		0.0071	0.229	Choi (2012)
Theragra chalcogramma	명태	Alaska pollock	29	0.025		0.003	0.05	Ham (2002)
Theragra chalcogramma	명태	Alaska pollock	8	0.04	0.04			Hwang (2006)
Theragra chalcogramma	명태	Alaska pollock	21	0.052	0.057	0.008	0.275	Jo (2015)
Theragra chalcogramma	명태	Alaska pollock	14	0.032	0.017	0.011	0.061	Joo (2010)
Theragra chalcogramma	명태	Alaska pollock	12	0.109		0.011	0.241	Kim (2003)
Theragra chalcogramma	명태	Alaska pollock	27	0.027		0.007	0.078	Kim (2007)
Theragra chalcogramma	명태	Alaska pollock	75	0.038	0.033	0.007	0.215	Kim (2012)
Theragra chalcogramma	명태	Alaska pollock	12	0.0382	0.0198			Moon (2011)
Theragra chalcogramma	명태	Alaska pollock	35	0.088		0.004	0.342	Sho (2000)
Thunnus alalunga	날개다랑어	Albacore	12	0.377		0.24	0.582	Kim (2005)
Engraulis japonicus	멸치	Anchovy	15	0.0207		0.008	0.043	Choi (2012)
Engraulis japonicus	멸치	Anchovy	15	0.018	0.005	0.01	0.026	Jo (2015)
Engraulis japonicus	멸치	Anchovy	10	0.019		0.01	0.044	Kim (2003)
Engraulis japonicus	멸치	Anchovy	50	0.0375	0.0247			Moon (2011)
Engraulis japonicus	멸치	Anchovy	38	0.093		0.014	0.498	Sho (2000)

<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	7	0.0726		0.0224	0.143	Ha (2004)
<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	10	0.013		ND	0.03	Ham (2002)
<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	3	0.04	0.04			Hwang (2006)
<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	45	0.071	0.036	0.013	0.169	Jeong (2003)
<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	8	0.09				Park (2011)
<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	34	0.097		0.024	0.201	Sho (2000)
<i>Doryteuthis bleekeri</i>	한치	Arrow squid	3	0.033		ND	0.08	Ham (2002)
<i>Oryzias latipes</i>	송사리	Asiatic ricefish	7	0.033	0.007	0.022	0.044	Kim (2012)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	10	0.02		ND	0.06	Ham (2002)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	1	0.04	0.02			Hwang (2006)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	10	0.084		0.044	0.119	Kim (2003)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	14	0.045		0.014	0.101	Kim (2007)
<i>Microphysogobio longidorsalis</i>	배가사리	Baegasari	1	0.010		0.010	0.010	Kim (2012)
<i>Triakis scyllium</i>	까치상어	Banded hound shark	3	0.97	1.3	0.14	2.7	Kim (2016)
<i>Squaliobarbus curriculus</i>	눈볼개	Barbel chub	6	0.094	0.071	0.051	0.235	Kim (2012)
<i>Argopecten irradians</i>	해만 가리비	Bay scallop	3	0.014	0.004	0.011	0.018	Mok (2014)
<i>Loligo beka</i>	꼴뚜기	Beka squid	16	0.0052		ND	0.0417	Choi (2012)
<i>Loligo beka</i>	꼴뚜기	Beka squid	5	0.024		ND	0.08	Ham (2002)
Deep-sea fish	눈다랑어	Bigeye tuna	17	0.71	0.161	0.09	2.484	Kang (2017)
<i>Thunnus obesus</i>	눈다랑어	Bigeye tuna	12	0.248		0.208	0.278	Kim (2005)
Deep-sea fish	눈다랑어	Bigeye tuna	15	0.493	0.453	0.066	1.565	Oh (2008)
<i>Thunnus obesus</i>	눈다랑어	Bigeye tuna	6	0.56				Park (2011)
	새치류	Billfish	41	0.99	0.72	0.03	3.27	Kim (2013)
<i>Pseudobagrus koreanus</i>	눈동자개	Black bullhead	11	0.056		0.018	0.131	Kim (1999)

<i>Pseudobagrus koreanus</i>	눈동자개	Black bullhead	81	0.083	0.093	0.010	0.650	Kim (2012)
<i>Acanthopagrus schlegelii</i>	감성돔	Black porgy	3	0.007		ND	0.01	Ham (2002)
<i>Acanthopagrus schlegelii</i>	감성돔	Black porgy	15	0.015	0.008	0.006	0.038	Kim (2012)
<i>Acanthopagrus schlegelii</i>	감성돔	Black porgy	44	0.077	0.029	0.018	0.142	Kim (2012)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	23	0.1119		0.0286	0.4258	Choi (2012)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	8	0.012		ND	0.02	Ham (2002)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	21	0.06	0.041	0.02	0.203	Jo (2015)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	23	0.112		0.029	0.426	Kim (2007)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	37	0.036	0.011	0.017	0.555	Kim (2012)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	20	0.0763	0.00956			Moon (2011)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	15	0.032	0.013	0.017	0.068	Oh (2008)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	2	0.06				Park (2011)
<i>Carcharhinus melanopterus</i>	흑기흉상어	Blacktip reef shark	26	1.1	0.78	0.13	3.4	Kim (2016)
<i>Carcharhinus leucas</i>	황소상어	Blacktip shark	12	0.125		0.082	0.159	Kim (2005)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	76	0.0132		0.004	0.046	Choi (2012)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	4	0.039		0.01	0.06	Ham (2002)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	9	0.01		0.006	0.016	Kim (1999)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	14	0.007		0.004	0.008	Kim (2003)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	3	0.006	0.002	0.004	0.007	Mok (2014)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	100	0.0163	0.0125			Moon (2011)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	96	0.014		ND	0.046	Sho (2000)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	2	0.025		ND	0.05	Ham (2002)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	23	0.035	0.028	0.01	0.145	Joo (2010)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	4	0.043	0.017	0.019	0.061	Mok (2014)

<i>Portunus trituberculatus</i>	꽃게	Blue crab	13	0.0316	0.0056				Moon (2011)
<i>Lepomis macrochirus</i>	블루길	Blue gill	11	0.101	0.048	0.047	0.174		Byeon (2010)
<i>Lepomis macrochirus</i>	블루길	Blue gill	381	0.059	0.055	0.002	0.373		Kim (2012)
<i>Mytilus edulis</i>	진주담치	Blue mussels	75	0.008		0.002	0.020		Kim (2003)
<i>Prionace glauca</i>	청새리상어	Blue shark	15	2.4	1.3	0.55	7		Kim (2016)
<i>Thunnus thynnus</i>	참다랑어	Bluefin tuna	10	0.601	0.056	0.339	0.974		Kang (2017)
<i>Thunnus thynnus</i>	참다랑어	Bluefin tuna	7	0.829		0.446	1.2		Kim (2005)
<i>Thunnus thynnus</i>	참다랑어	Bluefin tuna	5	0.187	0.051				Moon (2011)
<i>Thunnus thynnus</i>	참다랑어	Bluefin tuna	13	0.4					Park (2011)
<i>Miichthys miiuy</i>	민어	Brown croaker	16	0.016		ND	0.025		Ham (2002)
<i>Miichthys miiuy</i>	민어	Brown croaker	9	0.03	0.05				Hwang (2006)
<i>Miichthys miiuy</i>	민어	Brown croaker	15	0.025	0.014	0.012	0.065		Jo (2015)
<i>Miichthys miiuy</i>	민어	Brown croaker	20	0.057		0.02	0.188		Kim (2007)
<i>Miichthys miiuy</i>	민어	Brown croaker	15	0.012	0.014	0.002	0.061		Kim (2012)
<i>Miichthys miiuy</i>	민어	Brown croaker	36	0.093		0.038	0.198		Sho (2000)
<i>Limanda Herzensteini</i>	참가자미	Brown sole	21	0.066	0.041	0.011	0.165		Jo (2015)
<i>Limanda Herzensteini</i>	참가자미	Brown sole	6	0.001	0.001				Jun (2007)
<i>Limanda Herzensteini</i>	참가자미	Brown sole	15	0.045	0.024	0.015	0.113		Oh (2008)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	11	0.0104		0.0008	0.0309		Ha (2004)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	5	0.026		ND	0.06		Ham (2002)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	6	0.007		0.003	0.012		Kim (1999)
<i>Pampus argenteus</i>	병어	Butterfish	30	0.016		ND	0.07		Ham (2002)
<i>Pampus argenteus</i>	병어	Butterfish	18	0.018		0.008	0.038		Kim (2007)
<i>Pampus argenteus</i>	병어	Butterfish	55	0.009	0.007	0.003	0.035		Kim (2012)

<i>Pampus argenteus</i>	병어	Butterfish	38	0.069		0.020	0.142	Sho (2000)
<i>Cyprinus carpio</i>	잉어	Carp	12	0.115	0.093	0.028	0.393	Byeon (2010)
<i>Cyprinus carpio</i>	잉어	Carp	13	0.033		0.01	0.048	Kim (1999)
<i>Cyprinus carpio</i>	잉어	Carp	9	0.029		0.006	0.088	Kim (2007)
<i>Cyprinus carpio</i>	잉어	Carp	98	0.049	0.034	0.005	0.143	Kim (2012)
<i>Cyprinus carpio</i>	잉어	Carp	4	0.009	0.011	0.000	0.025	Kim (2012)
<i>Cyprinus carpio</i>	잉어	Carp	53	0.056	0.020	0.022	0.121	Kim (2012)
<i>Cyprinus carpio</i>	잉어	Carp	38	0.046	0.032	0.008	0.135	Kim (2012)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	15	0.05		ND	0.19	Ham (2002)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	52	0.064		0.015	0.16	Kim (1999)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	12	0.04		0.012	0.11	Kim (2007)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	23	0.047	0.028	0.017	0.145	Kim (2012)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	74	0.060	0.055	0.005	0.324	Kim (2012)
<i>Scomber japonicus</i>	고등어	Chub mackerel	66	0.0094		0.0067	0.013	Choi (2012)
<i>Scomber japonicus</i>	고등어	Chub mackerel	22	0.02		ND	0.15	Ham (2002)
<i>Scomber japonicus</i>	고등어	Chub mackerel	7	0.07	0.08			Hwang (2006)
<i>Scomber japonicus</i>	고등어	Chub mackerel	21	0.038	0.023	0.002	0.09	Jo (2015)
<i>Scomber japonicus</i>	고등어	Chub mackerel	22	0.088	0.073	0.025	0.291	Joo (2010)
<i>Scomber japonicus</i>	고등어	Chub mackerel	9	0.03		0.022	0.042	Kim (2003)
<i>Scomber japonicus</i>	고등어	Chub mackerel	29	0.097		0.025	0.383	Kim (2007)
<i>Scomber japonicus</i>	고등어	Chub mackerel	60	0.024	0.015	0.002	0.708	Kim (2012)
<i>Scomber japonicus</i>	고등어	Chub mackerel	10	0.114	0.118			Moon (2011)
<i>Scomber japonicus</i>	고등어	Chub mackerel	15	0.059	0.052	0.02	0.183	Oh (2008)
<i>Scomber japonicus</i>	고등어	Chub mackerel	14	0.07				Park (2011)

<i>Scomber japonicus</i>	고등어	Chub mackerel	46	0.102		0.024	0.464	Sho (2000)
<i>Scomber japonicus</i>	고등어	Chub mackerel	13	0.034	0.014	0.015	0.065	Yang (2015)
<i>Scyliorhinus torazame</i>	두툽상어	Cloudy dogfish	5	1.15	0.36	0.64	1.7	Kim (2016)
<i>Atrina pectinata</i>	키조개	Comb pen shell	7	0.019		0.01	0.05	Ham (2002)
<i>Atrina pectinata</i>	키조개	Comb pen shell	10	0.004		0	0.008	Kim (1999)
<i>Atrina pectinata</i>	키조개	Comb pen shell	6	0.005	0.002	0.002	0.007	Mok (2014)
<i>Anguilla japonica</i>	뱀장어	Common eel	146	0.1555		0.0512	0.876	Choi (2012)
<i>Anguilla japonica</i>	뱀장어	Common eel	39	0.141	0.073			Choi (2016)
<i>Anguilla japonica</i>	뱀장어	Common eel	8	0.019		ND	0.044	Ham (2002)
<i>Anguilla japonica</i>	뱀장어	Common eel	18	0.039		0.019	0.06	Kim (1999)
<i>Anguilla japonica</i>	뱀장어	Common eel	11	0.082		0.021	0.175	Kim (2007)
<i>Anguilla japonica</i>	뱀장어	Common eel	13	0.121	0.104	0.023	0.423	Kim (2012)
<i>Anguilla japonica</i>	뱀장어	Common eel	60	0.084	0.033	0.013	0.136	Kim (2012)
<i>Anguilla japonica</i>	뱀장어	Common eel	10	0.14	0.0367			Moon (2011)
<i>Enteroctopus dofleini</i>	문어	Common octopus	34	0.027		ND	0.1606	Choi (2012)
<i>Enteroctopus dofleini</i>	문어	Common octopus	7	0.03		0.01	0.09	Ham (2002)
<i>Enteroctopus dofleini</i>	문어	Common octopus	8	0.016	0.008	0.001	0.026	Mok (2014)
<i>Enteroctopus dofleini</i>	문어	Common octopus	4	0.007	0.003	0.005	0.012	Mok (2014)
<i>Enteroctopus dofleini</i>	문어	Common octopus	5	0.0506	0.0253			Moon (2011)
<i>Meretrix meretrix</i>	백합	Common orient clam	16	0.018		ND	0.05	Ham (2002)
<i>Meretrix meretrix</i>	백합	Common orient clam	6	0.005		0	0.006	Kim (1999)
<i>Meretrix meretrix</i>	백합	Common orient clam	68	0.028		0.004	0.090	Sho (2000)
<i>Conger myriaster</i>	붕장어	Conger eel	20	0.055	0.06	0.007	0.199	Jo (2015)
<i>Conger myriaster</i>	붕장어	Conger eel	17	0.066		0.042	0.112	Kim (2007)

<i>Ariosoma shiroanago shiroanago</i>	흰봉장어	Conger eel	45	0.031	0.019	0.005	0.125	Kim (2012)
	게	Crab	126	0.0541		0.006	0.161	Choi (2012)
<i>Cambaroides similis</i>	갯가재	Crayfish	2	0.01		ND	0.02	Ham (2002)
<i>Collichthys lucidus</i>	황강달이	Croaker	20	0.0569		0.0204	0.1883	Choi (2012)
<i>Pseudocarcharias kamoharai</i>	강남상어	Crocodile shark	2	1.5	0.35	1.1	1.7	Kim (2016)
<i>Carassius carassius</i>	붕어	Crucian carp	8	0.023		0.007	0.04	Ham (2002)
<i>Carassius carassius</i>	붕어	Crucian carp	20	0.03		0.01	0.052	Kim (1999)
<i>Carassius carassius</i>	붕어	Crucian carp	9	0.024		0.009	0.064	Kim (2007)
<i>Carassius carassius</i>	붕어	Crucian carp	537	0.060	0.048	0.001	0.446	Kim (2012)
<i>Culter brevicauda</i>	백조어	<i>Culter brevicauda</i>	21	0.123	0.044	0.074	0.282	Byeon (2010)
<i>Sepia esculenta</i>	갑오징어	Cuttle fish	10	0.017		ND	0.05	Ham (2002)
<i>Nipponocypris temminckii</i>	갈겨니	Dark chub	8	0.031	0.019	0.018	0.077	Byeon (2010)
<i>Zacco temminckii</i>	갈겨니	Dark chub	33	0.052	0.023	0.020	0.112	Kim (2012)
<i>Odontobutis platycephala</i>	동사리	Dark sleeper	6	0.038		0	0.078	Kim (1999)
<i>Odontobutis platycephala</i>	동사리	Dark sleeper	58	0.097	0.097	0.015	0.503	Kim (2012)
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	15	0.06	0.019	0.036	0.104	Oh (2008)
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	17	0.017	0.007	0.008	0.036	Oh (2010)
<i>Acanthorhodeus macropterus</i>	큰납지리	Deep body bitterling	48	0.043	0.028	0.012	0.112	Kim (2012)
<i>Mustelus griseus</i>	개상어	Dog shark	5	0.394		0.19	0.754	Kim (2007)
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	158	0.046	0.021	0.017	0.147	Byeon (2010)
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	6	0.044		0.009	0.062	Kim (1999)
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	2	0.054	0.002	0.052	0.055	Kim (2012)
<i>Iksookimia yongdokensis</i>	동방종개	Eastern spine loach	17	0.028	0.011	0.015	0.053	Byeon (2010)
<i>Styela clava</i>	미더덕	Eboya	38	0.004		ND	0.1104	Choi (2012)

Styela clava	미더덕	Eboya	15	0.039		0.01	0.11	Ham (2002)
Coilia nasus	응어	Estuarine tapertail	16	0.084	0.024	0.047	0.125	Kim (2012)
Silurus asotus	메기	Far Eastern catfish	11	0.0586		0.0371	0.0961	Choi (2012)
Silurus asotus	메기	Far Eastern catfish	19	0.039	0.022			Choi (2016)
Silurus asotus	메기	Far Eastern catfish	11	0.059	0.018	0.037	0.096	Joo (2010)
Silurus asotus	메기	Far Eastern catfish	18	0.028		0.01	0.063	Kim (1999)
Silurus asotus	메기	Far Eastern catfish	12	0.084		0.02	0.349	Kim (2007)
Silurus asotus	메기	Far Eastern catfish	204	0.144	0.168	0.009	1.720	Kim (2012)
Silurus asotus	메기	Far Eastern catfish	78	0.028	0.011	0.006	0.059	Kim (2012)
Silurus asotus	메기	Far Eastern catfish	20	0.153	0.078			Moon (2011)
Stephanolepis cirrhifer	쥐치	Filefish	8	0.016	0.019	ND	0.061	Jo (2015)
Stephanolepis cirrhifer	쥐치	Filefish	3	0.029		0.019	0.047	Kim (2007)
Stephanolepis cirrhifer	쥐치	Filefish	30	0.0381	0.017			Moon (2011)
Stephanolepis cirrhifer	쥐치	Filefish	37	0.038		0.010	0.147	Sho (2000)
Pleuronichthys cornutus	도다리	Finespotted flounder	2	0.0104		0.01	0.0109	Ha (2004)
Pleuronichthys cornutus	도다리	Finespotted flounder	3	0.018		0.017	0.019	Ham (2002)
Acheilognathus rhombeus	납지리	Flat bitterling	6	0.016	0.024	0.002	0.065	Kim (2012)
Paralichthys oivaceus	광어	Flatfish	5	0.01		ND	0.02	Ham (2002)
Paralichthys oivaceus	광어	Flatfish	29	0.063		0.031	0.144	Kim (2007)
Platycephalus indicus	양태	Flathead	8	0.011		ND	0.026	Ham (2002)
Platycephalus indicus	양태	Flathead	3	0.116		0.044	0.217	Kim (2007)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	23	0.0093		0.0031	0.0457	Choi (2012)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	1	0.011		0.011	0.011	Ha (2004)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	7	0.012		ND	0.029	Ham (2002)

Mugil cephalus	송어	<u>Flathead grey mullet</u>	23	0.009		0.003	0.046	Kim (2007)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	4	0.011	0.005	0.006	0.017	Kim (2012)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	13	0.006	0.004	0.003	0.017	Kim (2012)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	15	0.024	0.005	0.016	0.034	Kim (2012)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	1	0.010				Oh (2010)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	39	0.056		0.013	0.186	Sho (2000)
Penaeus trituberculatus	대하	Fleshy shrimp	5	0.03		ND	0.07	Ham (2002)
Heptacarpus geniculatus	흑등좁은빨꼬마새우	Flexed shrimp	7	0.023		ND	0.06	Ham (2002)
Chaenogobius urotaenia	꼭저구	Floating goby	1	0.134		0.134	0.134	Kim (2012)
Limanda herzensteini	가자미	Flounder	43	0.0693		0.0095	0.2947	Choi (2012)
Limanda herzensteini	가자미	Flounder	26	0.016		ND	0.025	Ham (2002)
Limanda herzensteini	가자미	Flounder	11	0.221		0.044	0.439	Kim (2003)
Limanda herzensteini	가자미	Flounder	28	0.054		0.011	0.111	Kim (2007)
Limanda herzensteini	가자미	Flounder	20	0.132	0.0835			Moon (2011)
Limanda herzensteini	가자미	Flounder	37	0.086		0.009	0.380	Sho (2000)
Cheilopogon agoo	날치	Flying fish	4	0.084		0.056	0.112	Kim (2007)
Myripristis murdjan	적투어	Forskall	10	0.014		ND	0.027	Ham (2002)
Urechis unicinetus	개불	Gae-bul	43	0.0709		ND	0.431	Choi (2012)
Urechis unicinetus	개불	Gae-bul	2	0		ND	ND	Ham (2002)
Konosirus punctatus	전어	Gizzard shad	9	0.0202		0.0088	0.0407	Choi (2012)
Konosirus punctatus	전어	Gizzard shad	5	0.019		0.01	0.031	Ham (2002)
Konosirus punctatus	전어	Gizzard shad	1	0.01	0.01			Hwang (2006)
Konosirus punctatus	전어	Gizzard shad	7	0.02		0.009	0.041	Kim (2007)
Konosirus punctatus	전어	Gizzard shad	45	0.014	0.010	0.001	0.040	Kim (2012)

Konosirus punctatus	전어	Gizzard shad	14	0.012	0.005	0.006	0.023	Oh (2010)
Konosirus punctatus	전어	Gizzard shad	2	0.038		0.030	0.046	Sho (2000)
Gobiidae	망둥어	Goby	10	0.035	0.017	0.011	0.052	Oh (2010)
Gobiidae	망둥어	Goby	4	0.058		0.023	0.090	Sho (2000)
Pseudogobio esocinus	모래무지	Goby minnow	6	0.021	0.016	0.01	0.052	Byeon (2010)
Pseudogobio esocinus	모래무지	Goby minnow	5	0.046		0.016	0.09	Kim (1999)
Pseudogobio ecosinus	모래무지	Goby minnow	98	0.064	0.072	0.004	0.512	Kim (2012)
Carassius auratus	금붕어	Gold fish	2	0.11	0.08			Hwang (2006)
Carassius auratus	금붕어	Gold fish	45	0.012	0.004	0.007	0.031	Kim (2012)
Solen strictus	맛조개	<u>Gould's razor shell</u>	22	0.027		ND	0.08	Ham (2002)
Solen strictus	맛조개	<u>Gould's razor shell</u>	12	0.009		0	0.026	Kim (1999)
Tegillarca granosa	꼬막	Granulated ark shell	69	0.0153		0.005	0.152	Choi (2012)
Tegillarca granosa	꼬막	Granulated ark shell	77	0.069		ND	0.19	Ham (2002)
Tegillarca granosa	꼬막	Granulated ark shell	88	0.015		ND	0.152	Sho (2000)
Trichiurus lepturus	갈치	Hair-tail	69	0.0034		ND	0.0262	Choi (2012)
Trichiurus lepturus	갈치	Hair-tail	32	0.015		ND	0.05	Ham (2002)
Trichiurus lepturus	갈치	Hair-tail	26	0.036	0.023	0.005	0.091	Jo (2015)
Trichiurus lepturus	갈치	Hair-tail	25	0.061	0.023	0.012	0.119	Joo (2010)
Trichiurus lepturus	갈치	Hair-tail	10	0.026		0.008	0.072	Kim (2003)
Trichiurus lepturus	갈치	Hair-tail	29	0.082		0.01	0.295	Kim (2007)
Trichiurus lepturus	갈치	Hair-tail	59	0.031	0.025	0.005	0.147	Kim (2012)
Trichiurus lepturus	갈치	Hair-tail	10	0.101	0.0382			Moon (2011)
Trichiurus lepturus	갈치	Hair-tail	15	0.066	0.035	0.017	0.145	Oh (2008)
Trichiurus lepturus	갈치	Hair-tail	41	0.089		0.009	0.291	Sho (2000)

<i>Sphyrna zygaena</i>	귀상어	Hammerhead shark	3	1.7	0.95	0.48	2.4	Kim (2016)
<i>Peprilus paru</i>	병어과 어류	Harvest fish	33	0.0197		0.0075	0.052	Choi (2012)
<i>Mactra chinensis philippi</i>	개랑조개	Hen clam	11	0.006		0	0.015	Kim (1999)
<i>Clupea pallasii</i>	청어	Herring	21	0.1064		0.0401	0.161	Choi (2012)
<i>Clupea pallasii</i>	청어	Herring	6	0.013		ND	0.02	Ham (2002)
<i>Clupea pallasii</i>	청어	Herring	2	0.18	0.11			Hwang (2006)
<i>Clupea pallasii</i>	청어	Herring	10	0.021	0.019	0.002	0.051	Jo (2015)
<i>Clupea pallasii</i>	청어	Herring	6	0.08		0.04	0.123	Kim (2007)
<i>Clupea pallasii</i>	청어	Herring	12	0.15	0.08			Moon (2011)
<i>AcanthePHYRA purpurea</i>	홍새우	Hiodoshiebi	5	0.021		ND	0.09	Ham (2002)
<i>Hemiramphus sajori</i>	학공치	Horn fish	2	0.014		ND	0.027	Ham (2002)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	7	0.0739		0.0211	0.2217	Choi (2012)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	3	0.18	0.21			Hwang (2006)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	5	0.074		0.021	0.222	Kim (2007)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	34	0.077		0.012	0.183	Sho (2000)
<i>Eptatretus burgeri</i>	먹장어	Inshore hagfish	9	0.661	0.064	0.365	1.023	Kang (2017)
<i>Cyprinus carpio nudus</i>	이스라엘 잉어	Israeli carp	2	0.049	0			Choi (2016)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	2	0.0552		0.0403	0.0701	Ha (2004)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	2	0.04	0.03			Hwang (2006)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	20	0.03	0.021	0.006	0.077	Joo (2010)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	6	0.001	0.001			Jun (2007)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	7	0.043	0.01	0.03	0.055	Mok (2014)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	15	0.058	0.011	0.038	0.074	Oh (2008)
<i>Acetes japonicus</i>	백새우	Japanese paste shrimp	5	0.014		ND	0.04	Ham (2002)

<i>Chrysaora fuscescens</i>	해파리	Jellyfish	23	0.00005		ND	0.0011	Choi (2012)
<i>Coreoperca herzi</i>	꺅지	Korean aucha perch	7	0.039	0.028	0.012	0.092	Byeon (2010)
<i>Coreoperca herzi</i>	꺅지	Korean aucha perch	5	0.119	0.051	0.070	0.175	Kim (2012)
<i>Coreoperca herzi</i>	꺅지	Korean aucha perch	86	0.084	0.085	0.007	0.505	Kim (2012)
<i>Pseudobagrus fulvidraco</i>	빠가사리	Korean bullhead	25	0.027	0			Choi (2016)
<i>Pseudobagrus fulvidraco</i>	동자개	Korean bullhead	3	0.02		0.017	0.023	Kim (2007)
<i>Pseudobagrus fulvidraco</i>	동자개	Korean bullhead	197	0.089	0.077	0.039	0.557	Kim (2012)
<i>Nipponocypris koreanus</i>	참갈겨니	Korean chub	39	0.038	0.026	0.017	0.153	Byeon (2010)
<i>Abbottina springeri</i>	왜매치	Korean dwarf gudgeon	1	0.015		0.015	0.015	Kim (2012)
<i>Squalidus chankaensis tsuchigae</i>	참물개	Korean gudgeon	10	0.142	0.064	0.039	0.213	Kim (2012)
<i>Sarcocheilichthys nigripinnis morii</i>	중고기	Korean oily shiner	14	0.069	0.038	0.018	0.151	Kim (2012)
<i>Opsarichthys uncirostris amurensis</i>	끄리	Korean piscivorous chub	25	0.198	0.097	0.125	0.611	Byeon (2010)
<i>Opsarichthys uncirostris amurensis</i>	끄리	Korean piscivorous chub	112	0.167	0.138	0.013	0.532	Kim (2012)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	57	0.0789		0.0023	0.2841	Choi (2012)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	18	0.056	0.028			Choi (2016)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	20	0.041	0.034	0.007	0.118	Jo (2015)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	38	0.072		0.002	0.284	Kim (2007)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	27	0.058	0.040	0.020	0.154	Kim (2012)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	39	0.063	0.031	0.012	0.152	Kim (2012)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	15	0.264	0.132			Moon (2011)
<i>Hypoptychus dybowskii</i>	양미리	Korean sandlance	34	0.062		0.013	0.157	Sho (2000)
<i>Hemiculter eigenmanni</i>	치리	Korean sharpbelly	39	0.140	0.074	0.017	0.321	Kim (2012)
<i>Sarcocheilichthys nigripinnis morii</i>	쉬리	Korean shinner	11	0.061	0.037	0.016	0.161	Byeon (2010)
<i>Coreoleuciscus splendidus</i>	쉬리	Korean shinner	3	0.051	0.048	0.020	0.107	Kim (2012)

<i>Acheilognathus yamatsutae</i>	줄납자루	Korean striped bitterling	11	0.027	0.014	0.017	0.059	Kim (2012)
<i>Liobagrus andersoni</i>	통가리	Korean torrent catfish	11	0.048	0.041	0.021	0.165	Byeon (2010)
<i>Liobagrus andersoni</i>	통가리	Korean torrent catfish	1	0.025		0.025	0.025	Kim (2012)
<i>Acheilognathus majusculus</i>	큰줄납자루	Large striped bitterling	15	0.027	0.011	0.015	0.050	Kim (2012)
<i>Micropterus salmoides</i>	베스	Largemouth bass	5	0.1	0.039	0.037	0.135	Byeon (2010)
<i>Micropterus salmoides</i>	큰입우럭	Largemouth bass	196	0.195	0.264	0.007	1.230	Kim (2012)
<i>Cyprinus carpio nudus</i>	향어	Leather carp	3	0.009		0.007	0.011	Kim (2007)
Nephropidae	바닷가재	Lobster	19	0.1307		0.0098	0.329	Choi (2012)
<i>Octopus minor</i>	낙지	Long arm octopus	59	0.017		ND	0.0724	Choi (2012)
<i>Octopus minor</i>	낙지	Long arm octopus	9	0.029		ND	0.07	Ham (2002)
<i>Octopus minor</i>	낙지	Long arm octopus	15	0.026	0.018	0.006	0.072	Joo (2010)
<i>Octopus minor</i>	낙지	Long arm octopus	15	0.022	0.013	0.006	0.048	Oh (2008)
<i>Hemibarbus longirostris</i>	참마자	Long-nosed barbel	45	0.121	0.039	0.012	0.207	Byeon (2010)
<i>Hemibarbus longirostris</i>	참마자	Long-nosed barbel	40	0.069	0.037	0.012	0.140	Kim (2012)
<i>Brachymystax lenok tsinlingensis</i>	열목어	Manchurian trout	10	0.107	0.047	0.049	0.118	Kim (2012)
<i>Siniperca scherzeri</i>	쏘가리	Mandarin fish	92	0.200	0.117	0.027	0.554	Kim (2012)
<i>Tapes philippinarum</i>	바지락	Manila clam	15	0.0108		0.0013	0.0195	Choi (2012)
<i>Tapes philippinarum</i>	바지락	Manila clam	9	0.0081		0.0023	0.0311	Ha (2004)
<i>Tapes philippinarum</i>	바지락	Manila clam	39	0.023		ND	0.12	Ham (2002)
<i>Tapes philippinarum</i>	바지락	Manila clam	39	0.013	0.005	0.003	0.022	Jeong (2003)
<i>Tapes philippinarum</i>	바지락	Manila clam	15	0.011	0.006	0.001	0.02	Joo (2010)
<i>Tapes philippinarum</i>	바지락	Manila clam	16	0.009		0.004	0.02	Kim (1999)
<i>Tapes philippinarum</i>	바지락	Manila clam	19	0.009		0.006	0.014	Kim (2003)
<i>Tapes philippinarum</i>	바지락	Manila clam	7	0.007	0.001	0.005	0.008	Mok (2014)

<i>Tapes philippinarum</i>	바지락	Manila clam	80	0.0134	0.0066			Moon (2011)
<i>Tapes philippinarum</i>	바지락	Manila clam	80	0.018		0.001	0.058	Sho (2000)
<i>Sebastes marmoratus</i>	섬뱅이	Marbled rockfish	9	0.141	0.019	0.026	0.211	Kang (2017)
<i>Corbicula fluminea</i>	재첩	Marsh clam	7	0.024		ND	0.09	Ham (2002)
<i>Rhizoprionodon acutus</i>	두점상어	Milk shark	3	0.19	0.03	0.14	0.24	Kim (2016)
<i>Periophthalmus modestus</i>	말뚝망둥어	Mud hopper	3	0.036		0.029	0.044	Kim (2007)
<i>Periophthalmus sp.</i>	말뚝망둑어	Mud hopper	15	0.019	0.007	0.007	0.037	Kim (2012)
<i>Periophthalmus modestus</i>	말뚝망둥어	Mud hopper	80	0.015	0.026	0.000	0.169	Kim (2012)
<i>Mytilus coruscus</i>	홍합	Mussel	13	0.0088		0.0053	0.02	Choi (2012)
<i>Mytilus coruscus</i>	홍합	Mussel	4	0.0265		0.007	0.0953	Ha (2004)
<i>Mytilus coruscus</i>	홍합	Mussel	31	0.024		ND	0.09	Ham (2002)
<i>Mytilus coruscus</i>	홍합	Mussel	14	0.008	0.004	ND	0.02	Joo (2010)
<i>Mytilus coruscus</i>	홍합	Mussel	17	0.006		0	0.015	Kim (1999)
<i>Mytilus coruscus</i>	홍합	Mussel	8	0.005	0.002	0.003	0.008	Mok (2014)
<i>Mytilus coruscus</i>	홍합	Mussel	100	0.00687	0.00201			Moon (2011)
<i>Mytilus coruscus</i>	홍합	Mussel	96	0.014		0.001	0.075	Sho (2000)
<i>Neptunea arthritica</i>	소라고둥	Neptune whelk	52	0.0922		0.018	0.195	Choi (2012)
<i>Neptunea arthritica</i>	소라고둥	Neptune whelk	88	0.059		0.002	0.206	Sho (2000)
<i>Neptunea arthritica</i>	소라고둥	Neptune whelk	12	0.032	0.015	0.019	0.067	Yang (2015)
<i>Oreochromis niloticus</i>	나일틸라피아	Nile mouth breeder	1	0.026	0			Choi (2016)
<i>Squalus megalops</i>	모조리상어	Oceanic whitetip shark	3	0.16	0.05	0.1	0.22	Kim (2016)
<i>Cobitis longicorpus</i>	왕종개	Oil fish	1	0.58				Park (2011)
<i>Sarcocheilichthys variegatus wakiyae</i>	참중고기	Oily shinner	21	0.075	0.046	0.018	0.201	Kim (2012)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	45	0.0583		0.026	0.1438	Choi (2012)

<i>Paralichthys olivaceus</i>	넙치	Olive flounder	49	0.048	0.002				Choi (2016)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	45	0.038	0.017	0.005	0.074		Jeong (2003)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	20	0.038	0.023	0.016	0.097		Jo (2015)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	58	0.056	0.034	0.017	0.140		Kim (2012)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	5	0.144	0.0895				Moon (2011)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	15	0.044	0.015	0.023	0.081		Oh (2008)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	36	0.074		0.013	0.253		Sho (2000)
<i>Meretrix lamarckii</i>	민무늬백합	Orient hard clam	52	0.0169		0.004	0.067		Choi (2012)
<i>Macrobrachium nipponense</i>	민물새우	Oriental river prawn	2	0.045		0.04	0.05		Ham (2002)
<i>Crassostrea gigas</i>	굴	Oyster	13	0.0094		0.007	0.013		Choi (2012)
<i>Crassostrea gigas</i>	굴	Oyster	15	0.0111		0.0026	0.0351		Ha (2004)
<i>Crassostrea gigas</i>	굴	Oyster	28	0.028		0.01	0.09		Ham (2002)
<i>Crassostrea gigas</i>	굴	Oyster	13	0.009	0.002	0.007	0.013		Joo (2010)
<i>Crassostrea gigas</i>	굴	Oyster	17	0.007		0.004	0.011		Kim (1999)
<i>Crassostrea gigas</i>	굴	Oyster	72	0.008		0.004	0.015		Kim (2003)
<i>Crassostrea gigas</i>	굴	Oyster	11	0.014	0.003	0.01	0.021		Mok (2014)
<i>Crassostrea gigas</i>	굴	Oyster	80	0.009	0.003	0.005	0.019		Mok (2015)
<i>Crassostrea gigas</i>	굴	Oyster	100	0.0114	0.00432				Moon (2011)
<i>Crassostrea gigas</i>	굴	Oyster	84	0.020		0.001	0.059		Sho (2000)
<i>Makaira mazara</i>	녹색치	Pacific blue marlin	12	0.331		0.097	0.76		Kim (2005)
<i>Makaira mazara</i>	기름녹새치	Pacific blue marlin	3	0.31					Park (2011)
<i>Gadus macrocephalus</i>	대구	Pacific cod	32	0.1061		0.0211	0.903		Choi (2012)
<i>Gadus macrocephalus</i>	대구	Pacific cod	19	0.016		ND	0.035		Ham (2002)
<i>Gadus macrocephalus</i>	대구	Pacific cod	9	0.07	0.08				Hwang (2006)

<i>Gadus macrocephalus</i>	대구	Pacific cod	22	0.09	0.068	0.022	0.227	Jo (2015)
<i>Gadus macrocephalus</i>	대구	Pacific cod	10	0.08		0.06	0.126	Kim (2003)
<i>Gadus macrocephalus</i>	대구	Pacific cod	17	0.063		0.021	0.116	Kim (2007)
<i>Gadus macrocephalus</i>	대구	Pacific cod	45	0.042	0.031	0.010	0.121	Kim (2012)
<i>Gadus macrocephalus</i>	대구	Pacific cod	10	0.126	0.0636			Moon (2011)
<i>Gadus macrocephalus</i>	대구	Pacific cod	15	0.072	0.032	0.016	0.127	Oh (2008)
<i>Gadus macrocephalus</i>	대구	Pacific cod	7	0.07				Park (2011)
<i>Istiophorus platyperus</i>	돛새치	Pacific sailfish	12	0.108		0.064	0.156	Kim (2005)
<i>Istiophorus platyperus</i>	돛새치	Pacific sailfish	1	0.04				Park (2011)
<i>Cololabis saira</i>	공치	Pacific saury	42	0.0572		0.0154	0.1674	Choi (2012)
<i>Cololabis saira</i>	공치	Pacific saury	32	0.015		ND	0.03	Ham (2002)
<i>Cololabis saira</i>	공치	Pacific saury	20	0.045	0.024	0.009	0.093	Jo (2015)
<i>Cololabis saira</i>	공치	Pacific saury	9	0.06		0.034	0.075	Kim (2003)
<i>Cololabis saira</i>	공치	Pacific saury	27	0.063		0.015	0.167	Kim (2007)
<i>Cololabis saira</i>	공치	Pacific saury	20	0.068	0.0272			Moon (2011)
<i>Cololabis saira</i>	공치	Pacific saury	15	0.061	0.01	0.047	0.082	Oh (2008)
<i>Cololabis saira</i>	공치	Pacific saury	9	0.06				Park (2011)
<i>Cololabis saira</i>	공치	Pacific saury	33	0.064		0.010	0.193	Sho (2000)
<i>Cololabis saira</i>	공치	Pacific saury	14	0.036	0.011	0.017	0.055	Yang (2015)
<i>Zacco platypus</i>	피라미	Pale chub	55	0.033	0.024	0.012	0.116	Byeon (2010)
<i>Zacco platypus</i>	피라미	Pale chub	243	0.068	0.051	0.007	0.270	Kim (2012)
<i>Dissostichus eleginoides</i>	비막치어	Patagonian toothfish	6	0.832	0.255	0.176	1.784	Kang (2017)
<i>Dissostichus eleginoides</i>	비막치어	Patagonian toothfish	19	0.43	0.48	0.03	1.79	Kim (2013)
<i>Alopias pelagicus</i>	환도상어	Pelagic thresher shark	13	1.45	0.59	0.24	3.1	Kim (2016)

<i>Muraenesox cinereus</i>	갯장어	Pike eel	36	0.116		0.030	0.452	Sho (2000)
<i>Peronidia venulosa</i>	비단조개	Pink butterfly shell	2	0.005		ND	0.01	Ham (2002)
<i>Misgurnus anguillicaudatus</i>	미꾸리	Pond loach	14	0.022		0.004	0.044	Ham (2002)
<i>Hypomesus nipponensis</i>	빙어	Pond smelt	66	0.068	0.044	0.014	0.179	Kim (2012)
<i>Takifugu porphyreus</i>	검복	Purple puffer	3	0.089		0.04	0.137	Kim (2007)
<i>Elagatis bipinnulata</i>	참치방어	Rainbow runner	3	0.223		0.029	0.417	Kim (2007)
<i>Oncorhynchus mykiss</i>	무지개 송어	Rainbow trout	8	0.042	0.02			Choi (2016)
<i>Raja kenoei</i>	가오리	Ray	8	0.487	0.356			Moon (2011)
<i>Priacanthus macracanthus</i>	홍치	Red bulleye	3	0.055		0.051	0.058	Kim (2007)
<i>Branchiostegus japonicus</i>	옥돔	Red horsehead	3	0.007		ND	0.01	Ham (2002)
<i>Branchiostegus japonicus</i>	옥돔	Red horsehead	12	0.133		0.098	0.193	Kim (2005)
<i>Branchiostegus japonicus</i>	옥돔	Red horsehead	15	0.097	0.055	0.036	0.200	Kim (2012)
<i>Pagrus major</i>	참돔	Red seabream	57	0.1457		0.0369	0.565	Choi (2012)
<i>Pagrus major</i>	참돔	Red seabream	11	0.111	0.057			Choi (2016)
<i>Pagrus major</i>	참돔	Red seabream	5	0.1003		0.0454	0.206	Ha (2004)
<i>Pagrus major</i>	참돔	Red seabream	12	0.037		0.016	0.09	Ham (2002)
<i>Pagrus major</i>	참돔	Red seabream	23	0.014		ND	0.03	Ham (2002)
<i>Pagrus major</i>	참돔	Red seabream	12	0.13	0.18			Hwang (2006)
<i>Pagrus major</i>	참돔	Red seabream	30	0.113		0.037	0.335	Kim (2007)
<i>Pagrus major</i>	참돔	Red seabream	15	0.072	0.029	0.026	0.114	Kim (2012)
<i>Pagrus major</i>	참돔	Red seabream	36	0.072	0.031	0.017	0.145	Kim (2012)
<i>Pagrus major</i>	참돔	Red seabream	15	0.121	0.116	0.047	0.455	Oh (2008)
<i>Pagrus major</i>	참돔	Red seabream	35	0.110		0.028	0.227	Sho (2000)
<i>Chionoecetes japonicus</i>	홍게	Red snow crab	6	0.134	0.062	0.04	0.206	Mok (2014)

<i>Dasyatis akajei</i>	노랑가오리	Red stingray	12	0.08	0.058	0.023	0.223	Jo (2015)
<i>Cynoglossus joyneri</i>	서대	Red tongue sole	8	0.021		ND	0.07	Ham (2002)
<i>Oncorhynchus masou masou</i>	송어	River salmon	16	0.031	0.009			Choi (2016)
<i>Oncorhynchus masou masou</i>	송어	River salmon	2	0.063		0.056	0.071	Kim (2007)
<i>Oncorhynchus masou masou</i>	송어	River salmon	2	0.099	0.025	0.081	0.117	Kim (2012)
<i>Oncorhynchus masou masou</i>	송어	River salmon	75	0.035	0.014	0.011	0.065	Kim (2012)
<i>Sebastes zonatus</i>	띠볼락	Rock fish	3	0.0205		0.0153	0.0285	Ha (2004)
<i>Trachidermus fasciatus</i>	꺼정어	Rough skin sculpin	1	0.097		0.030	0.030	Kim (2012)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	10	0.0771		0.0335	0.1508	Choi (2012)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	10	0.077		0.033	0.151	Kim (2007)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	31	0.103		0.024	0.257	Sho (2000)
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	21	0.017		ND	0.05	Ham (2002)
<i>Oncorhynchus keta</i>	연어	Salmon	12	0.0264		0.023	0.031	Choi (2012)
<i>Oncorhynchus keta</i>	연어	Salmon	12	0.026		0.023	0.031	Kim (2005)
<i>Oncorhynchus keta</i>	연어	Salmon	7	0.04				Park (2011)
<i>Sillago sihama</i>	보리멸	Sand smelt	3	0.038		0.028	0.051	Kim (2007)
<i>Sardinops melanostictus</i>	정어리	Sardine	9	0.024		0.017	0.031	Kim (2007)
<i>Sardinops melanostictus</i>	정어리	Sardine	30	0.046		0.013	0.185	Sho (2000)
<i>Sardinops melanostictus</i>	정어리	Sardine	4	0.042	0.011	0.03	0.054	Yang (2015)
<i>Sphyrna lewini</i>	홍살귀상어	Scalloped shark	12	0.498		0.353	0.715	Kim (2005)
<i>Lateolabrax japonicus</i>	농어	Sea bass	25	0.11		0.066	0.2156	Choi (2012)
<i>Lateolabrax japonicus</i>	농어	Sea bass	3	0.1143		0.107	0.118	Ha (2004)
<i>Lateolabrax japonicus</i>	농어	Sea bass	5	0.008		ND	0.018	Ham (2002)
<i>Lateolabrax japonicus</i>	농어	Sea bass	26	0.11		0.066	0.216	Kim (2007)

<i>Lateolabrax japonicus</i>	농어	Sea bass	5	0.011	0.006	0.005	0.002	Oh (2010)
<i>Undaria pinnatifida</i>	미역	Sea mustard	12	0.0179		0.003	0.0246	Choi (2012)
<i>lateolabrax maculatus</i>	점농어	Sea perch	22	0.071	0.024	0.037	0.130	Kim (2012)
<i>Tribolodon hakonensis</i>	황어	Sea rundace	2	0.079		0.039	0.119	Kim (2007)
<i>Tribilodon hakonensis</i>	황어	Sea rundace	6	0.102	0.041	0.497	0.147	Kim (2012)
<i>Halocynthia roretzi</i>	멍게	Sea squirt	46	0.0213		ND	0.2855	Choi (2012)
<i>Halocynthia roretzi</i>	멍게	Sea squirt	2	0.01		ND	0.02	Ham (2002)
<i>Tripneustes ventricosus</i>	성게	Sea urchin	12	0.0062		ND	0.0375	Choi (2012)
<i>Stichopus japonicus</i>	해삼	Seacucumbers	36	0.0008		ND	0.0162	Choi (2012)
<i>Stichopus japonicus</i>	해삼	Seacucumbers	3	0.035		0.01	0.06	Ham (2002)
<i>Selachimorpha</i>	상어	Shark	27	0.3415		0.082	0.715	Choi (2012)
<i>Selachimorpha</i>	상어	Shark	17	0.886	0.171	0.107	2.469	Kang (2017)
<i>Selachimorpha</i>	상어	Shark	10	1.2	0.7	0.43	2.78	Kim (2013)
<i>Hemiculter leucisculus</i>	살치	Sharpbelly	41	0.156	0.046	0.063	0.268	Byeon (2010)
<i>Hemiculter leucisculus</i>	살치	Sharpbelly	38	0.089	0.073	0.014	0.295	Kim (2012)
<i>Metapenaeus joyneri</i>	중하	Shiba shrimp	5	0.038		0.01	0.08	Ham (2002)
<i>Pachygrapsus crassipes</i>	돌게	Shore crab	3	0.035		0.01	0.06	Ham (2002)
<i>Squalidus japonicus coreanus</i>	물개	Short barbel gudgeon	4	0.158	0.046	0.104	0.217	Kim (2012)
<i>Isurus oxyrinchus</i>	청상아리	Shortfin mako shark	12	0.549		0.346	0.782	Kim (2005)
<i>Isurus oxyrinchus</i>	청상아리	Shortfin mako shark	7	3.15	0.68	2.2	5	Kim (2016)
<i>Tapes japonica</i>	모시조개	Shortnecked clam	34	0.029		ND	0.08	Ham (2002)
<i>Tapes japonica</i>	모시조개	Shortnecked clam	7	0.008		0.004	0.017	Kim (1999)
<i>Carcharhinus longimanus</i>	장완흉상어	Shortnose spurdog	4	0.53	0.79	0.12	1.7	Kim (2016)
<i>Eopsetta grigorjewi</i>	물가자미	Shotted halibut	75	0.028	0.014	0.001	0.085	Kim (2012)

	새우	Shrimp	51	0.0115		ND	0.0954	Choi (2012)
<i>Solenocera melantho</i>	새우	Shrimp	50	0.0566	0.0157			Moon (2011)
<i>Orthrias nudus</i>	대륙종개	Siberian stone loach	15	0.038	0.016	0.019	0.066	Byeon (2010)
<i>Raja kenojei</i>	홍어	Skate ray	5	0.018		0.01	0.03	Ham (2002)
<i>Katrapturus pelamis</i>	가다랑어	Skipjack tuna	5	0.116	0.041	0.044	0.235	Kang (2017)
<i>Katrapturus pelamis</i>	가다랑어	Skipjack tuna	12	0.023		0.014	0.036	Kim (2005)
<i>Eryghroculter erythropterus</i>	강준치	Skygager	125	0.151	0.115	0.010	0.588	Kim (2012)
<i>Acheilognathus lanceolatus</i>	납자루	Slender bitterling	15	0.059	0.041	0.014	0.160	Kim (2012)
<i>Silurus microdorsalis</i>	미유기	Slender catfish	6	0.034	0.023	0.006	0.066	Kim (2012)
<i>Ilisha elongata</i>	준치	Slender shad	3	0.07	0.05			Hwang (2006)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	57	0.0426		0.0115	0.1865	Choi (2012)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	26	0.015		ND	0.049	Ham (2002)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	7	0.02	0.01			Hwang (2006)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	5	0.05	0.05			Hwang (2006)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	20	0.028	0.021	0.002	0.07	Jo (2015)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	15	0.3	0.016	0.012	0.074	Joo (2010)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	8	0.016		0.013	0.02	Kim (2003)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	27	0.05		0.017	0.187	Kim (2007)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	15	0.0359	0.0218			Moon (2011)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	15	0.04	0.016	0.021	0.081	Oh (2008)
<i>Aptocyclus ventricosus</i>	뚝지	Smooth lumpfish	3	0.003	0.001			Jun (2007)
<i>Rapana venosa</i>	고둥	Snail	60	0.0836		0.021	0.3829	Choi (2012)
<i>Rapana venosa</i>	고둥	Snail	11	0.021		ND	0.04	Ham (2002)
<i>Channa argus</i>	가물치	Snake Head	9	0.11	0.05	0.044	0.199	Joo (2010)

<i>Channa argus</i>	가물치	Snake head	9	0.121		0.02	0.183	Kim (1999)
<i>Channa argus</i>	가물치	Snake head	12	0.103		0.039	0.246	Kim (2007)
<i>Channa argus</i>	가물치	Snakehead	1	0.162				Choi (2016)
<i>Channa argus</i>	가물치	Snakehead	30	0.113	0.090	0.028	0.415	Kim (2012)
<i>Channa argus</i>	가물치	Snakehead	49	0.077	0.045	0.011	0.259	Kim (2012)
<i>Chionoecetes opilio</i>	대게	Snow crab	5	0.119	0.061	0.041	0.192	Mok (2014)
<i>Liobagrus mediadiposalis</i>	자가사리	South torrent catfish	5	0.022	0.005	0.015	0.028	Kim (2012)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	36	0.0264		0.0064	0.0553	Choi (2012)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	25	0.017		ND	0.06	Ham (2002)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	7	0.04	0.03			Hwang (2006)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	20	0.043	0.058	0.002	0.207	Jo (2015)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	21	0.031		0.016	0.055	Kim (2007)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	30	0.019	0.012	0.001	0.051	Kim (2012)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	8	0.0571	0.0327			Moon (2011)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	15	0.027	0.012	0.013	0.053	Oh (2008)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	7	0.04				Park (2011)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	42	0.083		0.019	0.304	Sho (2000)
<i>Cobitis hankugensis</i>	기름종개	Spine loach	22	0.092	0.034	0.047	0.173	Kim (2012)
<i>Squlus acanthias</i>	굽상어	Spiny dogfish	17	1.08	0.39	0.42	1.8	Kim (2016)
<i>Erisphex pottii</i>	풀미역치	Spotted velvetfish	3	0.043		0.024	0.056	Kim (2007)
<i>Agrammus agrammus</i>	노래미	Spottybelly greenling	22	0.0522		0.0283	0.0975	Choi (2012)
<i>Agrammus agrammus</i>	노래미	Spottybelly greenling	1	0.0541		0.0541	0.0541	Ha (2004)
<i>Agrammus agrammus</i>	노래미	Spottybelly greenling	45	0.051	0.039	0.002	0.251	Jeong (2003)
<i>Agrammus agrammus</i>	노래미	Spottybelly greenling	1	0.027				Oh (2010)

<i>Todarodes pacificus</i>	오징어	Squid	79	0.0311		ND	0.1374	Choi (2012)
<i>Todarodes pacificus</i>	오징어	Squid	7	0.027			0.09	Ham (2002)
<i>Todarodes pacificus</i>	오징어	Squid	30	0.0715	0.0165			Moon (2011)
<i>Platichthys stellatus</i>	강도다리	Starry flounder	23	0.036	0.014			Choi (2016)
<i>Mustelus manazo</i>	별상어	Starspotted smooth-hound	2	0.32	0.11	0.23	0.42	Kim (2016)
<i>Mustelus manazo</i>	별상어	Starspotted smooth-hound	1	0.94				Park (2011)
<i>Hemibarbus labeo</i>	누치	Steed barbel	8	0.081		0.029	0.237	Kim (1999)
<i>Hemibarbus labeo</i>	누치	Steed barbel	370	0.101	0.084	0.004	0.518	Kim (2012)
<i>Chelon haematocheilus</i>	가송어	Strip mullet	10	0.023	0.020	0.006	0.076	Kim (2012)
<i>Oplegnathus fasciatus</i>	돌돔	Striped beakperch	15	0.033	0.008	0.021	0.049	Kim (2012)
<i>Tetrapturus audax</i>	청새치	Striped marlin	12	0.194		0.02	0.434	Kim (2005)
<i>Pungtungia herzi</i>	돌고기	Striped shinner	6	0.028	0.013	0.011	0.043	Byeon (2010)
<i>Pungtungia herzi</i>	돌고기	Striped shinner	104	0.087	0.047	0.008	0.219	Kim (2012)
<i>Mactra veneriformis</i>	동죽	Surf clam	20	0.023		ND	0.09	Ham (2002)
<i>Mactra veneriformis</i>	동죽	Surf clam	5	0.004		0	0.006	Kim (1999)
<i>Plecoglossus altivelis</i>	은어	Sweet smelt	2	0.033		0.024	0.042	Kim (2007)
<i>Plecoglossus altivelis</i>	은어	Sweet smelt	25	0.013	0.067	0.005	0.034	Kim (2012)
<i>Plecoglossus altivelis</i>	은어	Sweet smelt	30	0.021	0.007	0.009	0.042	Kim (2012)
<i>Xiphias gladius</i>	황새치	Swordfish	88	0.6539		0.02	6.932	Choi (2012)
<i>Xiphias gladius</i>	황새치	Swordfish	22	1.968	0.505	0.216	11.908	Kang (2017)
<i>Xiphias gladius</i>	황새치	Swordfish	12	0.658		0.315	0.934	Kim (2005)
<i>Xiphias gladius</i>	황새치	Swordfish	15	1.407	0.48	0.567	2.315	Oh (2008)
<i>Xiphias gladius</i>	황새치	Swordfish	7	1.5				Park (2011)
<i>Liparis tanakai</i>	꼼치	Tanaka's snailfish	6	0.002	0.001			Jun (2007)

<i>Helice tridens tridens</i>	방게	Three-spined shore crab	3	0.017		ND	0.03	Ham (2002)
<i>Symphurus pusillus</i>	개서대	Tongue-fish	4	0.056		0.024	0.079	Kim (2007)
Thunnidae	다랑어과 어류	Tuna	207	0.6143		0.014	3.21	Choi (2012)
Thunnidae	다랑어과 어류	Tuna	66	0.32	0.31	0.02	1.38	Kim (2013)
Thunnidae	다랑어과 어류	Tuna	4	0.038		0.034	0.046	Sho (2000)
Thunnidae	다랑어과 어류	Tuna	44	0.075	0.07	0.013	0.386	Yang (2015)
<i>Batillus cornutus</i>	소라	Turban shell	33	0.024		ND	0.06	Ham (2002)
<i>Batillus cornutus</i>	소라	Turban shell	39	0.041	0.037	0.002	0.124	Jeong (2003)
<i>Batillus cornutus</i>	소라	Turban shell	17	0.014		0.004	0.092	Kim (1999)
<i>Batillus cornutus</i>	소라	Turban shell	9	0.005	0.001	0.003	0.008	Mok (2014)
<i>Rapana venosa</i>	피뿔고둥	Veined rapa whelk	9	0.012	0.004	0.005	0.017	Mok (2014)
<i>Notochione jedoensis</i>	살조개	Venus clam	14	0.004		0	0.007	Kim (1999)
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	26	0.0069		ND	0.0321	Choi (2012)
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	8	0.031		ND	0.09	Ham (2002)
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	3	0.008	0.006	0.003	0.015	Mok (2014)
<i>Buccimon striatissimum</i>	골뱅이	Whelk	16	0.025		ND	0.09	Ham (2002)
<i>Buccimon striatissimum</i>	골뱅이	Whelk	6	0.011		0.006	0.021	Kim (1999)
<i>Buccimon striatissimum</i>	골뱅이	Whelk	72	0.092		0.011	0.221	Sho (2000)
<i>Salvelinus leucomaenis</i>	홍송어	White spotted char	3	0.035		0.032	0.04	Kim (2007)
<i>Larimichthys polyactis</i>	조기	Yellow croaker	10	0.019		0.01	0.027	Ham (2002)
<i>Larimichthys polyactis</i>	조기	Yellow croaker	45	0.013	0.056	0.004	0.028	Kim (2012)
<i>Larimichthys polyactis</i>	조기	Yellow croaker	40	0.091		0.013	0.500	Sho (2000)
<i>Dentex tumifrons</i>	황돔	Yellow porgy	8	0.24	0.24			Hwang (2006)
<i>Thunnus albacares</i>	황다랑어	Yellowfin tuna	6	0.544	0.206	0.006	1.288	Kang (2017)

Thunnus albacares	황다랑어	Yellowfin tuna	12	0.108	0.078	0.144	Kim (2005)
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N, number of species samples examined; SD, standard deviation; Min, minimum values; Max, maximum values.

Supplementary Table 3. Mean, SD, Min, and Max values of the Pb concentrations in fish and shellfish reported in the reviewed articles

Scientific name	Korean common name	English common name	N	Mean	SD	Min	Max	Reference
Hexagrammos otakii	쥐노래미	A rock trout	21	0.031		0.007	0.139	Kim (2007)
Hexagrammos otakii	쥐노래미	A rock trout	1	0.102	0			Mok (2009)
Nordotis discus	전복	Abalone	12	0.003	0.002	0.001	0.007	Mok (2014)
Nordotis discus	전복	Abalone	64	0.36		0.07	0.79	Sho (2000)
Nordotis discus	전복	Abalone	9	0.339	0.262	0.014	0.793	Mok (2010)
Theragra chalcogramma	명태	Alaska pollock	29	0.257		0.02	0.41	Ham (2002)
Theragra chalcogramma	명태	Alaska pollock	8	0.21	0.56			Hwang (2006)
Theragra chalcogramma	명태	Alaska pollock	27	0.019		0	0.05	Kim (2007)
Theragra chalcogramma	명태	Alaska pollock	21	0.045	0.039	0.009	0.155	Kim (2016)
Theragra chalcogramma	명태	Alaska pollock	35	0.29		0.06	0.91	Sho (2000)
Theragra chalcogramma	명태	Alaska pollock	12	0.22		0.01	0.46	Kim (2003)
Engraulis japonicus	멸치	Anchovy	15	0.142	0.044	0.079	0.221	Kim (2016)
Engraulis japonicus	멸치	Anchovy	38	0.4		0.03	0.87	Sho (2000)
Engraulis japonicus	멸치	Anchovy	1	0.016	0			Mok (2009)
Engraulis japonicus	멸치	Anchovy	10	0.72		0.39	1.34	Kim (2003)
Sebastes hubbsi	우럭	Armorclad rockfish	10	0.265		0.04	0.53	Ham (2002)
Sebastes hubbsi	우럭	Armorclad rockfish	3	0.04	0.05			Hwang (2006)
Sebastes hubbsi	우럭	Armorclad rockfish	34	0.21		0.07	0.62	Sho (2000)
Sebastes hubbsi	우럭	Armorclad rockfish	7	0.4744		0.0344	0.7941	Ha (2004)
Sebastes hubbsi	우럭	Armorclad rockfish	45	0.047	0.031	0.003	0.159	Jeong (2003)
Sebastes hubbsi	우럭	Armorclad rockfish	1	0.048				Mok (2010)

<i>Doryteuthis bleekeri</i>	한치	Arrow squid	3	0.12		0.08	0.17	Ham (2002)
<i>Helice tridens tridens</i>	방게	Ashiharagani	3	0.25		0.07	0.41	Ham (2002)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	10	0.226		0.01	0.5	Ham (2002)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	1	0.03	0.04			Hwang (2006)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	14	0.018		0.001	0.05	Kim (2007)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	3	0.04	0.038	0.004	0.079	Mok (2009)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	10	0.46		0.32	0.55	Kim (2003)
<i>Trichiurus lepturus</i>	대서양 갈치	Atlantic cutlassfish	29	0.029		0.001	0.323	Kim (2007)
<i>Triakis scyllium</i>	까치상어	Banded houndshark	1	0.022	0			Mok (2009)
<i>Platycephalus indicus</i>	양태	Bartail flathead	8	0.238		0.07	0.52	Ham (2002)
<i>Platycephalus indicus</i>	양태	Bartail flathead	3	0.017		0.001	0.028	Kim (2007)
<i>Platycephalus indicus</i>	양태	Bartail flathead	6	0.042	0.054	0.002	0.112	Mok (2009)
<i>Argopecten irradians</i>	해만 가리비	Bay scallop	3	0.018	0.01	0.011	0.03	Mok (2014)
<i>Loligo beka</i>	꼴뚜기	Beka squid	5	0.142		0.04	0.29	Ham (2002)
<i>Loligo beka</i>	꼴뚜기	Beka squid	2	0.105	0.08	0.048	0.162	Mok (2010)
<i>Pseudobagrus koreanus</i>	눈동자개	Black bullhead	11	0.009		0	0.03	Kim (1999)
<i>Acanthopagrus schlegelii</i>	감성돔	Black porgy	3	0.077		0.05	0.11	Ham (2002)
<i>Navodon modestus</i>	말쥐치	Black scraper	2	0.011	0.005	0.008	0.014	Mok (2009)
<i>Acanthopagrus schlegeli</i>	감성돔	Black porgy	2	0.045	0.028	0.025	0.065	Mok (2009)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	8	0.179		0.06	0.51	Ham (2002)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	23	0.016		0	0.089	Kim (2007)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	21	0.069	0.037	0.005	0.148	Kim (2016)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	10	0.014	0.01	0.002	0.026	Mok (2009)
<i>Neverita didyma</i>	큰구슬우렁	Bladder moon snail	3	0.279	0.235	0.102	0.545	Mok (2010)

<i>Scapharca broughtonii</i>	피조개	Bloody clam	4	0.175		0.15	0.21	Ham (2002)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	3	0.12	0.075	0.034	0.17	Mok (2014)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	14	0.149		0.089	0.228	Kim (2003)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	96	0.33		0.04	1.51	Sho (2000)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	9	0.025		0	0.161	Kim (1999)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	7	0.327	0.266	0.035	0.69	Mok (2010)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	2	0.085		0.05	0.12	Ham (2002)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	4	0.009	0.003	0.007	0.013	Mok (2014)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	6	0.127	0.056	0.04	0.181	Mok (2010)
<i>Mytilus edulis</i>	진주담치	Blue mussels	75	0.214		trace	0.984	Kim (2003)
<i>Mytilus edulis</i>	진주담치	Blue mussels	4	0.301	0.199	0.041	0.525	Mok (2010)
<i>Miichthys miiuy</i>	민어	Brown croaker	9	0.23	0.83			Hwang (2006)
<i>Miichthys miiuy</i>	민어	Brown croaker	16	0.174		0.04	0.45	Ham (2002)
<i>Miichthys miiuy</i>	민어	Brown croaker	20	0.026		0	0.1	Kim (2007)
<i>Miichthys miiuy</i>	민어	Brown croaker	15	0.012	0.008	ND	0.03	Kim (2016)
<i>Miichthys miiuy</i>	민어	Brown croaker	36	0.21		0.03	0.54	Sho (2000)
<i>Miichthys miiuy</i>	민어	Brown croaker	1	0.01	0			Mok (2009)
<i>Limanda herzensteini</i>	참가자미	Brown sole	8	0.025	0.025	0.005	0.084	Mok (2009)
<i>Limanda herzensteini</i>	참가자미	Brown sole	6	0.282	0.01			Jun (2007)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	5	0.136		0.03	0.18	Ham (2002)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	11	0.641		0.123	1.8692	Ha (2004)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	6	0.008		0	0.032	Kim (1999)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	12	0.259	0.201	0.045	0.56	Mok (2010)
<i>Pampus argenteus</i>	병어	Butterfish	30	0.217		ND	0.53	Ham (2002)

<i>Pampus argenteus</i>	병어	Butterfish	18	0.019		0.002	0.047	Kim (2007)
<i>Pampus argenteus</i>	병어	Butterfish	38	0.28		0.04	0.86	Sho (2000)
<i>Pampus argenteus</i>	병어	Butterfish	7	0.03	0.026	0.004	0.078	Mok (2009)
<i>Cyprinus carpio</i>	잉어	Carp	9	0.011		0.001	0.027	Kim (2007)
<i>Cyprinus carpio</i>	잉어	Carp	13	0.113		0	0.64	Kim (1999)
<i>Scapharca satowi</i>	큰이랑피조개	Chinese blood clam	1	0.698	0			Mok (2010)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	15	0.264		0.02	1.68	Ham (2002)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	12	0.172		0.026	0.423	Kim (2007)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	52	0.079		0	0.84	Kim (1999)
<i>Scomber japonicus</i>	고등어	Chub mackerel	22	0.234		0.09	0.48	Ham (2002)
<i>Scomber japonicus</i>	고등어	Chub mackerel	7	0.38	0.57			Hwang (2006)
<i>Scomber japonicus</i>	고등어	Chub mackerel	29	0.014		0.001	0.049	Kim (2007)
<i>Scomber japonicus</i>	고등어	Chub mackerel	21	0.069	0.098	ND	0.336	Kim (2016)
<i>Scomber japonicus</i>	고등어	Chub mackerel	46	0.37		ND	1.87	Sho (2000)
<i>Scomber japonicus</i>	고등어	Chub mackerel	8	0.019	0.018	0.002	0.055	Mok (2009)
<i>Scomber japonicus</i>	고등어	Chub mackerel	9	0.62		0.11	1.09	Kim (2003)
<i>Scyliorhinus torazame</i>	두툽상어	cloudy catshark	1	0.014	0			Mok (2009)
<i>Onchorhynchus kisufch</i>	은연어	Coho salmon	1	0.003	0			Mok (2009)
<i>Atrina pectinata</i>	키조개	Comb pen shell	7	0.144		0.08	0.24	Ham (2002)
<i>Atrina pectinata</i>	키조개	Comb pen shell	6	0.028	0.014	0.012	0.046	Mok (2014)
<i>Atrina pectinata</i>	키조개	Comb pen shell	10	0.066		0	0.54	Kim (1999)
<i>Atrina pectinata</i>	키조개	Comb pen shell	7	0.264	0.205	0.028	0.546	Mok (2010)
<i>Anguilla japonica</i>	뱀장어	Common eel	8	0.348		0.09	1.35	Ham (2002)
<i>Anguilla japonica</i>	뱀장어	Common eel	11	0.016		0.001	0.034	Kim (2007)

<i>Anguilla japonica</i>	뱀장어	Common eel	18	0.059		0	0.3	Kim (1999)
<i>Enteroctopus dofleini</i>	문어	Common octopus	7	0.17		0.08	0.34	Ham (2002)
<i>Emeroctopus dofleini</i>	문어	Common octopus	8	0.013	0.013	0.006	0.044	Mok (2014)
<i>Enteroctopus dofleini</i>	문어	Common octopus	10	0.079	0.081	0.024	0.266	Mok (2010)
<i>Meretrix meretrix</i>	백합	Common orient clam	16	0.339		0.07	0.85	Ham (2002)
<i>Meretrix meretrix</i>	백합	Common orient clam	68	0.52		0.1	1.47	Sho (2000)
<i>Meretrix meretrix</i>	백합	Common orient clam	6	0.11		0	0.65	Kim (1999)
<i>Meretrix meretrix</i>	백합	Common orient clam	11	0.314	0.359	0.004	0.931	Mok (2010)
<i>Conger myriaster</i>	붕장어	Conger eel	17	0.014		0	0.033	Kim (2007)
<i>Conger myriaster</i>	붕장어	Conger eel	20	0.091	0.049	0.009	0.177	Kim (2016)
<i>Conger myriaster</i>	붕장어	Conger eel	5	0.039	0.044	0.015	0.104	Mok (2009)
<i>Pandalus hypsinotus</i>	도화새우	Coonstriped shrimp	2	0.106	0.04	0.077	0.134	Mok (2010)
<i>Squilla oratoria</i>	갯가재	Crayfish	2	0.3		0.28	0.32	Ham (2002)
<i>Squilla oratoria</i>	갯가재	Crayfish	4	0.116	0.073	0.027	0.183	Mok (2010)
<i>Carassius carassius</i>	붕어	Crucian carp	8	0.16		0.03	0.36	Ham (2002)
<i>Carassius carassius</i>	붕어	Crucian carp	9	0.014		0.002	0.031	Kim (2007)
<i>Carassius auratus</i>	붕어	Crucian carp	20	0.063		0	0.51	Kim (1999)
<i>Sepia esculenta</i>	갑오징어	Cuttle fish	10	0.145		0.04	0.39	Ham (2002)
<i>Sepia esculenta</i>	갑오징어	Cuttle fish	1	0.014				Mok (2010)
<i>Odontobutis platycephala</i>	동사리	Dark sleeper	6	0.031		0	0.109	Kim (1999)
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	3	0.015	0.005	0.012	0.019	Mok (2009)
<i>Solecurtus divaricatus</i>	돼지가리맛조개	Divaricate short razor	1	0.042				Mok (2010)
<i>Mustelus griseus</i>	개상어	Dog shark	5	0.008		0.003	0.016	Kim (2007)
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	6	0.241		0.02	0.59	Kim (1999)

Styela clava	미더덕	Eboya	15	0.155		0.07	0.3	Ham (2002)
Styela clava	미더덕	Eboya	3	0.11	0.117	0.041	0.244	Mok (2010)
Neptunea arthritica cumingii	갈색띠매물고등	Ezoneptune shell	9	0.228	0.228	0.012	0.792	Mok (2010)
Hemifusus ternatanus	털탑고등	False trumpet shell	1	0.094	0			Mok (2010)
Silurus asotus	메기	Far Eastern catfish	12	0.015		0.002	0.029	Kim (2007)
Silurus asotus	메기	Far Eastern catfish	18	0.051		0	0.5	Kim (1999)
Chlamys farreri farreri	파래가리비	Farreri	1	0.316	0			Mok (2010)
Chlamys farreri	비단가리비	Farrer's scallop	2	0.195	0.24	0.026	0.365	Mok (2010)
Stephanolepis cirrhifer	쥐치	Filefish	3	0.011		0	0.021	Kim (2007)
Stephanolepis cirrhifer	쥐치	Filefish	8	0.088	0.018	0.066	0.126	Kim (2016)
Stephanolepis cirrhifer	쥐치	Filefish	37	0.26		ND	0.83	Sho (2000)
Stephanolepis cirrhifer	쥐치	Filefish	1	0.019	0			Mok (2009)
Buccinum striatissimum	물레고등	Finely-striate buccinum	8	0.216	0.239	0.035	0.595	Mok (2010)
Pleuronichthys cornutus	도다리	Finespotted flounder	3	0.22		0.12	0.28	Ham (2002)
Pleuronichthys cornutus	도다리	Finespotted flounder	2	0.2993		0.0135	0.5852	Ha (2004)
Pleuronichthys cornutus	도다리	Finespotted flounder	3	0.071	0.041	0.025	0.104	Mok (2009)
Paralichthys oivaceus	광어	Flatfish	5	0.182		0.06	0.3	Ham (2002)
Paralichthys oivaceus	광어	Flatfish	29	0.012		0.002	0.034	Kim (2007)
Paralichthys oivaceus	광어	Flatfish	45	0.047	0.042	0	0.199	Jeong (2003)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	7	0.299		0.12	0.59	Ham (2002)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	23	0.018		0.006	0.041	Kim (2007)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	39	0.29		ND	0.77	Sho (2000)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	1	0.3046		0.3046	0.3046	Ha (2004)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	5	0.008	0.006	0.002	0.015	Mok (2009)

<i>Fenneropenaeus chinensis</i>	대하	Fleshy shrimp	5	0.148		0.04	0.31	Ham (2002)
<i>Fenneropenaeus chinensis</i>	대하	Fleshy shrimp	6	0.063	0.029	0.017	0.095	Mok (2010)
<i>Heptacarpus geniculatus</i>	흑등좁은뿔꼬마새우	Flexed shrimp	7	0.15		0.11	0.18	Ham (2002)
<i>Limanda herzensteini</i>	가자미	Flounder	26	0.204		0.05	0.52	Ham (2002)
<i>Limanda herzensteini</i>	가자미	Flounder	28	0.036		0.004	0.122	Kim (2007)
<i>Limanda herzensteini</i>	가자미	Flounder	21	0.047	0.024	0.002	0.107	Kim (2016)
<i>Limanda herzensteini</i>	가자미	Flounder	37	0.28		0.1	0.81	Sho (2000)
<i>Limanda herzensteini</i>	가자미	Flounder	11	0.54		0.38	0.8	Kim (2003)
<i>Cheilopogon agoo</i>	날치	Flying fish	4	0.005		0.003	0.007	Kim (2007)
<i>Myripristis murdjan</i>	적투어	Forskål	10	0.185		0.08	0.5	Ham (2002)
<i>Chirolophis japonicus</i>	괴도라치	Fringed blenny	1	0.008	0			Mok (2009)
<i>Urechis uncinetus</i>	개불	Gae-bul	2	0.12		ND	0.24	Ham (2002)
<i>Urechis uncinatus</i>	개불	Gae-bul	12	0.099	0.078	0.013	0.279	Mok (2010)
<i>Konosirus punctatus</i>	전어	Gizzard shad	5	0.222		0.06	0.41	Ham (2002)
<i>Konosirus punctatus</i>	전어	Gizzard shad	1	0.03	0			Hwang (2006)
<i>Konosirus punctatus</i>	전어	Gizzard shad	7	0.035		0.009	0.087	Kim (2007)
<i>Konosirus punctatus</i>	전어	Gizzard shad	2	0.12		0.09	0.14	Sho (2000)
<i>Konosirus punctatus</i>	전어	Gizzard shad	12	0.027	0.026	0.013	0.096	Mok (2009)
<i>Scombrops boops</i>	게르치	Gnomefish	1	0.006	0			Mok (2009)
Gobiidae	망둥어	Goby	4	0.42		0.12	0.85	Sho (2000)
<i>Pseudogobio esocinus</i>	모래무지	Goby minnow	5	0.103		0.002	0.44	Kim (1999)
<i>Carassius auratus</i>	금붕어	Gold fish	2	0.03	0.03			Hwang (2006)
<i>Sebastes thompsoni</i>	볼볼락	Goldeye rockfish	2	0.117	0.151	0.01	0.223	Mok (2009)
<i>Gomphina melanaegis</i>	민들조개	<i>Gomphina melanaegis</i>	1	0.115				Mok (2010)

<i>Solen strictus</i>	맛조개	<u>Gould's razor shell</u>	22	0.233		0.04	0.85	Ham (2002)
<i>Solen strictus</i>	맛조개	<u>Gould's razor shell</u>	12	0.097		0	0.6	Kim (1999)
<i>Solen strictus</i>	맛조개	<u>Gould's razor shell</u>	1	0.224				Mok (2010)
<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	77	0.282		0.03	0.75	Ham (2002)
<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	88	0.34		0.08	1.05	Sho (2000)
<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	1	0.367	0			Mok (2010)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	32	0.211		0.06	0.51	Ham (2002)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	26	0.065	0.065	0.002	0.316	Kim (2016)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	41	0.36		ND	1.37	Sho (2000)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	1	0.009	0			Mok (2009)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	10	0.85		0.53	1.2	Kim (2003)
<i>Hemiramphus sajori</i>	학공치	Halfbeaks	2	0.23		0.12	0.34	Ham (2002)
<i>Hemiramphus sajori</i>	학공치	Halfbeaks	1	0.063	0			Mok (2009)
<i>Fusitriton galea</i>	호리호리털골뱅이	Helmet hairy trail	1	0.118	0			Mok (2010)
<i>Mactra chinensis philippi</i>	개량조개	Hen clam	11	0.083		0	0.49	Kim (1999)
<i>Mactra chinensis philippi</i>	개량조개	Hen clam	3	0.037	0.018	0.016	0.049	Mok (2010)
<i>Clupea pallasii</i>	청어	Herring	6	0.132		0.04	0.15	Ham (2002)
<i>Clupea pallasii</i>	청어	Herring	2	0.04	0.05			Hwang (2006)
<i>Clupea pallasii</i>	청어	Herring	6	0.01		0.002	0.016	Kim (2007)
<i>Clupea pallasii</i>	청어	Herring	10	0.044	0.103	0.003	0.336	Kim (2016)
<i>Clupea pallasii</i>	청어	Herring	4	0.02	0.005	0.016	0.027	Mok (2009)
<i>Acanthephyra purpurea</i>	홍새우	Hiodoshiebi	5	0.152		0.07	0.33	Ham (2002)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	3	0.01	0.02			Hwang (2006)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	5	0.004		0.001	0.009	Kim (2007)

<i>Trachurus japonicus</i>	전갱이	Horse mackerel	34	0.25		0.08	0.63	Sho (2000)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	4	0.043	0.038	0.01	0.094	Mok (2009)
<i>Eptatretus burgeri</i>	먹장어	Inshore hagfish	4	0.015	0.007	0.008	0.022	Mok (2009)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	2	0.09	0.17			Hwang (2006)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	2	0.4297		0.1527	0.7066	Ha (2004)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	3	0.019	0.008	0.011	0.027	Mok (2009)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	7	0.007	0.002	0.005	0.01	Mok (2014)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	6	0.285	0.034			Jun (2007)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	7	0.082	0.094	0.02	0.263	Mok (2010)
<i>Acetes japonicus</i>	백새우	Japanese paste shrimp	5	0.238		0.1	0.44	Ham (2002)
<i>Dosinorbis japonicus</i>	떡조개	Japanese dosinia	1	0.192				Mok (2010)
<i>Charybdis japonica</i>	민꽃게	Japanese swimming crab	2	0.119	0.114	0.038	0.199	Mok (2010)
<i>Pseudobagrus fulvidraco</i>	동자개	Korean bullhead	3	0.008		0.005	0.015	Kim (2007)
<i>Hypoptychus dybowskii</i>	양미리	Korean sandlance	34	0.27		0.05	0.63	Sho (2000)
<i>Paroctopus dofleini</i>	군소	Korean common sea hare	1	0.105	0			Mok (2010)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	38	0.022		0.003	0.094	Kim (2007)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	20	0.069	0.081	0.002	0.256	Kim (2016)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	8	0.029	0.035	0.004	0.107	Mok (2009)
<i>Ostrea denselamellosa</i>	토굴	Lamellated oyster	1	0.208				Mok (2010)
<i>Cyprinus carpio nudus</i>	향어	Leather carp	3	0.007		0	0.014	Kim (2007)
<i>Octopus minor</i>	낙지	Long arm octopus	9	0.125		0.02	0.3	Ham (2002)
<i>Octopus minor</i>	낙지	Long arm octopus	4	0.021	0.012	0.005	0.03	Mok (2014)
<i>Octopus minor</i>	낙지	Long arm octopus	8	0.056	0.037	0.016	0.119	Mok (2010)
<i>Inimicus japonicus</i>	쭈기미	Lumpfish	3	0.033	0.041	0.004	0.079	Mok (2009)

<i>Tapes philippinarum</i>	바지락	Manila clam	39	0.223		ND	1.38	Ham (2002)
<i>Tapes philippinarum</i>	바지락	Manila clam	7	0.082	0.032	0.045	0.126	Mok (2014)
<i>Tapes philippinarum</i>	바지락	Manila clam	19	0.107		trace	0.476	Kim (2003)
<i>Tapes philippinarum</i>	바지락	Manila clam	80	0.48		0.07	1.14	Sho (2000)
<i>Tapes philippinarum</i>	바지락	Manila clam	5	0.121		0.064	0.188	Hong (1999)
<i>Tapes philippinarum</i>	바지락	Manila clam	9	0.7987		0.169	1.7913	Ha (2004)
<i>Tapes philippinarum</i>	바지락	Manila clam	39	0.072	0.038	0.019	0.174	Jeong (2003)
<i>Tapes philippinarum</i>	바지락	Manila clam	16	0.071		0	0.69	Kim (1999)
<i>Tapes philippinarum</i>	바지락	Manila clam	10	0.155	0.16	0.025	0.515	Mok (2010)
<i>Sebastes marmoratus</i>	섬뱅이	Marbled rockfish	1	0.002	0			Mok (2009)
<i>Corbicula fluminea</i>	재첩	Marsh clam	7	0.274		0.05	0.78	Ham (2002)
<i>Mytilus galloprovincialis</i>	지중해담치	Mediterranean mussel	129	2.1	0.6			Jeon (2013)
<i>Mytilus coruscus</i>	홍합	Mussel	31	0.246		0.04	0.83	Ham (2002)
<i>Mytilus coruscus</i>	홍합	Mussel	8	0.154	0.029	0.116	0.196	Mok (2014)
<i>Mytilus coruscus</i>	홍합	Mussel	96	0.32		0.02	1.51	Sho (2000)
<i>Mytilus coruscus</i>	홍합	Mussel	4	0.5041		0.214	0.8788	Ha (2004)
<i>Mytilus coruscus</i>	홍합	Mussel	17	0.078		0	0.7	Kim (1999)
<i>Mytilus coruscus</i>	홍합	Mussel	5	0.182	0.128	0.031	0.373	Mok (2010)
<i>Neptunea arthritica</i>	소라고둥	Neptune whelk	88	0.37		0.05	1.22	Sho (2000)
<i>Ammodytes personatus</i>	까나리	Northern sand lance	2	0.021	0.027	0.002	0.04	Mok (2009)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	20	0.092	0.088	0.01	0.238	Kim (2016)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	36	0.3		0.05	0.89	Sho (2000)
<i>Macrobrachium nipponese</i>	민물새우	Oriental river prawn	2	0.1		0.06	0.14	Ham (2002)
<i>Palaemon macrodactylus</i>	참새우	<u>Oriental shrimp</u>	1	0.076				Mok (2010)

<i>Crassostrea gigas</i>	굴	Oyster	28	0.214		0.06	0.55	Ham (2002)
<i>Crassostrea gigas</i>	굴	Oyster	11	0.117	0.066	0.018	0.201	Mok (2014)
<i>Crassostrea gigas</i>	굴	Oyster	72	0.22		trace	0.864	Kim (2003)
<i>Crassostrea gigas</i>	굴	Oyster	84	0.45		0.06	1.51	Sho (2000)
<i>Crassostrea gigas</i>	굴	Oyster	15	0.6705		0.044	1.2841	Ha (2004)
<i>Crassostrea gigas</i>	굴	Oyster	17	0.134		0	0.64	Kim (1999)
<i>Crassostrea gigas</i>	굴	Oyster	80	0.15	0.062	0.055	0.312	Mok (2015)
<i>Crassostrea gigas</i>	굴	Oyster	5	0.198	0.167	0.019	0.415	Mok (2010)
<i>Gadus macrocephalus</i>	대구	Pacific cod	19	0.191		0.03	0.36	Ham (2002)
<i>Gadus macrocephalus</i>	대구	Pacific cod	9	0.06	0.2			Hwang (2006)
<i>Gadus macrocephalus</i>	대구	Pacific cod	17	0.021		0.003	0.041	Kim (2007)
<i>Gadus macrocephalus</i>	대구	Pacific cod	22	0.076	0.079	ND	0.306	Kim (2016)
<i>Gadus macrocephalus</i>	대구	Pacific cod	5	0.021	0.007	0.014	0.028	Mok (2009)
<i>Gadus macrocephalus</i>	대구	Pacific cod	10	0.27		0.12	0.42	Kim (2003)
<i>Cololabis saira</i>	공치	Pacific saury	32	0.273		0.08	0.48	Ham (2002)
<i>Cololabis saira</i>	공치	Pacific saury	27	0.015		0.001	0.043	Kim (2007)
<i>Cololabis saira</i>	공치	Pacific saury	20	0.047	0.035	ND	0.115	Kim (2016)
<i>Cololabis saira</i>	공치	Pacific saury	33	0.28		0.07	0.71	Sho (2000)
<i>Cololabis saira</i>	공치	Pacific saury	4	0.016	0.008	0.011	0.025	Mok (2009)
<i>Cololabis saira</i>	공치	Pacific saury	9	0.23		0.04	0.39	Kim (2003)
<i>Takifugu pardalis</i>	줄복	Panther puffer	2	0.028	0.023	0.012	0.045	Mok (2009)
<i>Paphia euglypta</i>	행달조개	<i>Paphia euglypta</i>	1	0.126				Mok (2010)
<i>Muraenesox cinereus</i>	갯장어	Pike eel	36	0.33		ND	1.23	Sho (2000)
<i>Muraenesox cinereus</i>	갯장어	Pike eel	5	0.038	0.037	0.01	0.1	Mok (2009)

<i>Peronidia venulosa</i>	비단조개	Pink butterfly shell	2	0.14		0.13	0.15	Ham (2002)
<i>Misgurnus anguillicaudatus</i>	미꾸리	Pond loach	14	0.306		0.12	0.68	Ham (2002)
<i>Takifugu porphyreus</i>	검복	Purple puffer	3	0.011		0.001	0.022	Kim (2007)
<i>Takifugu porphyreus</i>	검복	Purple puffer	2	0.072	0.08	0.016	0.129	Mok (2009)
<i>Elagatis bipinnulata</i>	참치방어	Rainbow runner	3	0.007		0.005	0.009	Kim (2007)
<i>Solen gordonis</i>	붉은맛조개	Razor clam	1	0.017				Mok (2010)
<i>Priacanthus macracanthus</i>	홍치	Red bulleye	3	0.007		0.004	0.01	Kim (2007)
<i>Branchiostegus japonicus</i>	옥돔	Red horsehead	3	0.1		0.11	0.14	Ham (2002)
<i>Pagrus major</i>	참돔	Red sea bream	23	0.235		0.08	0.56	Ham (2002)
<i>Pagrus major</i>	참돔	Red sea bream	12	0.73	0.27			Hwang (2006)
<i>Pagrus major</i>	참돔	Red sea bream	9	0.07	0.06	0.016	0.176	Mok (2009)
<i>Pagrus major</i>	참돔	Red seabream	12	0.186		0.08	0.38	Ham (2002)
<i>Pagrus major</i>	참돔	Red seabream	30	0.016		0	0.057	Kim (2007)
<i>Pagrus major</i>	참돔	Red seabream	35	0.26		0.06	0.68	Sho (2000)
<i>Pagrus major</i>	참돔	Red seabream	5	0.4565		0.1868	0.5944	Ha (2004)
<i>Chionoecetes japonicus</i>	홍게	Red snow crab	6	0.012	0.003	0.007	0.014	Mok (2014)
<i>Dasyatis akajei</i>	노랑가오리	Red stingray	12	0.134	0.063	0.007	0.221	Kim (2016)
<i>Cynoglossus joyneri</i>	서대	Red tongue sole	8	0.193		0.05	0.45	Ham (2002)
<i>Dasyatis akajei</i>	노랑가오리	Red sting ray	2	0.116	0.114	0.036	0.197	Mok (2009)
<i>Cynoglossus joyneri</i>	참서대	Red tongue sole	8	0.061	0.041	0.014	0.122	Mok (2009)
<i>Oncorhynchus masou masou</i>	송어	River salmon	2	ND				Kim (2007)
<i>Sebastes zonatus</i>	띠볼락	Rock fish	3	0.7366		0.5075	1.1479	Ha (2004)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	10	0.015		0.005	0.028	Kim (2007)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	31	0.31		0.04	0.54	Sho (2000)

<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	21	0.171		0.05	0.32	Ham (2002)
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	2	0.271	0.375	0.006	0.536	Mok (2010)
<i>Sillago sihama</i>	보리멸	Sand smelt	3	0.079		0.009	0.196	Kim (2007)
<i>Sardinops melanostictus</i>	정어리	Sardine	9	0.033		0.023	0.043	Kim (2007)
<i>Sardinops melanostictus</i>	정어리	Sardine	30	0.3		0.14	0.72	Sho (2000)
<i>Lateolabrax japonicus</i>	농어	Sea bass	5	0.268		0.18	0.52	Ham (2002)
<i>Lateolabrax japonicus</i>	농어	Sea bass	3	0.434		0.2031	0.5938	Ha (2004)
<i>Lateolabrax japonicus</i>	농어	Sea bass	26	0.012		0	0.033	Kim (2007)
<i>Tribolodon hakonensis</i>	황어	Sea rundace	2	0.028		0.014	0.042	Kim (2007)
<i>Halocynthia roretzi</i>	멍게	Sea squirt	2	0.17		0.15	0.19	Ham (2002)
<i>Halocynthia roretzi</i>	멍게	Sea squirt	14	0.074	0.077	0.012	0.31	Mok (2010)
<i>Hemirhamphus villosus</i>	삼세기	Sea raven	3	0.097	0.073	0.018	0.163	Mok (2009)
<i>Stichopus japonicus</i>	해삼	Seacucumbers	3	0.1		0.07	0.13	Ham (2002)
<i>Stichopus japonicus</i>	해삼	Seacucumbers	13	0.087	0.083	0.009	0.264	Mok (2010)
<i>Chelidonichthys spinosus</i>	성대	Searobin gurnard	1	0.021	0			Mok (2009)
<i>Metapenaeus joyneri</i>	중하	Shiba shrimp	5	0.066		ND	0.1	Ham (2002)
<i>Pachygrapsus crassipes</i>	돌게	Shore crab	3	0.075		0.04	0.11	Ham (2002)
<i>Tapes japonica</i>	모시조개	Shortnecked clam	34	0.246		0.03	0.79	Ham (2002)
<i>Tapes japonica</i>	모시조개	Shortnecked clam	7	0.013		0	0.037	Kim (1999)
<i>Periophthalmus modestus</i>	말뚝망둥어	Shuttles hopfish	3	0.004		0.002	0.006	Kim (2007)
<i>Raja kenoei</i>	홍어	Skate ray	5	0.18		0.11	0.27	Ham (2002)
<i>Raja kenoei</i>	홍어	Skate ray	5	0.069	0.064	0.004	0.154	Mok (2009)
<i>Katsuwonus pelamis</i>	가다랑어	Skipjack tuna	5	0.008	0.008	ND	0.02	Kim (2016)
<i>Ilisha elongata</i>	준치	Slender shad	3	0.07	0.1			Hwang (2006)

Larimichthys polyactis	참조기	Small yellow croaker	7	0.01	0.02			Hwang (2006)
Larimichthys polyactis	참조기	Small yellow croaker	5	0.15	0.22			Hwang (2006)
Larimichthys polyactis	참조기	Small yellow croaker	27	0.019		0.001	0.053	Kim (2007)
Larimichthys polyactis	참조기	Small yellow croaker	1	0.062	0			Mok (2009)
Larimichthys polyactis	참조기	Small yellow croaker	8	0.32		0.06	1.27	Kim (2003)
Aptocyclus ventricosus	뚝지	Smooth lumpsucker	3	0.19	0.001			Jun (2007)
Rapana venosa	고둥	Snail	11	0.195		0.13	0.34	Ham (2002)
Channa argus	가물치	Snake head	12	0.015		0	0.026	Kim (2007)
Channa argus	가물치	Snake head	9	0.069		0	0.37	Kim (1999)
Chionoecetes opilio	대게	Snow crab	5	0.012	0.001	0.011	0.013	Mok (2014)
Chionoecetes opilio	대게	Snow crab	6	0.222	0.14	0.049	0.391	Mok (2010)
Solen grandis	대맛조개	Solen grandis	1	0.033				Mok (2010)
Trachysalsmbria curvirostris	꽃새우	Southern rough shrimp	1	0.054				Mok (2010)
Scomberomorus niphonius	삼치	Spanish mackerel	25	0.248		0.06	0.77	Ham (2002)
Scomberomorus niphonius	삼치	Spanish mackerel	7	0.12	0.26			Hwang (2006)
Scomberomorus niphonius	삼치	Spanish mackerel	21	0.016		0.001	0.066	Kim (2007)
Scomberomorus niphonius	삼치	Spanish mackerel	20	0.097	0.111	ND	0.393	Kim (2016)
Scomberomorus niphonius	삼치	Spanish mackerel	42	0.28		0.03	1.47	Sho (2000)
Erisphex pottii	폴미역치	Spotted velvetfish	3	0.014		0.008	0.02	Kim (2007)
Takifugu stictonotus	까칠복	Spottyback puffer	1	0.015	0			Mok (2009)
<u>Hexagrammos agrammus</u>	노래미	Spottybelly greenling	1	0.0331		0.0331	0.0331	Ha (2004)
<u>Hexagrammos agrammus</u>	노래미	Spottybelly greenling	45	0.041	0.021	0	0.1	Jeong (2003)
Hexagrammos agrammus	노래미	Spottybelly greenling	1	0.045	0			Mok (2009)
Todarodes pacificus	오징어	Squid	7	0.116		0.05	0.19	Ham (2002)

<i>Hemibarbus labeo</i>	누치	Steed barbel	8	0.007		0	0.024	Kim (1999)
<i>Takifugu xanthopterus</i>	까치복	Striped puffer	1	0.004	0			Mok (2009)
<i>Mactra veneriformis</i>	동죽	Surf clam	20	0.205		ND	0.48	Ham (2002)
<i>Mactra veneriformis</i>	동죽	Surf clam	5	0.008		0	0.012	Kim (1999)
<i>Mactra veneriformis</i>	동죽	Surf clam	4	0.241	0.135	0.112	0.428	Mok (2010)
<i>Plecoglossus altivelis</i>	은어	Sweet smelt	2	ND				Kim (2007)
<i>Liparis tanatai</i>	꼼치	Tanaka's snailfish	5	0.027	0.025	0.001	0.064	Mok (2009)
<i>Liparis tanakai</i>	꼼치	Tanaka's snailfish	6	0.273	0.014			Jun (2007)
<i>Takifugu rubripes</i>	자주복	Tiger puffer	2	0.021	0.025	0.004	0.039	Mok (2009)
<i>Symphurus pusillus</i>	개서대	Tongue-fish	4	0.02		0.012	0.028	Kim (2007)
Thunnidae	다랑어과 어류	Tuna	4	0.2		0.19	0.21	Sho (2000)
<i>Batillus cornutus</i>	소라	Turban shell	33	0.179		0.07	0.54	Ham (2002)
<i>Batillus cornutus</i>	소라	Turban shell	9	0.003	0.002	0.001	0.006	Mok (2014)
<i>Batillus cornutus</i>	소라	Turban shell	5	0.078		0.029	0.215	Hong (1999)
<i>Batillus cornutus</i>	소라	Turban shell	39	0.037	0.028	0	0.112	Jeong (2003)
<i>Batillus cornutus</i>	소라	Turban shell	17	0.031		0.002	0.15	Kim (1999)
<i>Batillus cornutus</i>	소라	Turban shell	12	0.2	0.185	0.024	0.646	Mok (2010)
<i>Rapana venosa</i>	피빨고둥	Veined rapa whelk	9	0.004	0.002	0.002	0.01	Mok (2014)
<i>Rapana venosa</i>	피빨고둥	Veined rapa whelk	6	0.251	0.268	0.03	0.655	Mok (2010)
<i>Notochione jedoensis</i>	살조개	Venus clam	14	0.09		0	0.58	Kim (1999)
<i>Takifugu vermicularis</i>	국매리복	Vermiculated puffer	1	0.069	0			Mok (2009)
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	8	0.114		0.06	0.26	Ham (2002)
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	3	0.012	0.008	0.004	0.02	Mok (2014)
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	5	0.042	0.03	0.023	0.093	Mok (2010)

<i>Buccimon striatissimum</i>	골뱅이	Whelk	16	0.149		0.03	0.32	Ham (2002)
<i>Buccimon striatissimum</i>	골뱅이	Whelk	72	0.33		0.01	0.96	Sho (2000)
<i>Buccimon striatissimum</i>	골뱅이	Whelk	6	0.026		0	0.065	Kim (1999)
<i>Salvelinus leucomaenis</i>	홍송어	White spotted char	3	0.021		0.021	0.021	Kim (2007)
<i>Sebastes taczanowskii</i>	탁자볼락	White-edged rockfish	1	0.059	0			Mok (2009)
<i>Tanakius kitaharai</i>	갈가자미	Willow flounder	2	0.221	0.063	0.176	0.226	Mok (2009)
<i>Pseudosciaena crocea</i>	부세	Yellow croaker	26	0.188		0.04	0.46	Ham (2002)
<i>Larimichthys polyactis</i>	조기	Yellow croaker	10	0.198		0.02	0.44	Ham (2002)
<i>Larimichthys polyactis</i>	조기	Yellow croaker	20	0.041	0.036	0.007	0.113	Kim (2016)
<i>Larimichthys polyactis</i>	조기	Yellow croaker	40	0.34		0.07	1.71	Sho (2000)
<i>Dentex tumifrons</i>	황돔	Yellow porgy	8	1.09	0.52			Hwang (2006)
<i>Patinopecten yessoensis</i>	큰가리비	Yesso scallop	3	0.152	0.036	0.111	0.182	Mok (2010)

N, number of species samples examined; SD, standard deviation; Min, minimum values; Max, maximum values.

Supplementary Table 4. Mean, SD, Min, and Max values of the Cd concentrations in fish and shellfish reported in the reviewed articles

Scientific name	Korean common name	English common name	N	Mean	SD	Min	Max	Reference
Hexagrammos otakii	쥐노래미	A rock trout	21	0.019		0.002	0.042	Kim (2007)
Hexagrammos otakii	쥐노래미	A rock trout	1	<0.001				Mok (2009)
Nordotis discus	전복	Abalone	64	0.6		0.03	1.89	Sho (2000)
Nordotis discus	전복	Abalone	12	0.057	0.017	0.027	0.08	Mok (2014)
Nordotis discus	전복	Abalone	9	0.041	0.021	0.02	0.084	Mok (2010)
Theragra chalcogramma	명태	Alaska pollock	35	0.016		0.001	0.029	Sho (2000)
Theragra chalcogramm	명태	Alaska pollock	21	0.021	0.033	0.001	0.148	Kim (2016)
Theragra chalcogramm	명태	Alaska pollock	27	0.018		0.002	0.042	Kim (2007)
Theragra chalcogramma	명태	Alaska pollock	8	0.21	0.56			Hwang (2006)
Theragra chalcogramm	명태	Alaska pollock	12	0.048		0.006	0.089	Kim (2003)
Engraulis japonicus	멸치	Anchovy	38	0.042		ND	0.094	Sho (2000)
Engraulis japonicus	멸치	Anchovy	15	0.072	0.07	0.011	0.242	Kim (2016)
Engraulis japonicus	멸치	Anchovy	1	<0.001				Mok (2009)
Engraulis japonicus	멸치	Anchovy	10	0.042		0.006	0.099	Kim (2003)
Sebastes hubbsi	우럭	Armorclad rockfish	34	0.015		0.002	0.059	Sho (2000)
Sebastes hubbsi	우럭	Armorclad rockfish	38	0.018		0.001	0.093	Kim (2007)
Sebastes hubbsi	우럭	Armorclad rockfish	3	0.04	0.05			Hwang (2006)
Sebastes hubbsi	우럭	Armorclad rockfish	1	0.145				Mok (2010)
Sebastes hubbsi	우럭	Armorclad rockfish	7	0.0694		0.0234	0.112	Ha (2004)
Sebastes hubbsi	우럭	Armorclad rockfish	45	0.003	0.002	0	0.013	Jeong (2003)
Pleurogrammus azonus	임연수어	Atka mackerel	14	0.019		0.001	0.05	Kim (2007)

<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	1	0.03	0.04				Hwang (2006)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	3	<0.001					Mok (2009)
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	10	0.012		0.004	0.019		Kim (2003)
<i>Triakis scyllium</i>	까치상어	Banded houndshark	1	<0.001					Mok (2009)
<i>Platycephalus indicus</i>	양태	Bartail flathead	3	0.006		0.002	0.01		Kim (2007)
<i>Platycephalus indicus</i>	양태	Bartail flathead	6	0.01	0.013	<0.001	0.029		Mok (2009)
<i>Argopecten irradians</i>	해만가리비	Bay scallop	3	0.574	0.202	0.377	0.781		Mok (2014)
<i>Loligo beka</i>	꼴뚜기	Beka squid	2	0.113	0.048	0.079	0.147		Mok (2010)
<i>Pseudobagrus koreanus</i>	눈동자개	Black bullhead	11	0.001		0	0.004		Kim (1999)
<i>Navodon modestus</i>	말쥐치	Black scraper	2	0.005	0.002	0.003	0.007		Mok (2009)
<i>Acanthopagrus schlegeli</i>	감성돔	Black porgy	2	<0.001					Mok (2009)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	21	0.035	0.052	0.003	0.166		Kim (2016)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	23	0.011		0.001	0.058		Kim (2007)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	10	0.013	0.017	<0.001	0.047		Mok (2009)
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	10	0.013	0.017	<0.001	0.047		Mok (2009)
<i>Neverita didyma</i>	큰구슬우렁	Bladder moon snail	3	0.119	0.133	<0.001	0.263		Mok (2010)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	96	0.57		0.09	1.75		Sho (2000)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	3	0.426	0.044	0.392	0.475		Mok (2014)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	14	0.559		0.152	0.955		Kim (2003)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	7	0.903	0.286	0.286	1.195		Mok (2010)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	9	0.582		0	4.45		Kim (1999)
<i>Scapharca broughtonii</i>	피조개	Bloody clam	4	0.62		0.02	1.7		Ham (2002)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	4	0.706	0.138	0.52	0.85		Mok (2014)
<i>Portunus trituberculatus</i>	꽃게	Blue crab	6	0.308	0.202	<0.001	0.55		Mok (2010)

<i>Mytilus galloprovincialis</i>	진주담치	Blue mussels	8	0.184	0.053	0.103	0.255	Mok (2014)
<i>Mytilus edulis</i>	진주담치	Blue mussels	75	0.257		0.097	0.617	Kim (2003)
<i>Mytilus edulis</i>	진주담치	Blue mussels	4	0.211	0.156	0.026	0.409	Mok (2010)
<i>Miichthys miiuy</i>	민어	Brown croaker	36	0.016		0.001	0.036	Sho (2000)
<i>Miichthys miiuy</i>	민어	Brown croaker	15	0.063	0.055	0.013	0.175	Kim (2016)
<i>Miichthys miiuy</i>	민어	Brown croaker	20	0.017		0.001	0.043	Kim (2007)
<i>Miichthys miiuy</i>	민어	Brown croaker	9	0.23	0.83			Hwang (2006)
<i>Miichthys miiuy</i>	민어	Brown croaker	1	0.03				Mok (2009)
<i>Miichthys miiuy</i>	민어	Brown croaker	1	0.03				Mok (2009)
<i>Limanda Herzensteini</i>	참가자미	Brown sole	8	0.053	0.022	0.026	0.087	Mok (2009)
<i>Limanda Herzensteini</i>	참가자미	Brown sole	6	0.001	0.001			Jun (2007)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	12	0.123	0.039	0.048	0.199	Mok (2010)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	11	0.1177		0.014	0.369	Ha (2004)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	6	0.134		0	0.5	Kim (1999)
<i>Saxidomus purpuratus</i>	개조개	Butter clam	5	0.068		0.01	0.21	Ham (2002)
<i>Pampus argenteus</i>	병어	Butterfish	38	0.019		0.003	0.043	Sho (2000)
<i>Pampus argenteus</i>	병어	Butterfish	18	0.016		0.002	0.1	Kim (2007)
<i>Pampus argenteus</i>	병어	Butterfish	7	0.02	0.019	<0.001	0.057	Mok (2009)
<i>Pampus argenteus</i>	병어	Butterfish	7	0.02	0.019	<0.001	0.057	Mok (2009)
<i>Cyprinus carpio</i>	잉어	Carp	13	0.002		0	0.012	Kim (1999)
<i>Scapharca satowi</i>	큰이랑피조개	Chinese blood clam	1	0.989				Mok (2010)
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	52	0.005		0	0.05	Kim (1999)
<i>Scomber japonicus</i>	고등어	Chub mackerel	46	0.018		ND	0.042	Sho (2000)
<i>Scomber japonicus</i>	고등어	Chub mackerel	21	0.019	0.04	ND	0.154	Kim (2016)

<i>Scomber japonicus</i>	고등어	Chub Mackerel	29	0.021		0.003	0.102	Kim (2007)
<i>Scomber japonicus</i>	고등어	Chub mackerel	7	0.38	0.57			Hwang (2006)
<i>Scomber japonicus</i>	고등어	Chub mackerel	8	0.003	0.006	<0.001	0.015	Mok (2009)
<i>Scomber japonicus</i>	고등어	Chub Mackerel	9	0.025		0.004	0.081	Kim (2003)
<i>Scyliorhinus torazame</i>	두툽상어	cloudy catshark	1	0.083				Mok (2009)
<i>Onchorhynchus kisufch</i>	은연어	Coho salmon	1	<0.001				Mok (2009)
<i>Atrina pectinata</i>	키조개	Comb pen shell	6	0.313	0.151	0.12	0.514	Mok (2014)
<i>Atrina pectinata</i>	키조개	Comb pen shell	7	0.718	0.376	0.261	1.074	Mok (2010)
<i>Atrina pectinata</i>	키조개	Comb pen shell	10	0.203		0	0.764	Kim (1999)
<i>Atrina pectinata</i>	키조개	Comb pen shell	7	0.404		0.01	1.68	Ham (2002)
<i>Anguilla japonica</i>	뱀장어	Common eel	18	0.004		0	0.026	Kim (1999)
<i>Enteroctopus dofleini</i>	문어	Common octopus	8	0.02	0.015	0.007	0.048	Mok (2014)
<i>Enteroctopus dofleini</i>	문어	Common octopus	10	0.018	0.027	<0.001	0.085	Mok (2010)
<i>Meretrix meretrix</i>	백합	Common orient clam	68	0.23		0.06	0.68	Sho (2000)
<i>Meretrix meretrix</i>	백합	Common orient clam	11	0.33	0.15	0.08	0.576	Mok (2010)
<i>Meretrix meretrix</i>	백합	Common orient clam	6	0.068		0	0.3	Kim (1999)
<i>Meretrix meretrix</i>	백합	Common orient clam	16	0.187		0.01	0.64	Ham (2002)
<i>Conger myriaster</i>	붕장어	Conger eel	20	0.026	0.025	0.001	0.099	Kim (2016)
<i>Conger myriaster</i>	붕장어	Conger eel	17	0.02		0.002	0.055	Kim (2007)
<i>Conger myriaster</i>	붕장어	Conger eel	5	0.039	0.033	<0.001	0.091	Mok (2009)
<i>Pandalus hypsinotus</i>	도화새우	Coonstriped shrimp	2	0.242	0.273	0.049	0.435	Mok (2010)
<i>Squilla oratoria</i>	갯가재	Crayfish	4	0.491	0.046	0.44	0.55	Mok (2010)
<i>Carassius carassius</i>	붕어	Crucian carp	2	0.03	0.03			Hwang (2006)
<i>Carassius carassius</i>	붕어	Crucian carp	20	0.002		0	0.008	Kim (1999)

<i>Sepia esculenta</i>	갑오징어	Cuttle fish	1	0.083				Mok (2010)
<i>Odontobutis platycephala</i>	동사리	Dark slepper	6	0.001		0	0.005	Kim (1999)
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	3	0.1168		0.0972	0.1553	Ha (2004)
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	3	0.014	0.006	0.007	0.02	Mok (2009)
<i>Solecurtus divaricatus</i>	돼지가리맛조개	Divaricate short razor	1	0.161				Mok (2010)
<i>Mustelus griseus</i>	개상어	Dog shark	5	0.038		0.014	0.08	Kim (2007)
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	6	0.003		0	0.011	Kim (1999)
<i>Styela clava</i>	미더덕	Eboya	3	0.023	0.019	0.009	0.044	Mok (2010)
<i>Neptunea arthritica cumingii</i>	갈색띠매물고둥	Ezoneptune shell	9	0.23	0.137	0.064	0.427	Mok (2010)
<i>Hemifusus ternatanus</i>	털탑고둥	False trumpet shell	1	0.721				Mok (2010)
<i>Silurus asotus</i>	메기	Far Eastern catfish	18	0.003		0	0.014	Kim (1999)
<i>Chlamys farreri farreri</i>	파래가리비	Farreri	1	0.382				Mok (2010)
<i>Chlamys farreri</i>	비단가리비	Farrer's scallop	2	0.903	0.07	0.853	0.952	Mok (2010)
<i>Stephanolepis cirrhifer</i>	쥐치	Filefish	37	0.02		0.003	0.036	Sho (2000)
<i>Stephanolepis cirrhifer</i>	쥐치	Filefish	8	0.025	0.038	ND	0.115	Kim (2016)
<i>Stephanolepis cirrhifer</i>	쥐치	Filefish	3	0.004		0.001	0.009	Kim (2007)
<i>Stephanolepis cirrhifer</i>	쥐치	Filefish	1	<0.001				Mok (2009)
<i>Buccinum striatissimum</i>	물레고둥	Finely-striate buccinum	8	0.213	0.216	0.011	0.642	Mok (2010)
<i>Pleuronichthys cornutus</i>	도다리	Finespotted flounder	2	0.098		0.0651	0.1308	Ha (2004)
<i>Pleuronichthys cornutus</i>	도다리	Finespotted flounder	3	0.01	0.017	<0.001	0.029	Mok (2009)
<i>Paralichthys oivaceus</i>	광어	Flatfish	29	0.015		0.001	0.054	Kim (2007)
<i>Paralichthys oivaceus</i>	광어	Flatfish	45	0.002	0.002	0	0.011	Jeong (2003)
<i>Mugil cephalus</i>	송어	<u>Flathead grey mullet</u>	39	0.013		0.002	0.035	Sho (2000)
<i>Mugil cephalus</i>	송어	<u>Flathead grey mullet</u>	23	0.011		0.001	0.042	Kim (2007)

Mugil cephalus	송어	<u>Flathead grey mullet</u>	5	0.016	0.027	<0.001	0.061	Mok (2009)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	1	0.0363		0.0363	0.0363	Ha (2004)
Mugil cephalus	송어	<u>Flathead grey mullet</u>	5	0.016	0.027	<0.001	0.061	Mok (2009)
Fenneropenaeus chinensis	대하	Fleshy shrimp	6	0.093	0.161	<0.001	0.411	Mok (2010)
Limanda herzensteini	가자미	Flounder	37	0.015		ND	0.027	Sho (2000)
Limanda herzensteini	가자미	Flounder	21	0.024	0.04	ND	0.13	Kim (2016)
Limanda herzensteini	가자미	Flounder	28	0.019		0.001	0.052	Kim (2007)
Limanda herzensteini	가자미	Flounder	11	0.023		0.011	0.04	Kim (2003)
Prognichthys agoo	날치	Flying fish	4	0.005		0.005	0.005	Kim (2007)
Chirolophis japonicus	괴도라치	Fringed blenny	1	<0.001				Mok (2009)
Urechis unicinetus	개불	Gae-bul	12	0.198	0.204	<0.001	0.771	Mok (2010)
Konosirus punctatus	전어	Gizzard shad	2	0.004		0.001	0.006	Sho (2000)
Konosirus punctatus	전어	Gizzard shad	7	0.007		0.003	0.015	Kim (2007)
Konosirus punctatus	전어	Gizzard shad	1	0.03	0			Hwang (2006)
Konosirus punctatus	전어	Gizzard shad	12	0.026	0.029	<0.001	0.079	Mok (2009)
Scombrops boops	게르치	Gnomefish	1	0.033				Mok (2009)
Gobiidae	망둥어	Goby	4	0.006		ND	0.014	Sho (2000)
Pseudogobio esocinus	모래무지	Goby minnow	5	0.001		0	0.003	Kim (1999)
Sebastes thompsoni	불볼락	Goldeye rockfish	2	0.004	0.006	<0.001	0.008	Mok (2009)
Gomphina melanaegis	민들조개	Gomphina melanaegis	1	0.566				Mok (2010)
Solen strictus	맛조개	<u>Gould's razor shell</u>	1	0.023				Mok (2010)
Solen strictus	맛조개	<u>Gould's razor shell</u>	12	0.018		0	0.08	Kim (1999)
Solen strictus	맛조개	<u>Gould's razor shell</u>	22	0.105		0	0.47	Ham (2002)
Tegillarca granosa	꼬막	Granulated ark shell	88	1.03		0.11	1.93	Sho (2000)

<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	1	0.918				Mok (2010)
<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	77	0.0735		0.01	1.85	Ham (2002)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	41	0.02		ND	0.059	Sho (2000)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	26	0.009	0.009	ND	0.052	Kim (2016)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	29	0.018		0	0.05	Kim (2007)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	1	0.008				Mok (2009)
<i>Trichiurus lepturus</i>	갈치	Hair-tail	10	0.062		0.037	0.085	Kim (2003)
<i>Hemiramphus sajori</i>	학공치	Halfbeaks	1	<0.001				Mok (2009)
<i>Fusitriton galea</i>	호리호리 털골뱅이	Helmet hairy trail	1	0.066				Mok (2010)
<i>Macra chinensis philippi</i>	개랑조개	Hen clam	3	0.145	0.085	0.063	0.232	Mok (2010)
<i>Macra chinensis philippi</i>	개랑조개	Hen clam	11	0.03		0	0.099	Kim (1999)
<i>Clupea pallasii</i>	청어	Herring	10	0.049	0.017	0.02	0.078	Kim (2016)
<i>Clupea pallasii</i>	청어	Herring	6	0.003		0.001	0.005	Kim (2007)
<i>Clupea pallasii</i>	청어	Herring	2	0.04	0.05			Hwang (2006)
<i>Clupea pallasii</i>	청어	Herring	4	0.031	0.034	<0.001	0.074	Mok (2009)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	34	0.019		0.002	0.044	Sho (2000)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	5	0.004		0.001	0.012	Kim (2007)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	3	0.01	0.02			Hwang (2006)
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	4	0.039	0.045	<0.001	0.08	Mok (2009)
<i>Eptatretus burgeri</i>	먹장어	Inshore hagfish	4	0.027	0.026	0.007	0.065	Mok (2009)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	2	0.09	0.17			Hwang (2006)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	2	0.0527		0.0202	0.0852	Ha (2004)
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	3	0.027	0.034	<0.001	0.065	Mok (2009)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	7	0.098	0.054	0.047	0.185	Mok (2014)

<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	7	0.054	0.073	0.001	0.164	Mok (2010)
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	6	0.016	0.008			Jun (2007)
<i>Dosinorbis japonicus</i>	떡조개	Japanese dosinia	1	0.119				Mok (2010)
<i>Charybdis japonica</i>	민꽃게	Japanese swimming crab	2	0.21	0.037	0.491	0.046	Mok (2010)
<i>Hypoptychus dybowskii</i>	양미리	Korean sandlance	34	0.022		ND	0.048	Sho (2000)
<i>Paroctopus dofleini</i>	군소	Korean common sea hare	1	0.054				Mok (2010)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	20	0.012	0.021	ND	0.058	Kim (2016)
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	8	0.008	0.01	<0.001	0.025	Mok (2009)
<i>Ostrea denselamellosa</i>	토굴	Lamellated oyster	1	0.494				Mok (2010)
<i>Octopus minor</i>	낙지	Long arm octopus	4	0.005		0.005	0.005	Kim (2007)
<i>Octopus minor</i>	낙지	Long arm octopus	4	0.026	0.003	0.022	0.03	Mok (2014)
<i>Octopus minor</i>	낙지	Long arm octopus	8	0.008	0.01	<0.001	0.022	Mok (2010)
<i>Inimicus japonicus</i>	쭈기미	Lumpfish	3	<0.001				Mok (2009)
<i>Tapes philippinarum</i>	바지락	Manila clam	80	0.16		0.02	0.49	Sho (2000)
<i>Tapes philippinarum</i>	바지락	Manila clam	7	0.068	0.046	0.021	0.117	Mok (2014)
<i>Tapes philippinarum</i>	바지락	Manila clam	19	0.232		0.046	1.145	Kim (2003)
<i>Tapes philippinarum</i>	바지락	Manila clam	10	0.245	0.141	<0.001	0.524	Mok (2010)
<i>Tapes philippinarum</i>	바지락	Manila clam	5	0.254		0.15	0.293	Hong (1999)
<i>Tapes philippinarum</i>	바지락	Manila clam	9	0.1582		0.0351	0.4187	Ha (2004)
<i>Tapes philippinarum</i>	바지락	Manila clam	39	0.165	0.07	0.051	0.278	Jeong (2003)
<i>Tapes philippinarum</i>	바지락	Manila clam	16	0.109		0.018	0.7	Kim (1999)
<i>Tapes philippinarum</i>	바지락	Manila clam	39	0.143		0.01	0.66	Ham (2002)
<i>Sebastes marmoratus</i>	솜뱅이	Marbled rockfish	1	<0.001				Mok (2009)
<i>Corbicula fluminea</i>	재첩	Marsh clam	7	0.43		0.01	0.86	Ham (2002)

<i>Mytilus galloprovincialis</i>	지중해담치	Mediterranean mussel	129	2.8	1.3			Jeon (2013)
<i>Mytilus coruscus</i>	홍합	Mussel	96	0.19		0.02	0.37	Sho (2000)
<i>Mytilus coruscus</i>	홍합	Mussel	5	0.725	0.315	0.234	0.999	Mok (2010)
<i>Mytilus coruscus</i>	홍합	Mussel	4	0.1631		0.0793	0.237	Ha (2004)
<i>Mytilus coruscus</i>	홍합	Mussel	17	0.223		0	1	Kim (1999)
<i>Mytilus coruscus</i>	홍합	Mussel	31	0.152		0	1.09	Ham (2002)
<i>Neptunea arthritica</i>	소라고둥	Neptune whelk	88	0.67		0.02	1.93	Sho (2000)
<i>Ammodytes personatus</i>	까나리	Northern sand lance	2	0.007	0.01	<0.001	0.014	Mok (2009)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	36	0.014		0.001	0.048	Sho (2000)
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	20	0.016	0.02	ND	0.055	Kim (2016)
<i>Palaemon macrodactylus</i>	참새우	<u>Oriental shrimp</u>	1	0.006				Mok (2010)
<i>Crassostrea gigas</i>	굴	Oyster	84	0.64		0.02	1.71	Sho (2000)
<i>Crassostrea gigas</i>	굴	Oyster	11	0.6	0.156	0.397	0.951	Mok (2014)
<i>Crassostrea gigas</i>	굴	Oyster	72	0.519		0.03	1.198	Kim (2003)
<i>Crassostrea gigas</i>	굴	Oyster	5	0.713	0.288	0.309	0.969	Mok (2010)
<i>Crassostrea gigas</i>	굴	Oyster	15	0.3677		0.0768	0.7017	Ha (2004)
<i>Crassostrea gigas</i>	굴	Oyster	17	0.305		0	1.63	Kim (1999)
<i>Crassostrea gigas</i>	굴	Oyster	80	0.591	0.186	0.267	0.93	Mok (2015)
<i>Crassostrea gigas</i>	굴	Oyster	28	0.212		0.01	1.07	Ham (2002)
<i>Gadus macrocephalus</i>	대구	Pacific cod	22	0.015	0.022	0.001	0.1	Kim (2016)
<i>Gadus macrocephalus</i>	대구	Pacific cod	17	0.027		0.002	0.067	Kim (2007)
<i>Gadus macrocephalus</i>	대구	Pacific cod	9	0.06	0.2			Hwang (2006)
<i>Gadus macrocephalus</i>	대구	Pacific cod	5	0.028	0.024	0.001	0.065	Mok (2009)
<i>Gadus macrocephalus</i>	대구	Pacific cod	10	0.023		0.011	0.04	Kim (2003)

<i>Cololabis saira</i>	공치	Pacific saury	33	0.024		0.003	0.053	Sho (2000)
<i>Cololabis saira</i>	공치	Pacific saury	20	0.008	0.016	ND	0.072	Kim (2016)
<i>Cololabis saira</i>	공치	Pacific saury	27	0.025		0.001	0.076	Kim (2007)
<i>Cololabis saira</i>	공치	Pacific saury	4	0.032	0.037	<0.001	0.071	Mok (2009)
<i>Cololabis saira</i>	공치	Pacific saury	9	0.026		0.004	0.067	Kim (2003)
<i>Takifugu pardalis</i>	줄복	Panther puffer	2	0.017	0.024	<0.001	0.034	Mok (2009)
<i>Paphia euglypta</i>	행달조개	<i>Paphia euglypta</i>	1	0.492				Mok (2010)
<i>Muraenesox cinereus</i>	갯장어	Pike eel	36	0.02		ND	0.033	Sho (2000)
<i>Muraenesox cinereus</i>	갯장어	Pike eel	5	0.021	0.029	<0.001	0.071	Mok (2009)
<i>Peronidia venulosa</i>	비단조개	Pink butterfly shell	2	0.14		0.05	0.23	Ham (2002)
<i>Takifugu porphyreus</i>	검복	Purple puffer	3	0.01		0.001	0.016	Kim (2007)
<i>Takifugu porphyreus</i>	검복	Purple puffer	2	0.009	0.008	0.004	0.014	Mok (2009)
<i>Elagatis bipinnulata</i>	참치방어	Rainbow runner	3	0.006		0	0.013	Kim (2007)
<i>Solen gordonis</i>	붉은맛조개	Razor clam	1	0.03				Mok (2010)
<i>Priacanthus macracanthus</i>	홍치	Red bulleye	3	0.004		0.003	0.006	Kim (2007)
<i>Pagrus major</i>	참돔	Red sea bream	12	0.73	0.27			Hwang (2006)
<i>Pagrus major</i>	참돔	Red sea bream	9	0.017	0.029	<0.001	0.086	Mok (2009)
<i>Pagrus major</i>	참돔	Red seabream	35	0.017		ND	0.037	Sho (2000)
<i>Pagrus major</i>	참돔	Red seabream	30	0.02		0	0.076	Kim (2007)
<i>Pagrus major</i>	참돔	Red seabream	5	0.054		0.0296	0.0734	Ha (2004)
<i>C. japonicus</i>	홍게	Red snow crab	6	0.116	0.026	0.089	0.152	Mok (2014)
<i>Dasyatis akajei</i>	노랑가오리	Red stingray	12	0.033	0.046	0.002	0.155	Kim (2016)
<i>Cynoglossus joyneri</i>	서대	Red tongue sole	4	0.002		0	0.004	Kim (2007)
<i>Dasyatis Akajei</i>	노랑가오리	Red sting ray	2	0.021	0.002	0.02	0.023	Mok (2009)

<i>Cynoglossus joyneri</i>	참서대	Red tongue sole	8	0.008	0.012	<0.001	0.032	Mok (2009)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	31	0.021		0.003	0.06	Sho (2000)
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	10	0.021		0.005	0.052	Kim (2007)
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	2	0.052	0.003	0.05	0.054	Mok (2010)
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	21	0.1		0	0.39	Ham (2002)
<i>Sillago sihama</i>	보리멸	Sand smelt	3	0.007		0.006	0.007	Kim (2007)
<i>Sardinops melanostictus</i>	정어리	Sardine	30	0.032		0.003	0.048	Sho (2000)
<i>Sardinops melanostictus</i>	정어리	Sardine	9	0.027		0.024	0.029	Kim (2007)
<i>Lateolabrax japonicus</i>	농어	Sea bass	26	0.013		0	0.039	Kim (2007)
<i>Lateolabrax japonicus</i>	농어	Sea bass	3	0.051		0.0283	0.0651	Ha (2004)
<i>Halocynthia roretzi</i>	멍게	Sea squirt	14	0.187	0.163	0.005	0.567	Mok (2010)
<i>Hemirhamphys villosus</i>	삼세기	Sea raven	3	0.01	0.009	<0.001	0.017	Mok (2009)
<i>Stichopus japonicus</i>	해삼	Seacucumbers	13	0.044	0.062	<0.001	0.203	Mok (2010)
<i>Chelidonichthys spinosus</i>	성대	Searobin gurnard	1	<0.001				Mok (2009)
<i>Tapes japonica</i>	모시조개	Shortnecked clam	7	0.05		0.015	0.2	Kim (1999)
<i>Tapes japonica</i>	모시조개	Shortnecked clam	34	0.142		0	0.46	Ham (2002)
<i>Periophthalmus modestus</i>	말뚝망둥어	Shuttles hopppfish	3	0.002		0.005	0.002	Kim (2007)
<i>Raja kenojei</i>	홍어	Skate ray	5	0.007	0.01	<0.001	0.021	Mok (2009)
<i>Katsuwonus pelamis</i>	가다랑어	Skipjack tuna	5	0.144	0.105	0.045	0.29	Kim (2016)
<i>Ilisha elongata</i>	준치	Slender shad	3	0.07	0.1			Hwang (2006)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	5	0.15	0.22			Hwang (2006)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	1	<0.001				Mok (2009)
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	8	0.024		0.003	0.048	Kim (2003)
<i>Aptocyclus ventricosus</i>	뚝지	Smooth lumpsucker	3	0.042	0.002			Jun (2007)

<i>Rapana venosa</i>	고동	Snail	11	0.182		0.01	0.47	Ham (2002)
<i>Channa argus</i>	가물치	Snake head	9	0.001		0	0.004	Kim (1999)
<i>Chionoecetes opilio</i>	대게	Snow crab	5	0.095	0.033	0.053	0.132	Mok (2014)
<i>Chionoecetes opilio</i>	대게	Snow crab	6	0.078	0.132	<0.001	0.328	Mok (2010)
<i>Solen grandis</i>	대맛조개	<i>Solen grandis</i>	1	0.048				Mok (2010)
<i>Trachysalsmbria curvirostris</i>	꽃새우	Southern rough shrimp	1	0.064				Mok (2010)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	42	0.013		ND	0.036	Sho (2000)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	20	0.011	0.017	ND	0.055	Kim (2016)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	21	0.02		0.007	0.1	Kim (2007)
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	7	0.12	0.26			Hwang (2006)
<u><i>Erisphex pottii</i></u>	미역치	Spotted velvetfish	3	0.002		0.001	0.003	Kim (2007)
<i>Takifugu stictonotus</i>	까칠복	Spottyback puffer	1	0.004				Mok (2009)
<i>Takifugu stictonotus</i>	까칠복	Spottyback puffer	1	<0.001				Mok (2009)
<u><i>Hexagrammos agrammus</i></u>	노래미	Spottybelly greenling	1	0.016				Mok (2009)
<u><i>Hexagrammos agrammus</i></u>	노래미	Spottybelly greenling	1	0.13		0.13	0.13	Ha (2004)
<u><i>Hexagrammos agrammus</i></u>	노래미	Spottybelly greenling	45	0.003	0.003	0	0.018	Jeong (2003)
<u><i>Hexagrammos agrammus</i></u>	노래미	Spottybelly greenling	1	0.016				Mok (2009)
<i>Hemibarbus labeo</i>	누치	Steed barbel	8	0.001		0	0.006	Kim (1999)
<i>Mactra veneriformis</i>	동죽	Surf clam	4	0.206	0.1	0.064	0.3	Mok (2010)
<i>Mactra veneriformis</i>	동죽	Surf clam	5	0.118		0.015	0.5	Kim (1999)
<i>Mactra veneriformis</i>	동죽	Surf clam	20	0.104		0	0.6	Ham (2002)
<i>Liparis tanatai</i>	꼼치	Tanaka's snailfish	5	0.001	0.002	<0.001	0.005	Mok (2009)
<i>Liparis tanatai</i>	꼼치	Tanaka's snailfish	6	0.039	0.01			Jun (2007)
<i>Takifugu rubripes</i>	자주복	Tiger puffer	2	0.002	0.003	<0.001	0.004	Mok (2009)

Thunnidae	다랑어과 어류	Tuna	4	0.023		0.019	0.027	Sho (2000)
Batillus cornutus	소라	Turban shell	9	0.037	0.016	0.017	0.062	Mok (2014)
Batillus cornutus	소라	Turban shell	12	0.093	0.135	<0.001	0.407	Mok (2010)
Batillus cornutus	소라	Turban shell	5	1.685		1.041	2.575	Hong (1999)
Batillus cornutus	소라	Turban shell	39	0.645	1.309	0.002	5.996	Jeong (2003)
Batillus cornutus	소라	Turban shell	17	0.053		0.005	0.314	Kim (1999)
Batillus cornutus	소라	Turban shell	33	0.178		0.01	1.05	Ham (2002)
Rapana venosa	피뿔고둥	Veined rapa whelk	9	0.055	0.031	0.012	0.096	Mok (2014)
Rapana venosa	피뿔고둥	Veined rapa whelk	6	0.209	0.137	0.057	0.411	Mok (2010)
Notochione jedoensis	살조개	Venus clam	14	0.046		0	0.163	Kim (1999)
Takifugu vermicularis	국매리복	Vermiculated puffer	1	0.011				Mok (2009)
Octopus ocellatus	주꾸미	Webfoot octopus	3	0.004	0.001	0.003	0.005	Mok (2014)
Octopus ocellatus	주꾸미	Webfoot octopus	5	0.043	0.034	0.003	0.076	Mok (2010)
Buccimon striatissimum	골뱅이	Whelk	72	0.45		0.03	1.41	Sho (2000)
Buccimon striatissimum	골뱅이	Whelk	6	0.199		0.001	1.034	Kim (1999)
Buccimon striatissimum	골뱅이	Whelk	16	0.161		0.01	0.63	Ham (2002)
Sebastes taczanowskii	탁자볼락	White-edged rockfish	1	<0.001				Mok (2009)
Tanakius kitaharai	갈가자미	Willow flounder	2	0.02	0.019	0.007	0.034	Mok (2009)
Larimichthys polyactis	조기	Yellow croaker	40	0.02		0.001	0.088	Sho (2000)
Larimichthys polyactis	조기	Yellow croaker	20	0.02	0.022	ND	0.077	Kim (2016)
Larimichthys polyactis	조기	Yellow croaker	27	0.015		0	0.108	Kim (2007)
Larimichthys polyactis	조기	Yellow croaker	7	0.01	0.02			Hwang (2006)
Dentex tumifrons	황돔	Yellow porgy	8	1.09	0.52			Hwang (2006)
Patinopecten yessoensis	큰가리비	Yesso scallop	3	0.799	0.067	0.756	0.876	Mok (2010)

N, number of species samples examined; SD, standard deviation; Min, minimum values; Max, maximum values.

Supplementary Table 5. Mean values of the total Hg concentrations calculated by species from the mean values reported in the reviewed articles

Scientific name	Korean name	Common english name	N	Mean
Hexagrammos otakii	취노래미	A rock trout	35	0.049
Nordotis discus	전복	Abalone	122	0.012
Theragra chalcogramma	명태	Alaska pollock	289	0.045
Thunnus alalunga	날개다랑어	Albacore	12	0.377
Engraulis japonicus	멸치	Anchovy	128	0.048
Sebastes hubbsi	우럭	Armorclad rockfish	107	0.074
Doryteuthis bleekeri	한치	Arrow squid	3	0.033
Oryzias latipes	송사리	Asiatic ricefish	7	0.033
Pleurogrammus azonus	임연수어	Atka mackerel	35	0.049
Trichiurus lepturus	대서양 갈치	Atlantic cutlassfish	29	0.082
Microphysogobio longidorsalis	배가사리	Baegasari	1	0.01
Triakis scyllium	까치상어	Banded hound shark	3	0.97
Squaliobarbus curriculus	눈불개	Barbel chub	6	0.094
Argopecten irradians	해만 가리비	Bay scallop	3	0.014
Loligo beka	꼴뚜기	Beka squid	21	0.01
Deep-sea fish	눈다랑어	Bigeye tuna	50	0.516
	새치류	Billfish	41	0.99
Pseudobagrus koreanus	눈동자개	Black bullhead	92	0.08
Acanthopagrus schlegelii	감성돔	Black porgy	62	0.059
Lophiomus setigerus	아귀	Blackmouth angler	149	0.067
Carcharhinus melanopterus	흑기흉상어	Blacktip reef shark	26	1.1

<i>Carcharhinus leucas</i>	황소상어	Blacktip shark	12	0.125
<i>Scapharca broughtonii</i>	피조개	Bloody clam	371	0.015
<i>Portunus trituberculatus</i>	꽃게	Blue crab	42	0.034
<i>Lepomis macrochirus</i>	블루길	Blue gill	392	0.06
<i>Mytilus edulis</i>	진주담치	Blue mussels	75	0.008
<i>Prionace glauca</i>	청새리상어	Blue shark	15	2.4
<i>Thunnus thynnus</i>	참다랑어	Bluefin tuna	35	0.513
<i>Miichthys miiuy</i>	민어	Brown croaker	111	0.05
<i>Limanda herzensteini</i>	참가자미	Brown sole	42	0.049
<i>Saxidomus purpuratus</i>	개조개	Butter clam	22	0.013
<i>Pampus argenteus</i>	병어	Butterfish	141	0.028
<i>Cyprinus carpio</i>	잉어	Carp	227	0.051
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	176	0.057
<i>Scomber japonicus</i>	고등어	Chub mackerel	334	0.065
<i>Scomber japonicus</i>	참고등어	Chub mackerel	60	0.024
<i>Scyliorhinus torazame</i>	두툽상어	Cloudy dogfish	5	1.15
<i>Atrina pectinata</i>	키조개	Comb pen shell	23	0.009
<i>Anguilla japonica</i>	뱀장어	Common eel	305	0.125
<i>Enteroctopus dofleini</i>	문어	Common octopus	58	0.027
<i>Meretrix meretrix</i>	백합	Common orient clam	90	0.025
<i>Conger myriaster</i>	붕장어	Conger eel	37	0.06
<i>Ariosoma shiroanago shiroanago</i>	흰붕장어	Conger eel	45	0.031
	게	Crab	126	0.071
<i>Cambaroides similis</i>	갯가재	Crayfish	2	0.01

<i>Collichthys lucidus</i>	황강달이	Croaker	20	0.057
<i>Pseudocarcharias kamoharui</i>	강남상어	Crocodile shark	2	1.5
<i>Carassius carassius</i>	붕어	Crucian carp	574	0.058
<i>Culter brevicauda</i>	백조어	<i>Culter brevicauda</i>	21	0.123
<i>Sepia esculenta</i>	갑오징어	Cuttle fish	10	0.017
<i>Nipponocypris temminckii</i>	갈겨니	Dark chub	8	0.031
<i>Zacco temminckii</i>	갈겨니	Dark chub	33	0.052
<i>Odontobutis platycephala</i>	동사리	Dark slepper	64	0.092
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	32	0.037
<i>Acanthorhodeus macropterus</i>	큰납지리	Deep body bitterling	48	0.043
<i>Mustelus griseus</i>	개상어	Dog shark	5	0.394
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	166	0.046
<i>Iksookimia yongdokensis</i>	동방종개	Eastern spine loach	17	0.028
<i>Styela clava</i>	미더덕	Eboya	53	0.014
<i>Coilia nasus</i>	웅어	Estuarine tapertail	16	0.084
<i>Silurus asotus</i>	메기	Far eastern catfish	373	0.102
<i>Stephanolepis cirrhifer</i>	쥐치	Filefish	78	0.035
<i>Pleuronichthys cornutus</i>	도다리	Finespotted flounder	5	0.015
<i>Acheilognathus rhombeus</i>	납지리	Flat bitterling	6	0.016
<i>Paralichthys oivaceus</i>	광어	Flatfish	34	0.055
<i>Platycephalus indicus</i>	양태	Flathead	11	0.04
<i>Mugil cephalus</i>	송어	<u>Flathead grey mullet</u>	126	0.025
<i>Penaeus trituberculatus</i>	대하	Fleshy shrimp	5	0.03
<i>Heptacarpus geniculatus</i>	흑등좁은뿔꼬마새우	Flexed shrimp	7	0.023

Chaenogobius urotaenia	꼭저구	Floating goby	1	0.134
Limanda herzensteini	가자미	Flounder	165	0.077
Cheilopogon agoo	날치	Flying fish	4	0.084
Myripristis murdjan	적투어	Forskål	10	0.014
Konosirus punctatus	전어	Gizzard shad	83	0.015
Gobiidae	망둥어	Goby	14	0.041
Pseudogobio ecosinus	모래무지	Goby minnow	109	0.06
Carassius auratus	금붕어	Gold fish	47	0.016
Solen strictus	맛조개	<u>Gould's razor shell</u>	34	0.021
Tegillarca granosa	꼬막	Granulated ark shell	165	0.04
Trichiurus lepturus	갈치	Hair tail	316	0.056
Peprilus paru	병어과 어류	Harvest fish	33	0.02
Mactra chinensis philippi	개량조개	Hen clam	11	0.006
Clupea pallasii	청어	Herring	57	0.091
Acanthephyra purpurea	홍새우	Hiodoshiebi	5	0.021
Hemiramphus sajori	학공치	Horn fish	2	0.014
Trachurus japonicus	전갱이	Horse mackerel	49	0.083
Eptatretus burgeri	먹장어	Inshore hagfish	9	0.661
Cyprinus carpio nudus	이스라엘 잉어	Israeli carp	2	0.049
Seriola quinqueradiata	방어	Japanese amberjack	4	0.048
Todarodes pacificus	살오징어	Japanese common squid	48	0.037
Acetes japonicus	백새우	Japanese paste shrimp	5	0.014
Chrysaora fuscescens	해파리	Jellyfish	23	0
Coreoperca herzi	꺾지	Korean aucha perch	98	0.082

<i>Pseudobagrus fulvidraco</i>	동자개	Korean bullhead	200	0.088
<i>Pseudobagrus fulvidraco</i>	빠가사리	Korean bullhead	25	0.027
<i>Nipponocypris koreanus</i>	참갈겨니	Korean chub	39	0.038
<i>Abbottina springeri</i>	왜매치	Korean dwarf gudgeon	1	0.015
<i>Squalidus chankaesis tsuchigae</i>	참몰개	Korean gudgeon	10	0.142
<i>Sarcocheilichthys nigripinnis morii</i>	중고기	Korean oily Shiner	14	0.069
<i>Opsarichthys uncirostris amurensis</i>	끄리	Korean piscivorous chub	137	0.173
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	214	0.08
<i>Hypoptychus dybowskii</i>	양미리	Korean sandlance	34	0.062
<i>Hemiculter eigenmanni</i>	치리	Korean sharpbelly	39	0.14
<i>Coreoleuciscus splendidus</i>	쉬리	Korean shinner	14	0.059
<i>Acheilognathus yamatsutae</i>	줄납자루	Korean striped bitterling	11	0.027
<i>Liobagrus andersoni</i>	통가리	Korean torrent catfish	12	0.046
<i>Acheilognathus majusculus</i>	큰줄납자루	Large striped bitterling	15	0.027
<i>Micropterus salmoides</i>	베스	Largemouth bass	5	0.1
<i>Micropterus salmoides</i>	큰입우럭	Largemouth bass	196	0.195
<i>Cyprinus carpio nudus</i>	향어	Leather carp	3	0.009
<i>Liparis tanakai</i>	꼼치	Liparis	6	0.002
<i>Nephropidae</i>	바닷가재	Lobster	19	0.131
<i>Octopus minor</i>	낙지	Long arm octopus	98	0.02
<i>Hemibarbus longirostris</i>	참마자	Long-nosed barbel	85	0.097
<i>Brachymystax lenok tsinlingensis</i>	열목어	Manchurian trout	10	0.107
<i>Siniperca scherzeri</i>	쏘가리	Mandarin fish	92	0.2
<i>Tapes philippinarum</i>	바지락	Manila clam	319	0.015

<i>Sebastes marmoratus</i>	솜뱅이	Marbled rockfish	9	0.141
<i>Corbucula fluminea</i>	재첩	Marsh clam	7	0.024
<i>Rhizoprionodon acutus</i>	두점상어	Milk shark	3	0.19
<i>Periopthalmus modestus</i>	말뚝망둥어	Mud hopper	98	0.016
<i>Mytilus coruscus</i>	홍합	Mussel	283	0.011
<i>Oreochromis niloticus</i>	나일틸라피아	nile mouth breeder	1	0.026
<i>Emeroctopus dofleini</i>	참문어	North Pacific giant octopus	8	0.016
<i>Squalus megalops</i>	모조리상어	Oceanic whitetip shark	3	0.16
<i>Cobitis longicorpus</i>	왕종개	Oil fish	1	0.58
<i>Sarcocheilichthys variegatus wakiyae</i>	참중고기	Oily shinner	21	0.075
<i>Paralichthys olivaceus</i>	넙치	Oliver flounder	273	0.054
<i>Meretrix lamarckii</i>	민무늬백합	Orient hard clam	52	0.017
<i>Macrobrachium nipponese</i>	민물새우	Oriental river prawn	2	0.045
<i>Crassostrea gigas</i>	굴	Oyster	433	0.013
<i>Makaira mazara</i>	기름녹새치	Pacific blue marlin	15	0.327
<i>Gadus macrocephalus</i>	대구	Pacific cod	186	0.069
<i>Istiophorus platyperus</i>	돛새치	Pacific sailfish	13	0.103
<i>Cololabis saira</i>	공치	Pacific saury	221	0.052
<i>Zacco platypus</i>	피라미	Pale chub	298	0.061
<i>Dissostichus eleginoides</i>	비막치어	Patagonian toothfish	25	0.526
<i>Alopias pelagicus</i>	환도상어	Pelagic thresher shark	13	1.45
<i>Muraenesox cinereus</i>	갯장어	Pike eel	36	0.116
<i>Peronidia venulosa</i>	비단조개	Pink butterfly shell	2	0.005
<i>Misgurnus anguillicaudatus</i>	미꾸리	Pond loach	14	0.022

<i>Hypomesus nipponensis</i>	빙어	Pond smelt	66	0.068
<i>Takifugu porphyreus</i>	검복	Purple puffer	3	0.089
<i>Elagatis bipinnulata</i>	참치방어	Rainbow runner	3	0.223
<i>Oncorhynchus mykiss</i>	무지개 송어	Rainbow trout	8	0.042
<i>Raja kenoei</i>	가오리	Ray	8	0.487
<i>Priacanthus macracanthus</i>	홍치	Red bulleye	3	0.055
<i>Branchiostegus japonicus</i>	옥돔	Red horsehead	30	0.102
<i>Pagrus major</i>	참돔	Red seabream	165	0.114
<i>Pagrus major</i>	참돔	Red seabream	86	0.073
<i>Chionoecetes japonicus</i>	홍게	Red snow crab	6	0.134
<i>Dasyatis akajei</i>	노랑가오리	Red stingray	12	0.08
<i>Cynoglossus joyneri</i>	서대	Red tongue sole	8	0.021
<i>Oncorhynchus masou masou</i>	송어	River salmon	95	0.036
<i>Sebastes zonatus</i>	띠볼락	Rock fish	3	0.021
<i>Trachidermus fasciatus</i>	꺼정어	Rough skin sculpin	1	0.097
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	51	0.093
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	21	0.017
<i>Oncorhynchus keta</i>	연어	Salmon	31	0.029
<i>Sillago sihama</i>	보리멸	Sand smelt	3	0.038
<i>Sardinops melanostictus</i>	정어리	Sardine	43	0.041
<i>Sphyrna lewini</i>	홍살귀상어	Scalloped hammerhead shark	12	0.498
<i>Lateolabrax japonicus</i>	농어	Sea bass	64	0.094
<i>lateolabrax maculatus</i>	점농어	Sea perch	22	0.071
<i>Tribolodon hakonensis</i>	황어	Sea rundace	8	0.096

<i>Halocynthia roretzi</i>	멍게	Sea squirt	48	0.021
<i>Tripneustes ventricosus</i>	성게	Sea urchin	12	0.006
<i>Stichopus japonicus</i>	해삼	Seacucumbers	39	0.003
<i>Selachimorpha</i>	상어	Shark	54	0.672
<i>Hemiculter leucisculus</i>	살치	Sharpbelly	79	0.124
<i>Metapenaeus joyneri</i>	중하	Shiba shrimp	5	0.038
<i>Pachygrapsus crassipes</i>	돌게	Shore crab	3	0.035
<i>Squalidus japonicus coreanus</i>	물개	Short barbel gudgeon	4	0.158
<i>Isurus oxyrinchus</i>	청상아리	Shortfin mako shark	19	1.507
<i>Tapes japonica</i>	모시조개	Shortnecked clam	41	0.025
<i>Carcharhinus longimanus</i>	장완홍상어	Shortnose spurdog	4	0.53
<i>Eopsetta grigorjewi</i>	물가자미	Shotted halibut	75	0.028
	새우	Shrimp	101	0.034
<i>Orthrias nudus</i>	대륙종개	Siberian stone loach	15	0.038
<i>Raja kenojei</i>	홍어	Skate ray	5	0.018
<i>Katrapturus pelamis</i>	가다랑어	Skipjack tuna	17	0.05
<i>Eryghroculter erythropterus</i>	강준치	Skygager	125	0.151
<i>Acheilognathus lanceolatus</i>	납자루	Slender bitterling	15	0.059
<i>Silurus microdorsalis</i>	미유기	Slender catfish	6	0.034
<i>Ilisha elongata</i>	준치	Slender shad	3	0.07
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	195	0.056
<i>Sphyrna zygaena</i>	귀상어	Smooth hammerhead	3	1.7
<i>Aptocyclus ventricosus</i>	뚝지	Smooth lumpfish	3	0.003
<i>Channa argus</i>	가물치	Snake Head	110	0.097

<i>Chionoecetes opilio</i>	대게	Snow crab	5	0.119
<i>Liobagrus mediadiposalis</i>	자가사리	South torrent catfish	5	0.022
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	211	0.04
<i>Cobitis hankugensis</i>	기름종개	Spine loach	22	0.092
<i>Squlus acanthias</i>	곱상어	Spiny dogfish	17	1.08
<i>Erisphex pottii</i>	풀미역치	Spotted velvetfish	3	0.043
<i>Agrammus agrammus</i>	노래미	Spotty belly greenling	69	0.051
<i>Todarodes pacificus</i>	오징어	Squid	116	0.041
<i>Platichthys stellatus</i>	강도다리	Starry flounder	23	0.036
<i>Mustelus manazo</i>	별상어	Starspotted smooth-hound	3	0.527
<i>Hemibarbus labeo</i>	누치	Steed barbel	378	0.101
<i>Chelon haematocheilus</i>	가송어	Strip mullet	10	0.023
<i>Oplegnathus fasciatus</i>	돌돔	Striped beakperch	15	0.033
<i>Tetrapturus audax</i>	청새치	Striped marlin	12	0.194
<i>Pungtungia herzi</i>	돌고기	Striped shinner	110	0.083
<i>Macra veneriformis</i>	동죽	Surf clam	25	0.019
<i>Plecoglossus altivelis</i>	은어	Sweet smelt	57	0.018
<i>Xiphias gladius</i>	황새치	Swordfish	144	0.975
<i>Helice tridens tridens</i>	방게	Three-spined shore crab	3	0.017
<i>Symphurus pusillus</i>	개서대	Tongue-fish	4	0.056
<i>Omphalius pfeifferi</i>	고둥	Truban shell	71	0.049
Thunnidae	다랑어과 어류	Tuna	321	0.473
<i>Batillus cornutus</i>	소라	Turban shell	98	0.027
<i>Urechis unicinctus</i>	개불	<i>Urechis unicinctus</i>	45	0.003

<i>Rapana venosa</i>	피뿔고둥	Veined rapa whelk	9	0.012
<i>Notochione jedoensis</i>	살조개	Venus clam	14	0.004
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	37	0.012
<i>Buccimon striatissimum</i>	골뱅이	Whelk	94	0.075
<i>Neptuneaarthritica</i>	소라고둥	Whelk	152	0.068
<i>Salvelinus leucomaenis</i>	홍송어	White spotted char	3	0.035
<i>Larimichthys polyactis</i>	조기	Yellow croaker	95	0.046
<i>Dentex tumifrons</i>	황돔	Yellow porgy	8	0.24
<i>Thunnus albacares</i>	황다랑어	Yellowfin tuna	18	0.253

N, total number of species samples recalculated by the mean values.

Supplementary Table 6. Mean values of the Pb concentrations calculated by species from the mean values reported in the reviewed articles

Scientific name	Korean name	Common english name	N	Mean
<i>Katsuwonus pelamis</i>	가다랑어	Skipjack tuna	5	0.008
<i>Channa argus</i>	가물치	Snake head	21	0.038
<i>Limanda herzensteini</i>	가자미	Flounder	123	0.192
<i>Tanakius kitaharai</i>	갈가자미	Willow flounder	2	0.221
<i>Neptunea arthritica cumingii</i>	갈색띠매물고등	Ezoneptune shell	9	0.228
<i>Trichiurus lepturus</i>	갈치	Hair-tail	110	0.288
<i>Acanthopagrus schlegelii</i>	감성돔	Black porgy	5	0.064
<i>Sepia esculenta</i>	갑오징어	Cuttle fish	11	0.133
<i>Mactra chinensis philippi</i>	개랑조개	Hen clam	11	0.073
<i>Urechis unicinetus</i>	개불	Gae-bul	14	0.102
<i>Mustelus griseus</i>	개상어	Dog shark	5	0.008
<i>Symphurus pusillus</i>	개서대	Tongue-fish	4	0.02
<i>Saxidomus purpuratus</i>	개조개	Butter clam	34	0.32
<i>Squilla oratoria</i>	갯가재	Crayfish	6	0.177
<i>Muraenesox cinereus</i>	갯장어	Pike eel	41	0.294
<i>Takifugu porphyreus</i>	검복	Purple puffer	5	0.035
<i>Scombrops boops</i>	게르치	Gnomefish	1	0.006
<i>Rapana venosa</i>	고등	Snail	11	0.195
<i>Scomber japonicus</i>	고등어	Chub mackerel	142	0.228
<i>Buccimon striatissimum</i>	골뱅이	Whelk	94	0.28
<i>Paralichthys oivaceus</i>	광어	Flatfish	79	0.043

<i>Chirolophis japonicus</i>	괴도라치	Fringed blenny	1	0.008
<i>Takifugu vermicularis</i>	국매리복	Vermiculated puffer	1	0.069
<i>Paroctopus dofleini</i>	군소	Korean common sea hare	1	0.105
<i>Crassostrea gigas</i>	굴	Oyster	312	0.276
<i>Carassius auratus</i>	금붕어	Gold fish	2	0.03
<i>Ammodytes personatus</i>	까나리	northern sand lance	2	0.021
<i>Takifugu xanthopterus</i>	까치복	Striped puffer	1	0.004
<i>Triakis scyllium</i>	까치상어	Banded houndshark	1	0.022
<i>Takifugu stictonotus</i>	까칠복	Spottyback puffer	1	0.015
<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	166	0.313
<i>Loligo beka</i>	꼴뚜기	Beka squid	7	0.131
<i>Liparis tanatai</i>	꼼치	Tanaka's snailfish	11	0.161
<i>Cololabis saira</i>	꿩치	Pacific saury	125	0.172
<i>Portunus trituberculatus</i>	꽃게	Blue crab	12	0.081
<i>Trachysalsmbria curvirostris</i>	꽃새우	Southern rough shrimp	1	0.054
<i>Octopus minor</i>	낙지	Long arm octopus	21	0.079
<i>Cheilopogon agoo</i>	날치	Flying fish	4	0.005
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	56	0.226
<i>Dasyatis Akajei</i>	노랑가오리	Red sting ray	14	0.131
<u><i>Hexagrammos agrammus</i></u>	노래미	Spottybelly greenling	47	0.041
<i>Lateolabrax japonicus</i>	농어	Sea bass	34	0.087
<i>Hemibarbus labeo</i>	누치	Steed barbel	8	0.007
<i>Pseudobagrus koreanus</i>	눈동자개	Black bullhead	11	0.009
<i>Chionoecetes opilio</i>	대게	Snow crab	11	0.127

<i>Gadus macrocephalus</i>	대구	Pacific cod	82	0.11
<i>Solen grandis</i>	대맛조개	<i>Solen grandis</i>	1	0.033
<i>Trichiurus lepturus</i>	대서양 갈치	Atlantic cutlassfish	29	0.029
<i>Fenneropenaeus chinensis</i>	대하	Fleshy shrimp	11	0.102
<i>Pleuronichthys cornutus</i>	도다리	Finespotted flounder	8	0.184
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	41	0.238
<i>Pandalus hypsinotus</i>	도화새우	Coonstriped shrimp	2	0.106
<i>Pachygrapsus crassipes</i>	돌게	Shore crab	3	0.075
<i>Odontobutis platycephala</i>	동사리	Dark sleeper	6	0.031
<i>Pseudobagrus fulvidraco</i>	동자개	Korean bullhead	3	0.008
<i>Mactra veneriformis</i>	동죽	Surf clam	29	0.176
<i>Solecurtus divaricatus</i>	돼지가리맛조개	Divaricate short razor	1	0.042
<i>Scyliorhinus torazame</i>	두툽상어	Cloudy catshark	1	0.014
<i>Dosinorbis japonicus</i>	떡조개	Japanese dosinia	1	0.192
<i>Aptocyclus ventricosus</i>	뚝지	Smooth lumpsucker	3	0.19
<i>Sebastes zonatus</i>	띠볼락	Rock fish	3	0.737
<i>Periophthalmus modestus</i>	말뚝망둥어	Shuttles hopppfish	3	0.004
<i>Navodon modestus</i>	말쥐치	Black scraper	2	0.011
<i>Solen strictus</i>	맛조개	<u>Gould's razor shell</u>	35	0.186
Gobiidae	망둥어	Goby	4	0.42
<i>Eptatretus burgeri</i>	먹장어	Inshore hagfish	4	0.015
<i>Halocynthia roretzi</i>	멍게	Sea squirt	16	0.086
<i>Silurus asotus</i>	메기	Far Eastern catfish	30	1.098
<i>Engraulis japonicus</i>	멸치	Anchovy	64	0.384

<i>Theragra chalcogramma</i>	명태	Alaska pollock	132	0.177
<i>Pseudogobio esocinus</i>	모래무지	Goby minnow	5	0.103
<i>Tapes japonica</i>	모시조개	Shortnecked clam	41	0.206
<i>Emeroctopus dofleini</i>	문어	Common octopus	25	0.083
<i>Buccinum striatissimum</i>	물레고둥	Finely-striate buccinum	8	0.216
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	79	0.128
<i>Misgurnus anguillicaudatus</i>	미꾸리	Pond loach	14	0.306
<i>Styela clava</i>	미더덕	Eboya	18	0.148
<i>Charybdis japonica</i>	민꽃게	Japanese swimming crab	2	0.119
<i>Gomphina melanaegis</i>	민들조개	Gomphina melanaegis	1	0.115
<i>Macrobrachium nipponense</i>	민물새우	Oriental river prawn	2	0.1
<i>Miichthys miiuy</i>	민어	Brown croaker	97	0.135
<i>Tapes philippinarum</i>	바지락	Manila clam	224	0.281
<i>Helice tridens tridens</i>	방게	Ashiharagani	3	0.25
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	7	0.157
<i>Acetes japonicus</i>	백새우	Japanese paste shrimp	5	0.238
<i>Meretrix meretrix</i>	백합	Common orient clam	101	0.445
<i>Anguilla japonica</i>	뱀장어	Common eel	37	0.109
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	6	0.241
<i>Pampus argenteus</i>	병어	Butterfish	93	0.19
<i>Sillago sihama</i>	보리멸	Sand smelt	3	0.079
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	3	0.015
<i>Pseudosciaena crocea</i>	부세	Yellow croaker	26	0.188
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	23	0.18

<i>Sebastes thompsoni</i>	불볼락	Goldeye rockfish	2	0.117
<i>Solen gordonis</i>	붉은맛조개	Razor clam	1	0.017
<i>Carassius carassius</i>	붕어	Crucian carp	37	0.072
<i>Conger myriaster</i>	붕장어	Conger eel	42	0.054
<i>Chlamys farreri</i>	비단가리비	Farrer's scallop	2	0.195
<i>Peronidia venulosa</i>	비단조개	Pink butterfly shell	2	0.14
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	20	0.117
<i>Notochione jedoensis</i>	살조개	Venus clam	14	0.09
<i>Hemitripterus villosus</i>	삼세기	Sea raven	3	0.097
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	115	0.183
<i>Heptacarpus geniculatus</i>	흑등좁은뿔꼬마새우	Flexed shrimp	7	0.15
<i>Cynoglossus joyneri</i>	서대	Red tongue sole	8	0.193
<i>Chelidonichthys spinosus</i>	성대	Searobin gurnard	1	0.021
<i>Batillus cornutus</i>	소라	Turban shell	115	0.093
<i>Neptunea arthritica</i>	소라고둥	Whelk	88	0.37
<i>Oncorhynchus masou masou</i>	송어	River salmon	2	ND
<i>Mugil cephalus</i>	송어	<u>Flathead grey mullet</u>	75	0.189
<i>Sebastes marmoratus</i>	쏨뱅이	Marbled rockfish	1	0.002
<i>Inimicus japonicus</i>	쭈기미	Lumpfish	3	0.033
<i>Lophiomus setigerus</i>	아귀	Blackmouth angler	62	0.055
<i>Hypoptychus dybowskii</i>	양미리	Korean sandlance	34	0.27
<i>Platycephalus indicus</i>	양태	Bartail flathead	17	0.13
<i>Todarodes pacificus</i>	오징어	Squid	7	0.116
<i>Branchiostegus japonicus</i>	옥돔	Red horsehead	3	0.1

<i>Sebastes hubbsi</i>	우럭	Armorclad rockfish	100	0.154
<i>Plecoglossus altivelis</i>	은어	Sweet smelt	2	ND
<i>Onchorhynchus kisufch</i>	은연어	Coho salmon	1	0.003
<i>Pleurogrammus azonus</i>	임연수어	Atka mackerel	38	0.191
<i>Cyprinus carpio</i>	잉어	Carp	22	0.071
<i>Takifugu rubripes</i>	자주복	Tiger puffer	2	0.021
<i>Corbucula fluminea</i>	재첩	Marsh clam	7	0.274
<i>Myripristis murdjan</i>	적투어	Forskål	10	0.185
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	46	0.19
<i>Nordotis discus</i>	전복	Abalone	85	0.307
<i>Konosirus punctatus</i>	전어	Gizzard shad	27	0.072
<i>Sardinops melanostictus</i>	정어리	Sardine	39	0.238
<i>Larimichthys polyactis</i>	조기	Yellow croaker	70	0.234
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	66	0.037
<i>Takifugu pardalis</i>	줄복	Panther puffer	2	0.028
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	16	0.072
<i>Ilisha elongata</i>	준치	Slender shad	3	0.07
<i>Metapenaeus joyneri</i>	중하	Shiba shrimp	5	0.066
<i>Hexagrammos otakii</i>	쥐노래미	A rock trout	22	0.034
<i>Stephanolepis cirrhifer</i>	쥐치	Filefish	49	0.212
<i>Mytilus galloprovincialis</i>	지중해담치	Mediterranean mussel	129	2.1
<i>Mytilus edulis</i>	진주담치	Blue mussels	79	0.218
<i>Limanda herzensteini</i>	참가자미	Brown sole	14	0.135
<i>Pagrus major</i>	참돔	Red seabream	126	0.229

<i>Palaemon macrodactylus</i>	참새우	<u>Oriental shrimp</u>	1	0.076
<i>Cynoglossus joyneri</i>	참서대	Red tongue sole	8	0.061
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	48	0.082
Thunnidae	다랑어과 어류	Tuna	4	0.2
<i>Elagatis bipinnulata</i>	참치방어	Rainbow runner	3	0.007
<i>Clupea pallasii</i>	청어	Herring	28	0.052
<i>Patinopecten yessoensis</i>	큰가리비	Yesso scallop	3	0.152
<i>Neverita didyma</i>	큰구슬우렁	Bladder moon snail	3	0.279
<i>Scapharca satowi</i>	큰이랑피조개	Chinese blood clam	1	0.698
<i>Atrina pectinata</i>	키조개	Comb pen shell	30	0.123
<i>Sebastes taczanowskii</i>	탁자볼락	White-edged rockfish	1	0.059
<i>Hemifusus ternatanus</i>	털탑고둥	False trumpet shell	1	0.094
<i>Ostrea denselamellosa</i>	토굴	Lamellated oyster	1	0.208
<i>Chlamys farreri farreri</i>	파래가리비	Farreri	1	0.316
<i>Erisphex pottii</i>	풀미역치	Spotted velvetfish	3	0.014
<i>Rapana venosa</i>	피뿔고둥	Veined rapa whelk	15	0.103
<i>Scapharca broughtonii</i>	피조개	Bloody clam	133	0.281
<i>Hemiramphus sajori</i>	학공치	Halfbeaks	3	0.174
<i>Doryteuthis bleekeri</i>	한치	Arrow squid	3	0.12
<i>Argopecten irradians</i>	해만 가리비	Bay scallop	3	0.018
<i>Stichopus japonicus</i>	해삼	Seacucumbers	16	0.089
<i>Paphia euglypta</i>	행달조개	<i>Paphia euglypta</i>	1	0.126
<i>Cyprinus carpio nudus</i>	향어	Leather carp	3	0.007
<i>Fusitriton galea</i>	호리호리털골뱅이	Helmet hairy trail	1	0.118

<i>Chionoecetes japonicus</i>	홍게	Red snow crab	6	0.012
<i>Acanthephyra purpurea</i>	홍새우	Hiodoshiebi	5	0.152
<i>Salvelinus leucomaenis</i>	홍송어	White spotted char	3	0.021
<i>Raja kenoei</i>	홍어	Skate ray	10	0.125
<i>Priacanthus macracanthus</i>	홍치	Red bulleye	3	0.007
<i>Mytilus coruscus</i>	홍합	Mussel	161	0.272
<i>Dentex tumifrons</i>	황돔	Yellow porgy	8	1.09
<i>Tribolodon hakonensis</i>	황어	Sea rundace	2	0.028

N, total number of species samples recalculated by the mean values.

Supplementary Table 7. Mean values of the Cd concentrations calculated by species from the mean values reported in the reviewed articles

Scientific name	Korean name	Common English name	N	Mean
Hexagrammos otakii	취노래미	A rock trout	22	0.018
Nordotis discus	전복	Abalone	85	0.464
Theragra chalcogramma	명태	Alaska pollock	103	0.036
Engraulis japonicus	멸치	Anchovy	64	0.048
Sebastes hubbsi	우럭	Armorclad rockfish	128	0.016
Pleurogrammus azonus	임연수어	Atka mackerel	28	0.015
Triakis scyllium	까치상어	Banded houndshark	1	ND
Platycephalus indicus	양태	Bartail flathead	9	0.009
Argopecten irradians	해만가리비	Bay scallop	3	0.574
Loligo beka	꼴뚜기	Beka squid	2	0.113
Pseudobagrus koreanus	눈동자개	Black bullhead	11	0.001
Navodon modestus	말쥐치	Black scraper	2	0.005
Acanthopagrus schlegeli	감성돔	Black porgy	2	ND
Lophiomus setigerus	아귀	Blackmouth angler	64	0.02
Neverita didyma	큰구슬우렁	Bladder moon snail	3	0.119
Scapharca broughtonii	피조개	Bloody clam	133	0.585
Portunus trituberculatus	꽃게	Blue crab	10	0.467
Mytilus edulis	진주담치	Blue mussels	87	0.248
Miichthys miiuy	민어	Brown croaker	82	0.049
Limanda Herzensteini	참가자미	Brown sole	14	0.031
Saxidomus purpuratus	개조개	Butter clam	34	0.115

<i>Pampus argenteus</i>	병어	Butterfish	70	0.018
<i>Cyprinus carpio</i>	잉어	Carp	13	0.002
<i>Scapharca satowi</i>	큰이랑피조개	Chinese blood clam	1	0.989
<i>Misgurnus mizolepis</i>	미꾸라지	Chinese muddy loach	52	0.005
<i>Scomber japonicus</i>	고등어	Chub mackerel	120	0.04
<i>Scyliorhinus torazame</i>	두툽상어	Cloudy catshark	1	0.083
<i>Onchorhynchus kisufch</i>	은연어	Coho salmon	1	ND
<i>Atrina pectinata</i>	키조개	Comb pen shell	30	0.392
<i>Enteroctopus dofleini</i>	문어	Common octopus	18	0.019
<i>Meretrix meretrix</i>	백합	Common orient clam	101	0.224
<i>Conger myriaster</i>	붕장어	Conger eel	42	0.025
<i>Pandalus hypsinotus</i>	도화새우	Coonstriped shrimp	2	0.242
<i>Squilla oratoria</i>	갯가재	Crayfish	4	0.491
<i>Carassius carassius</i>	붕어	Crucian carp	22	0.005
<i>Sepia esculenta</i>	갑오징어	Cuttle fish	1	0.083
<i>Odontobutis platycephala</i>	동사리	Dark slepper	6	0.001
<i>Sebastes inermis</i>	볼락	Dark-banded rockfish	6	0.065
<i>Solecurtus divaricatus</i>	돼지가리맛조개	Divaricate short razor	1	0.161
<i>Mustelus griseus</i>	개상어	Dog shark	5	0.038
<i>Moroco lagowskii</i>	버들개	Downstream fatminnow	6	0.003
<i>Styela clava</i>	미더덕	Eboya	3	0.023
<i>Anguilla japonica</i>	뱀장어	Eel	18	0.004
<i>Neptunea arthritica cumingii</i>	갈색띠매물고등	Ezoneptune shell	9	0.23
<i>Hemifusus ternatanus</i>	털탑고등	False trumpet shell	1	0.721

<i>Silurus asotus</i>	메기	Far Eastern catfish	18	0.003
<i>Chlamys farreri farreri</i>	파래가리비	Farreri	1	0.382
<i>Chlamys farreri</i>	비단가리비	Farrer's scallop	2	0.903
<i>Stephanolepis cirrifer</i>	쥐치	Filefish	49	0.019
<i>Buccinum striatissimum</i>	물레고둥	Finely-striate buccinum	8	0.213
<i>Pleuronichthys cornutus</i>	도다리	Finespotted flounder	5	0.045
<i>Paralichthys oivaceus</i>	광어	Flatfish	74	0.007
<i>Mugil cephalus</i>	송어	<u>Flathead grey mullet</u>	73	0.013
<i>Fenneropenaeus chinensis</i>	대하	Fleshy shrimp	6	0.093
<i>Limanda herzensteini</i>	가자미	Flounder	97	0.019
<i>Prognichthys agoo</i>	날치	Flying fish	4	0.005
<i>Chirolophis japonicus</i>	괴도라치	Fringed blenny	1	ND
<i>Urechis uncinatus</i>	개불	Gae-bul	12	0.198
<i>Konosirus punctatus</i>	전어	Gizzard shad	22	0.018
<i>Scombrops boops</i>	게르치	Gnomefish	1	0.033
Gobiidae	망둥어	Goby	4	0.006
<i>Pseudogobio esocinus</i>	모래무지	Goby minnow	5	0.001
<i>Sebastes thompsoni</i>	불볼락	Goldeye rockfish	2	0.004
<i>Gomphina melanaegis</i>	민들조개	<i>Gomphina melanaegis</i>	1	0.566
<i>Solen strictus</i>	맛조개	<u>Gould's razor shell</u>	35	0.073
<i>Tegillarca granosa</i>	꼬막	Granulated ark shell	166	0.586
<i>Trichiurus lepturus</i>	갈치	Hair-tail	107	0.021
<i>Hemiramphus sajori</i>	학공치	Halfbeaks	1	ND
<i>Fusitriton galea</i>	호리호리털골뱅이	Helmet hairy trail	1	0.066

<i>Mactra chinensis philippi</i>	개량조개	Hen clam	14	0.055
<i>Clupea pallasii</i>	청어	Herring	22	0.032
<i>Trachurus japonicus</i>	전갱이	Horse mackerel	46	0.019
<i>Eptatretus burgeri</i>	먹장어	Inshore hagfish	4	0.027
<i>Seriola quinqueradiata</i>	방어	Japanese amberjack	7	0.052
<i>Todarodes pacificus</i>	살오징어	Japanese flying squid	20	0.058
<i>Dosinorbis japonicus</i>	떡조개	Japanese dosinia	1	0.119
<i>Charybdis japonica</i>	민꽃게	Japanese swimming crab	2	0.21
<i>Hypoptychus dybowskii</i>	양미리	Korean sandlance	34	0.022
<i>Paroctopus dofleini</i>	군소	Korean common sea hare	1	0.054
<i>Sebastes schlegelii</i>	조피볼락	Korean rockfish	28	0.011
<i>Ostrea denselamellosa</i>	토굴	Lamellated oyster	1	0.494
<i>Octopus minor</i>	낙지	Long arm octopus	16	0.012
<i>Inimicus japonicus</i>	쭈기미	Lumpfish	3	ND
<i>Tapes philippinarum</i>	바지락	Manila clam	224	0.163
<i>Sebastes marmoratus</i>	솜뱅이	Marbled rockfish	1	ND
<i>Corbucula fluminea</i>	재첩	Marsh clam	7	0.43
<i>Mytilus galloprovincialis</i>	지중해담치	Mediterranean mussel	129	2.8
<i>Mytilus coruscus</i>	홍합	Mussel	153	0.203
<i>Neptunea arthritica</i>	소라고통	Neptune whelk	88	0.67
<i>Ammodytes personatus</i>	까나리	Northern sand lance	2	0.007
<i>Paralichthys olivaceus</i>	넙치	Olive flounder	56	0.015
<i>Palaemon macrodactylus</i>	참새우	<u>Oriental shrimp</u>	1	0.006
<i>Crassostrea gigas</i>	굴	Oyster	312	0.53

<i>Gadus macrocephalus</i>	대구	Pacific cod	63	0.027
<i>Cololabis saira</i>	공치	Pacific saury	93	0.021
<i>Takifugu pardalis</i>	줄복	Panther puffer	2	0.017
<i>Paphia euglypta</i>	행달조개	<i>Paphia euglypta</i>	1	0.492
<i>Muraenesox cinereus</i>	갯장어	Pike eel	41	0.02
<i>Peronidia venulosa</i>	비단조개	Pink butterfly shell	2	0.14
<i>Takifugu porphyreus</i>	검복	Purple puffer	5	0.01
<i>Elagatis bipinnulata</i>	참치방어	Rainbow runner	3	0.006
<i>Solen gordonis</i>	붉은맛조개	Razor clam	1	0.03
<i>Priacanthus macracanthus</i>	홍치	Red bulleye	3	0.004
<i>Pagrus major</i>	도미	Red seabream	70	0.021
<i>Pagrus major</i>	참돔	Red seabream	91	0.114
<i>C. japonicus</i>	홍게	Red snow crab	6	0.116
<i>Dasyatis akajei</i>	노랑가오리	Red stingray	14	0.031
<i>Cynoglossus joyneri</i>	서대	Red tongue sole	4	0.002
<i>Cynoglossus joyneri</i>	참서대	Red tongue sole	8	0.008
<i>Arctoscopus japonicus</i>	도루묵	Sailfin sanfish	41	0.021
<i>Spisula sachalinensis</i>	북방대합	Sakhalin surf clam	23	0.096
<i>Sillago sihama</i>	보리멸	Sand smelt	3	0.007
<i>Sardinops melanostictus</i>	정어리	Sardine	39	0.031
<i>Lateolabrax japonicus</i>	농어	Sea bass	29	0.017
<i>Halocynthia roretzi</i>	멍게	Sea squirt	14	0.187
<i>Hemitripterus villosus</i>	삼세기	Sea raven	3	0.01
<i>Stichopus japonicus</i>	해삼	Seacucumbers	13	0.044

<i>Chelidonichthys spinosus</i>	성대	Searobin gurnard	1	ND
<i>Tapes japonica</i>	모시조개	Shortnecked clam	41	0.126
<i>Periophthalmus modestus</i>	말뚝망둥어	Shuttles hoppfish	3	0.002
<i>Raja kenoei</i>	홍어	Skate ray	5	0.007
<i>Katsuwonus pelamis</i>	가다랑어	Skipjack tuna	5	0.144
<i>Ilisha elongata</i>	준치	Slender shad	3	0.07
<i>Larimichthys polyactis</i>	참조기	Small yellow croaker	14	0.067
<i>Aptocyclus ventricosus</i>	뚝지	Smooth lumpsucker	3	0.042
<i>Rapana venosa</i>	고둥	Snail	11	0.182
<i>Channa argus</i>	가물치	Snake head	9	0.001
<i>Chionoecetes opilio</i>	대게	Snow crab	11	0.086
<i>Solen grandis</i>	대맛조개	<i>Solen grandis</i>	1	0.048
<i>Trachysalsmbria curvirostris</i>	꽃새우	Southern rough shrimp	1	0.064
<i>Scomberomorus niphonius</i>	삼치	Spanish mackerel	90	0.023
<u><i>Erisphex pottii</i></u>	미역치	Spotted velvetfish	3	0.002
<i>Takifugu stictonotus</i>	까칠복	Spottyback puffer	2	0.002
<u><i>Hexagrammos agrammus</i></u>	노래미	Spottybelly greenling	48	0.006
<i>Hemibarbus labeo</i>	누치	Steed barbel	8	0.001
<i>Mactra veneriformis</i>	동죽	Surf clam	29	0.12
<i>Liparis tanatai</i>	꼼치	Tanaka's snailfish	11	0.022
<i>Takifugu rubripes</i>	자주복	Tiger puffer	2	0.002
Thunnidae	다랑어과 어류	Tuna	4	0.023
<i>Batillus cornutus</i>	소라	Turban shell	115	0.364
<i>Rapana venosa</i>	피뿔고둥	Veined rapa whelk	15	0.117

<i>Notochione jedoensis</i>	살조개	Venus clam	14	0.046
<i>Takifugu vermicularis</i>	국매리복	Vermiculated puffer	1	0.011
<i>Octopus ocellatus</i>	주꾸미	Webfoot octopus	8	0.028
<i>Buccimon striatissimum</i>	골뱅이	Whelk	94	0.385
<i>Sebastes taczanowskii</i>	탁자볼락	White-edged rockfish	1	ND
<i>Tanakius kitaharai</i>	갈가자미	Willow flounder	4	0.02
<i>Larimichthys polyactis</i>	조기	Yellow croaker	94	0.018
<i>Dentex tumifrons</i>	황돔	Yellow porgy	8	1.09
<i>Patinopecten yessoensis</i>	큰가리비	Yesso scallop	3	0.799

N, total number of species samples recalculated by the mean values.