Correction: The Biogeochemical Role of Baleen Whales and Krill in Southern Ocean Nutrient Cycling

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There is an error in Table 2. The numbers in the “Zn” column for “Average among krill” should be 255.5 ± 141.6. Please see the corrected Table 2 here.

There is a reference missing from Table 3. Please see the corrected Table 3 here.
Table 2. Carbon, phosphate and trace element concentrations (mean ± standard deviation) in Antarctic krill and whales (mg kg⁻¹ dry weight).

| Species                        | Sample type | n | Fe (µg kg⁻¹) ± 1SD | Cd (µg kg⁻¹) ± 1SD | Co (µg kg⁻¹) ± 1SD | C (x 10⁴) ± 1SD | P (x 10⁴) ± 1SD | Cu (µg kg⁻¹) ± 1SD | Zn (µg kg⁻¹) ± 1SD | Mn (µg kg⁻¹) ± 1SD |
|-------------------------------|-------------|---|-------------------|-------------------|------------------|---------------|--------------|-------------------|-------------------|-------------------|
| Pygmy blue, Baleoptera musculus brevicauda | Faeces     | 7 | 63.34 ± 17        | 7.1 ± 2.2         | 0.5 ± 0.2        | 17.6 ± 2.5    | 8.7 ± 2.5    | 312.2 ± 98.6      | 607.2 ± 66.0      | 16.2 ± 9.0        |
| Blue, Baleoptera musculus     | Faeces     | 15| 161.8 ± 106.5     | 29.7 ± 8.6        | 1 ± 0.8          | 18.5 ± 3.2    | 9.8 ± 1.9    | 239.5 ± 68.6      | 460.8 ± 187.2     | 33.4 ± 10.6       |
| Blue, Baleoptera physalus     | Muscle     | 1 | 58.3 ± 17.5       | 0.02              | 0.006 ± 0.005    | 5.1           | 0.03 ± 0.007  | 1.5 ± 0.2         | 41.6 ± 4.1        | 0.3               |
| Fin, Baleoptera physalus      | Faeces     | 2 | 237.4 ± 45.3      | 42.1 ± 13.1       | 2.1 ± 1.3        | 22.1 ± 0.7    | 12.1 ± 0.4   | 290.7 ± 11.4      | 407.1 ± 52.8      | 30.5 ± 6.9        |
| Humpback, Megaptera novaengliae | Faeces     | 2 | 118.6 ± 30.1      | 4.2 ± 3.5         | 0.9 ± 0.8        | -             | 2.9 ± 2.1    | 74.1 ± 5.2        | 1099.0 ± 553.0    | 18.2 ± 10.7       |
| Sperm whale, Physeter macrocephalus | Faeces   | 1 | 756.7             | 575               | 2.2              | 348.2         | 6.9          | 1635.4            | 2663.6            | 96                |
| Average among whales          | Faeces     | 14| 145.9 ± 135.4     | 34.7 ± 88.9       | 0.9 ± 0.87       | 19.2 ± 4.5    | 8.9 ± 3.1    | 292.4 ± 238.1     | 621.5 ± 432.9     | 27.7 ± 16.5       |
| Antarctic krill, Euphausia superba | Whole    | 5 | 174.3 ± 0.5       | 4 ± 0.1           | 0.1              | 54.2          | 3.13 ± 0.04   | 98.0 ± 0.6        | 275.7 ± 0.5       | 17.7 ± 0.1        |
| Krill, Nyctiphanes australis  | Whole      | 5 | 91.4 ± 1.1        | 2.8               | 0.1              | 35.9          | 6.6 ± 0.01   | 40.7 ± 0.2        | 444.8 ± 2.6       | 8.0 ± 0.1         |
| Krill, Euphausia pacifica     | Whole      | 5 | 62.1 ± 0.6        | 2.3               | 0.1              | 45.2          | 1.4 ± 0.009   | 15.6 ± 0.2        | 293.6 ± 2.3       | 9.2 ± 0.1         |
| Krill, Meganyctiphanes norvegica | Whole   | 10| 11.3 ± 8.9        | 2.2 ± 0.5         | 0.04 ± 0.02      | 43.2 ± 2      | 1.0 ± 0.6    | 44.6 ± 11.0       | 90.5 ± 40.8       | 2.0 ± 0.8         |
| Average among krill           | Whole      | 25| 76.6 ± 64.1       | 2.7 ± 0.8         | 0.08 ± 0.03      | 44.3 ± 6.6    | 2.8 ± 2.3    | 49.1 ± 30.5       | 255.5 ± 141.6     | 8.4 ± 6.1         |

Carbon data for humpback whales are not available.
Krill samples were homogenates of 5 animals of each species.
Iron data for all species have been discussed in Nicol [16].

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Table 3. Summary of dissolved and particulate trace element concentrations in surface waters from the literature (nmol L⁻¹).

| Sampling location                      | Depth (m) | Size partitioning | Fe       | Cd       | Co       | P       | Cu       | Zn       | Mn       | C       | Reference                  |
|----------------------------------------|-----------|-------------------|----------|----------|----------|--------|----------|----------|----------|--------|-----------------------------|
| Marguerite Bay, WAP                    | 0-100     | Dissolved         | 0.34-0.86| 0.43-3.3 | 2.2-8.2  | 0.33-1.2|          |          |          |        | Hendry [63]                 |
| Ross Sea                               | 0.5-375   | Dissolved         | 0.04-0.73| 1.23-2.16| 0.24-5.17|        |          |          |          |        | Corami [45]                 |
| Ross Sea                               | 0-380     | Dissolved         |          | 0.5-11.6 | 0.01-6.6 |        |          |          |          |        | Fitzwater [64]              |
| Weddell Sea                            | 50        | Dissolved         | 2.01     |          | 0.34     |        |          |          |          |        | Grotti [65]                 |
| Atlantic sector 40                     | 40        | Dissolved         | 0.155-0.905|        |          |        |          |          |          |        | Löschler [67]               |
| Atlantic sector 40-100                 |           | Dissolved         |          | 0.95-6.66| 1.7-10.8 |        |          |          |          |        | Löschler [68]               |
| Indian-Pacific sector 40              | 40        | Dissolved         | 0.25-0.27| 1.2-1.4  | 2.3-2.4  |        |          |          |          |        | Frew [69]                   |
| Indian-Pacific sector 40              |           | Dissolved         | 0.1      |          |          |        |          |          |          |        | Bowie [44]                  |
| Southern Ocean 0-20                    |           | Dissolved         | 0.03     | 0.34     | 0.02     | 1.78   | 1.01     | 0.08     |          |        | Cullen [32]                 |
| Ross Sea 0-100                         |           | Particulate       | 0.011-0.097|        |          | 0.05-0.733| 0.2-1.2 | 19-198   |          |        | Corami [45]                 |
| Ross Sea 0.5-100                       |           | Particulate       |          |          |          |        | 0.01-0.17| Fitzwater [64]              |
| Ross Sea 0-380                         |           | Particulate       | 0.04-1.36|          | 0.01-3.1 |        |          |          | Grotti [65]                 |
| Weddell Sea 50                         |           | Particulate       | 2.18     |          | 0.022    |        |          | Westerlund and Öhman [66]   |
| Atlantic sector 40                     | 40        | Particulate       | 0.02-0.14|          |          |        |          | Löschler [67]               |
| Atlantic sector 40-100                 |           | Particulate       |          |          | 0.026-0.222|        |          | Löschler [68]               |
| East Antarctica 0-1                    |           | Particulate       | 0.001-0.018|        |          | 0.017-0.070| 0.020-0.805| 0.007-0.141| 1170   | Lannuzel [70]               |
| Amundsen Sea 8-50                      |           | Particulate       | 0.071-0.66| 16.6-44.5| 8.81-39.4|        |          |          | Planquette [46]             |
| Southern Ocean 0-20                    |           | Particulate       | 0.26     | 0.34     | 0.04     | 0.38   | 2.91     | 0.44     |          | Cullen [32]                 |
| Overall ranges                         |           | Dissolved         | 0.03-2.01| 0.04-0.9 | 0.02     | 0.43-6.6| 0.24-10.8| 0.01-6.6 |          |        |                            |
|                                        |           | Particulate       | 2.18     | 0.01-0.14| 0.04     | 16.6-44.5| 0.017-1.36| 0.02-2.91| 0.01-198| 1170   |                            |

Data from Frew [69] and Bowie [44] in the Australasian-Pacific sector are from non-fertilised surface waters

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Reference

1. Ratnarajah L, Bowie AR, Lannuzel D, Meiners KM, Nicol S (2014) The Biogeochemical Role of Baleen Whales and Krill in Southern Ocean Nutrient Cycling. PLoS ONE 9(12): e114067. doi:10.1371/journal.pone.0114067 PMID: 25469984