**Table S1**. The list of fish and seafood products classified according to the recommendations proposed by the Commission Regulation No. 1881/2006 based on the mean levels for certain contaminants in the foodstuffs, which were determined in these products.

| The best choice | | A good choice | | Avoid | |
|---|---|---|---|---|---|
| **Product** | **mean Hg [mg/kg]** | **Product** | **mean Hg [mg/kg]** | **Product** | **mean Hg [mg/kg]** |
| Atlantic mackerel | 0.05 | Halibut | 0.24 | King mackerel | 0.73 |
| Cod | 0.11 | Carp | 0.11 | Marlin | 0.49 |
| Squid | 0.02 | Spanish mackerel | 0.35 | Swordfish | 1.00 |
| Crab | 0.06 | Tuna white (can) | 0.35 | Shark | 0.98 |
| Prawn | 0.01 | Tuna white: fresh, frozen | 0.36 | Tuna big-eyed | 0.69 |
| Salmon (can) | 0.01 | | | | |
| Salmon: fresh, frozen | 0.02 | | | | |
| Mollusc | 0.01 | | | | |
| Pollock | 0.03 | | | | |
| Sardine | 0.01 | | | | |
| Herring | 0.08 | | | | |
| Tuna light (can) | 0.13 | | | | |

**Table S2.** A brief review of the literature on the mercury content of canned fish [mg/kg].

| Total mercury [mg/kg] | Sample | MeHg [mg/kg] | Additional information | PTWIs | Reference |
|---|---|---|---|---|---|
| Range: 0.079 – 0.315; mean 0.177 | Canned tuna (n = 40) | Range: 0.071 – 0.268, mean: 0.144 (mean MeHg/Hg: 80.6%) | Different brands from the Persian Gulf (10 in total), Teheran, Iran | Not determined | [9] |
| Range: < 0.01 – 0.08 (mackerel, n = 84); range: 0.01 – 0.04 (sardine, n = 75); range: 0.01 – 0.03 (pilchards, n = 6); range: 0.12 – 0.20 (tuna, n = 15) | Canned fish (n = 180) | Not determined | Local and imported brands, 28 brands of mackerel, 25 brads of sardines, 2 brands of pilchards, 5 brands of tuna, Kumasi, Ghana | Max. for Nampa tuna (0.2 μ/g), adult 60 kg has to eat 1500 g (150 g per can, approx. 10 cans) in order to accumulate 300 μg of mercury | [19] |
| They assumed that the total mercury concentration found in the fish species analysed is actually methylmercury | Samples from fresh, frozen and canned fish and shellfish products (n = 485) | Median range for canned products 0.0 (clam, frigate, mussel, octopus, sardine, squid) – 0.222 (tuna) | 11 species of canned products, Granada, Spain. | For a person weighing 60 kg: 63.63 μg/week | [20] |
| Range:<br>Light tuna: 0.205 - 0.594<br>White tuna: 0.276 - 0.558<br>Skipjack: 0.299 - 0.322<br>Fraigate tuna: 0.182 - 0.257 | Canned tuna (n = 36) | Not determined | The most popular brands in Spain. Four type of tuna: light tuna, white tuna, skipjack, frigate tuna, Madrid (32) and Cartagena (4), Spain | Not determined | [21] |

| | | | | | |
|---|---|---|---|---|---|
| Range: 0.0378-0.5243 (mean: 0.2087) | Canned tuna (n = 50) | Not determined | Popular brands of canned tuna from the Morocco | For a person weighing 60 kg: 0.67µg/kg b.w./week | [22] |
| Albacore (mean 0.326 and range 0.174 – 0.507, n = 49)<br>Skipjack (mean 0.132 and range 0.057 - 0.305, n = 21)<br>Yellowfin (mean 0.066 and range 0.046 – 0..095, n = 14)<br>Not specified (mean 0.095 and range 0.016 - 0.237, n = 72)<br>Total (mean 0.170 and range 0.016 – 0.507, n = 156) | Canned tuna (n = 156) | Not determined | 16 stores in Toronto and Vancouver (Canada) | Not determined | [23] |
| Range 0.02 - 0.47; mean 0.123 (domestic brands); range 0.02 - 0.11; 0.047 (imported brands) | Canned tuna (n = 54), | Not determined | Domestic and imported brands (10 in total), Teheran, Iran | Not determined | [24] |
| Skipjack tuna fish: Range 0.117 - 0.157 and mean 0.115 in the white muscle; range 0.133 - 0.171 and mean 0.124 in the dark muscle. | Canned tuna (n = 30) | Not determined | The comparison was made among mercury content in raw, cooked and canned fish. Also the differentiation was made between Hg content in white and dark muscles, Aveiro, Portugal | It is possible to consume 10 cans of white muscle per week (78 g each can) without exceeding the RfD of JECFA and 8 cans when considering the USEPA RfD. For the dark muscle, the number of canned tuna meals per week is lower. | [25] |
| Mean for Brand 1: 0.777 ± 0.320<br>Mean for Brand 2: 0.541 ± 0.114<br>Mean for Brand 3: 0.550 ± 0.199 | Canned tuna (n = 150) | Not determined | Three national brands: B1 (n = 54); B2 (n = 46); B3 (n = 55).<br>B1 chunk white (n = 10); B1 chunk light (n = 15)<br>B3 oil (n = 10);<br>B3 water (n = 10), Las Vegas, USA | For 25-kg child: - 75g tuna containing 0.5 mg/kg Hg per 15 days<br>- 75g tuna containing | [26] |

| | |
|---|---|
| Mean for Brand 1 (chunk light): 0.264 ± 0.006<br>Mean for Brand 1 (chunk white): 0.502 ± 0.086;<br>Mean for Brand 3 (oil): 0.807 ± 0.298;<br>Mean for Brand 3 (water): 0.579 ± 0.329 | 0.777 mg/kg Hg per 23.3 days |

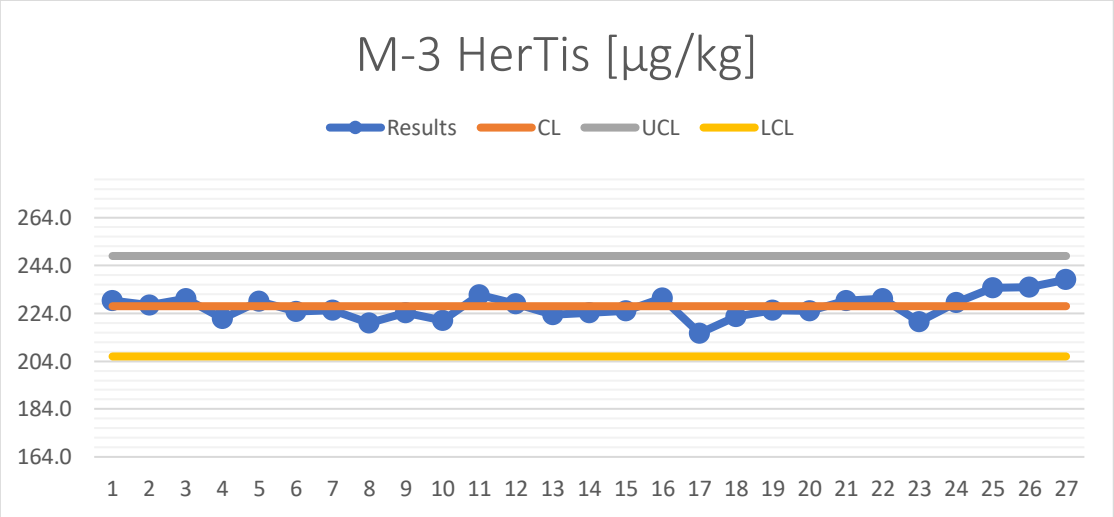


**Figure S1.** Shewhart limit chart for mercury content in CRM M-3 HerTis among the measurement days, where *centre line* (CL) is a certified content of mercury, *upper control limit* (UCL) is a certified content of mercury + an uncertainty, *lower control limit* (LCL) is a certified content of mercury - an uncertainty.

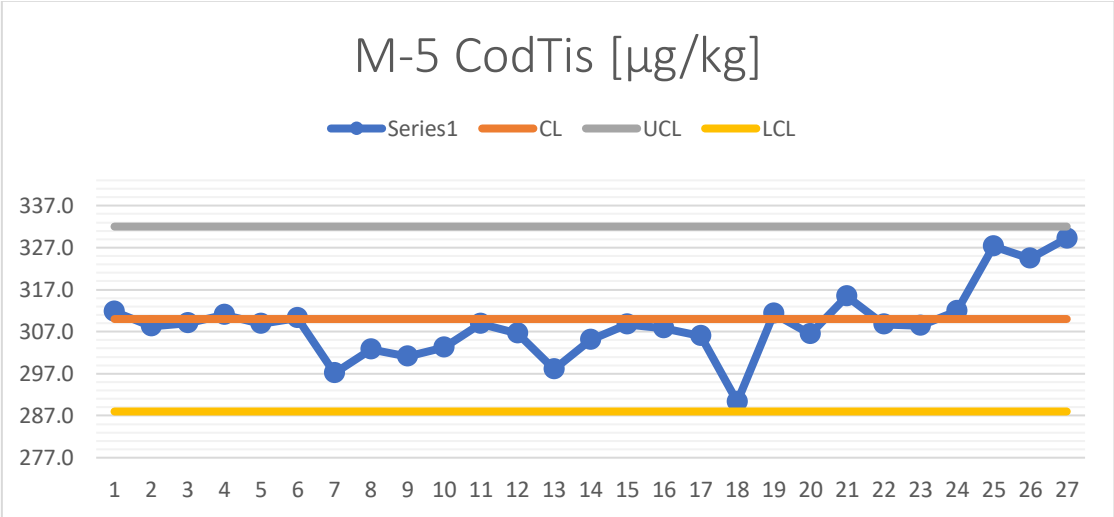


**Figure S2.** Shewhart limit chart for mercury content in CRM M-5 CodTis among the measurement days, where *centre line* (CL) is a certified content of mercury, *upper control limit* (UCL) is a certified content of mercury + an uncertainty, *lower control limit* (LCL) is a certified content of mercury - an uncertainty.

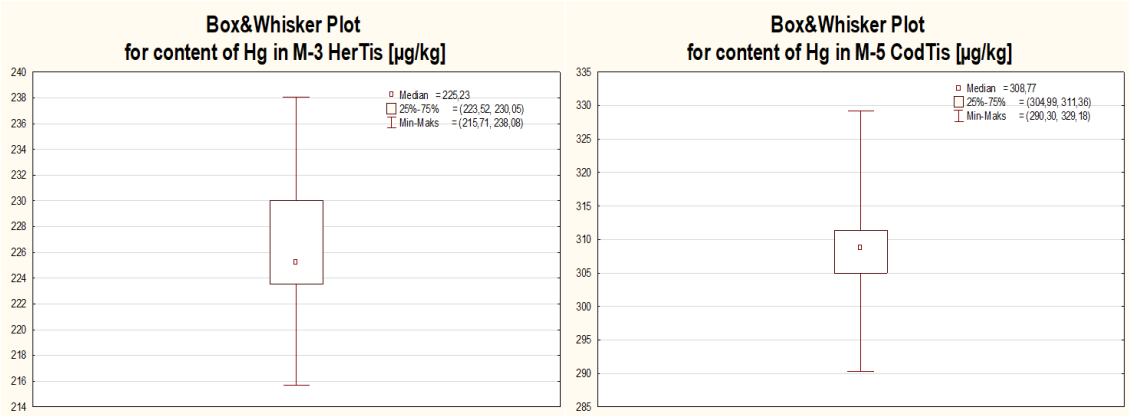


**Figure S3.** Box&Whisker Plot for the content of Hg in the certified reference material of M-3 Herring Tissue (n = 27) and M-5 Cod Tissue (n = 27) [µg/kg].

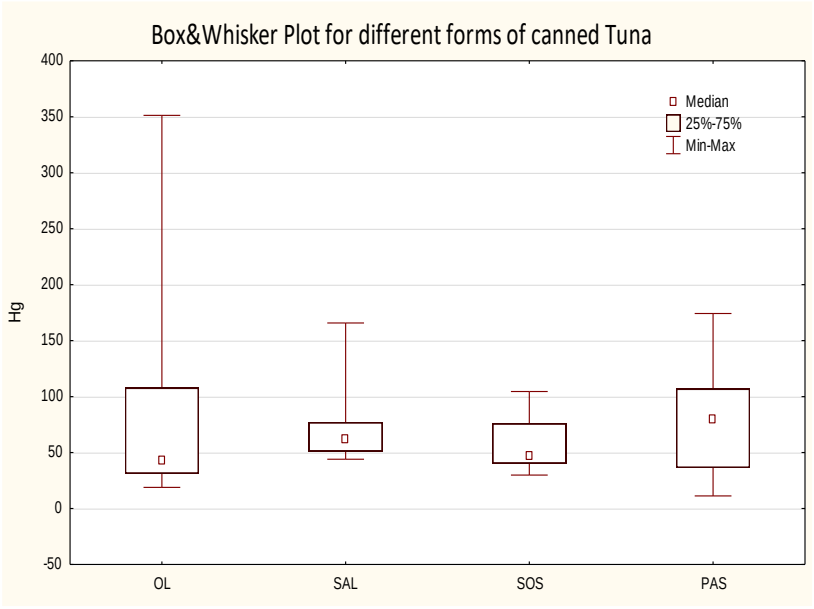


**Figure S4.** Box & Whisker Plot for content of Hg for canned tuna packed in different matrices (OL- oil, n = 18, median = 43.2; SAL- salads, n = 15, median = 62.6; SOS - own juice and sauces, n = 15, median = 47; PAS – pastes, n = 9, median = 79.2; total n = 57) [µg/kg].

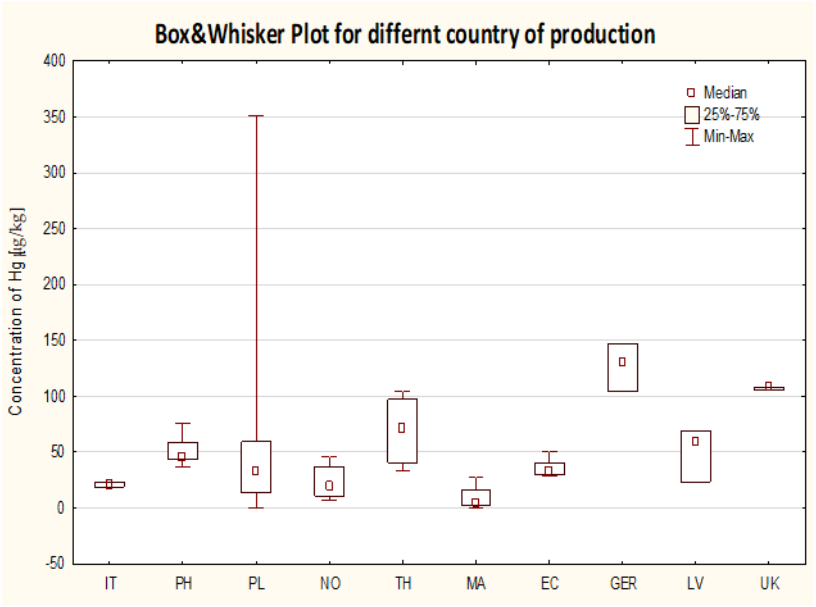


**Figure S5.** Box & Whisker Plot for content of Hg for canned fish produced in different countries (IT-Italy, n = 3, median = 21.4; PH-Philippines, n = 9, median = 45.6, PL-Poland, n= 192, median = 33.4; NO-Norway, n = 12, median = 19.7; TH-Thailand, n = 9, median = 71.4; MA-Morocco, n = 12; median = 4.6; EC-Ecuador, n = 6; median = 33.2; GER-Germany, n = 3; median = 130; LV-Latvia, n = 3, median = 59.8; UK-United Kingdom, n = 3; median = 107; total n = 252) [µg/kg].

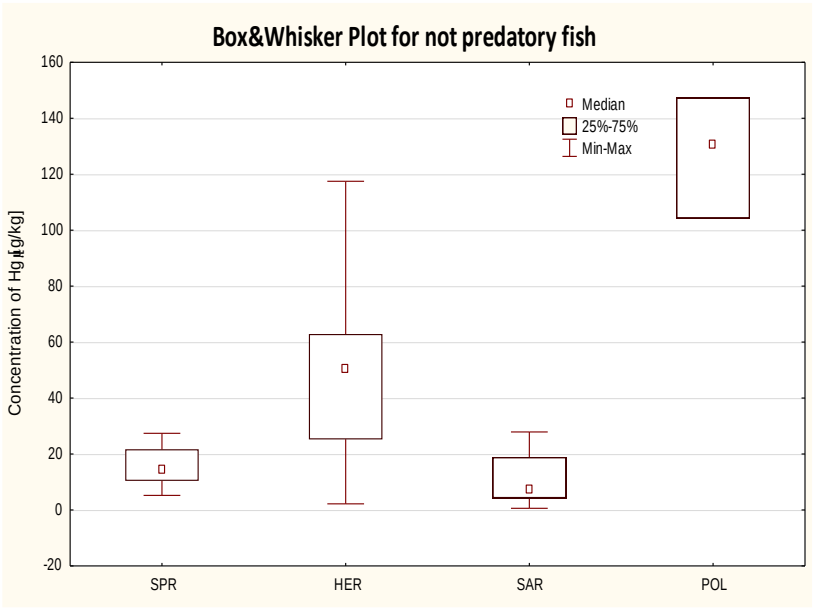


**Figure S6.** Box & Whisker Plot for content of Hg for not predatory fish (SPR – sprat, n = 27, median = 14.6; HER – herring, n= 54, median = 50.6; SAR – sardine, n = 21, median = 7.3; POL – pollock, n = 3, median = 130; total n = 105) [µg/kg].

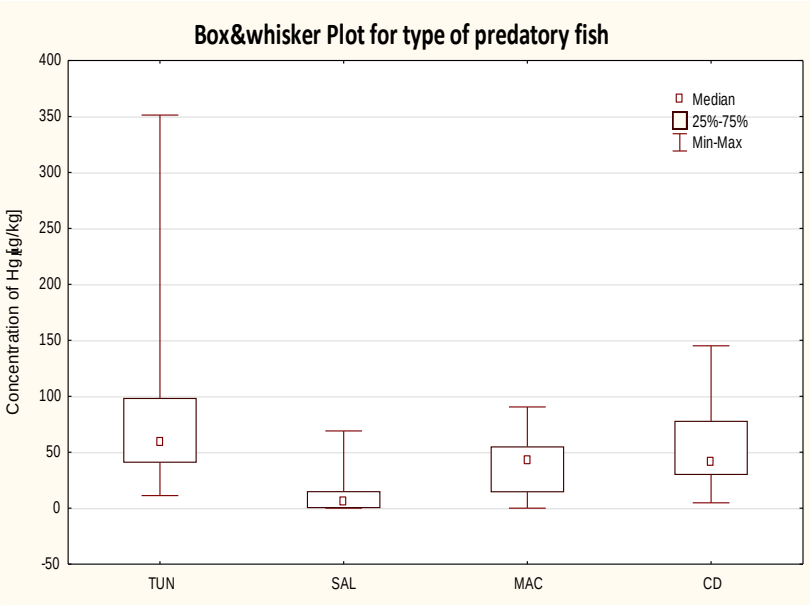


**Figure S7.** Box & Whisker Plot for content of Hg for type of predatory fish (TUN – tuna, n = 57, median = 58.8; SAL – salmon, n= 24, median = 6.65; MAC – mackerel, n = 42, median = 45.8; CD – cod, n = 24, median = 41; total n = 147) [µg/kg].

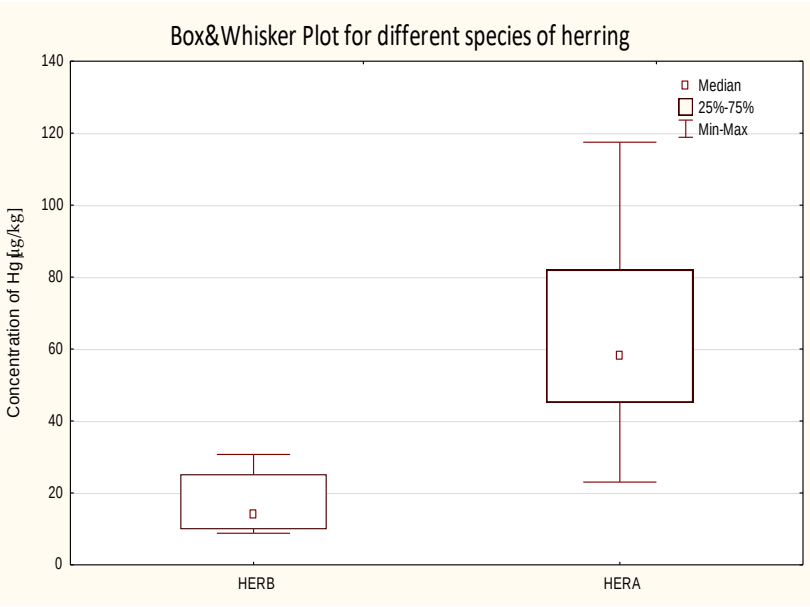


**Figure S8.** Box & Whisker Plot for content of Hg for species of herring (HERB – Baltic herring, n = 9, median = 13.9; HERA – Atlantic herring, n = 33, median = 58.2; total n = 33) [µg/kg].

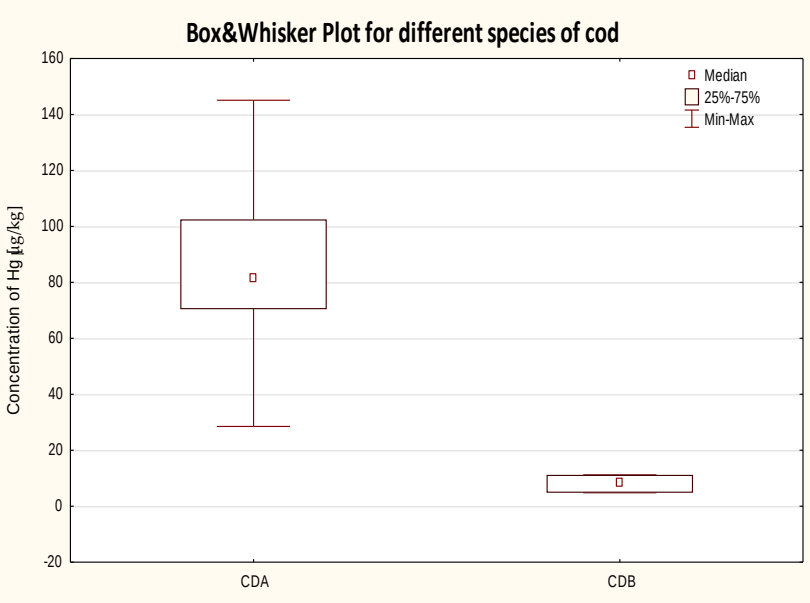


**Figure S9.** Box & Whisker Plot for content of Hg for two species of cod (CDA – Atlantic cod, n = 9, median = 81.3; CDB – Black cod, n = 3, median = 8.6; total n = 12) [µg/kg].

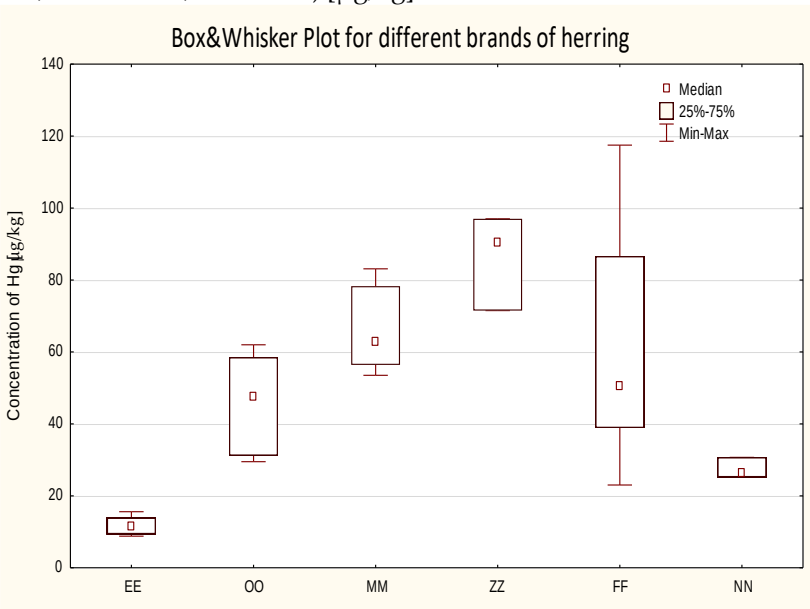


**Figure S10.** Box & Whisker Plot for content of Hg for considered brands of herring (EE, n = 6, median = 11.3; OO, n = 6, median = 47.4; MM, n = 9, median = 62.9; ZZ, n = 3, median = 90.6; FF, n = 15, median = 50.5; NN, n = 3, median = 26.5; total n = 42) [µg/kg].

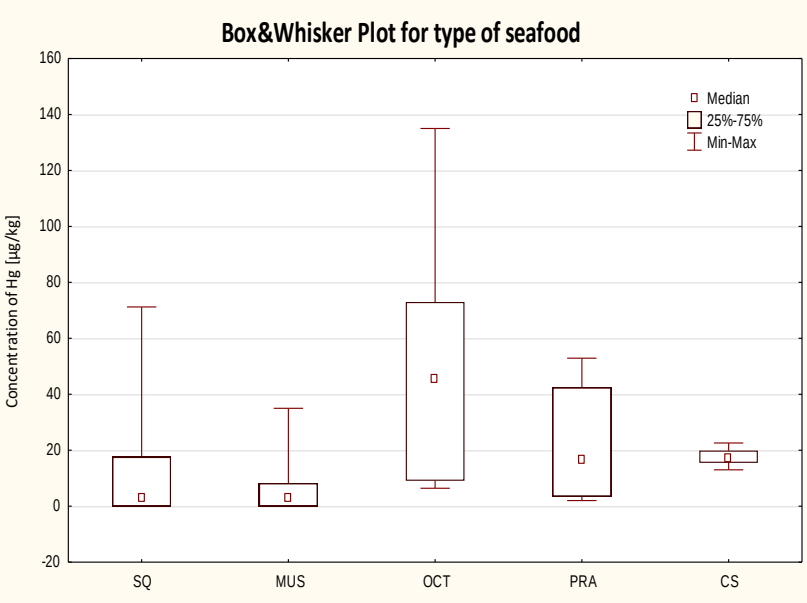


**Figure S11.** Box & Whisker Plot for content of Hg for type of seafood (SQ – squid, n = 51, median = 2.8; MUS – mussel, n = 18, median = 3.16; OCT – octopus, n = 6,median = 45.5; PRA – prawn, n = 15, median = 16.4; CS – crab sticks, n = 15,median = 17.4; total n = 108) [µg/kg].

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