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| Title            | Unexpected low genetic differentiation between Japan and Bering Sea populations of a deep-sea benthic crustacean lacking a planktonic larval stage (Peracarida: Tanaidacea)                                                                                                                                                                                  |
| Author(s)        | Kakui, Keiichi; Nomaki, Hidetaka; Komatsu, Hironori et al.                                                                                                                                                                                                                                                                                                   |
| Citation         | Biological Journal of the Linnean Society, 131(3), 566-574<br><a href="https://doi.org/10.1093/biolinnean/blaa106">https://doi.org/10.1093/biolinnean/blaa106</a>                                                                                                                                                                                            |
| Issue Date       | 2020-11                                                                                                                                                                                                                                                                                                                                                      |
| Doc URL          | <a href="https://hdl.handle.net/2115/83124">https://hdl.handle.net/2115/83124</a>                                                                                                                                                                                                                                                                            |
| Rights           | This is a pre-copyedited, author-produced version of an article accepted for publication in Biological Journal of the Linnean Society following peer review. The version of record Volume 131, Issue 3, 2020, Pages 566-574 is available online at:<br><a href="https://doi.org/10.1093/biolinnean/blaa106">https://doi.org/10.1093/biolinnean/blaa106</a> . |
| Type             | journal article                                                                                                                                                                                                                                                                                                                                              |
| File Information | Supporting Information S1(2020).pdf                                                                                                                                                                                                                                                                                                                          |



**Supporting Information for “Unexpected low genetic differentiation between Japan and Bering Sea populations of a deep-sea benthic crustacean lacking a planktonic larval stage (Peracarida: Tanaidacea)”**

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## **Supporting Information S1.** Details on sampling, sorting, and sample fixation.

### **A. Samples collected by R/V *Tansei-maru* on 7 November 2007**

The gear used for the collection was a beam trawl (mouth opening = 3 m; mesh size = 4 mm). The net-in and net-out positions were 42°35.0'N 144°48.0'E (1028 m depth) and 42°34.7'N 144°49.9'E (1075 m depth), respectively. Sediment samples were sieved through a mesh size of 1 mm. Fresh tanaidaceans were picked from the residue at room temperature (RT), fixed in 80% ethanol, and later transferred to 99% ethanol for preservation. Samples were stored at RT until use.

### **B. Samples collected by R/V *Mirai* on 15 August 2017**

#### *B-1. Samples collected by a dredge installed on a Deep Tow Camera System*

The gear used for the collection was a box-shaped dredge (mouth opening = 36 cm; cod-end mesh size = 0.45 mm) installed on a Deep Tow Camera System. Sampling with the dredge was carried out while viewing the live image taken by the Deep Tow Camera System. The on-bottom and off-bottom coordinates of the dredge were 54°11.6378'N 166°59.3735'W (1566 m depth) and 54°11.6336'N 166°59.4198'W (1569 m depth), respectively. Sediment samples were gently washed in sea water, and the supernatant was then filtered through 0.45 mm mesh. This process was repeated several times. Fresh tanaidaceans were picked from the residue under a Nikon SMZ-10 stereomicroscope at RT, fixed in 80% ethanol, and later transferred to 99% ethanol for preservation. Samples were stored at –20°C until use.

#### *B-2. Samples collected by multiple corer*

The gear used was a multiple corer (Cat. No. 5173-A, Rigosha, Japan; inner diameter of core = 74 mm, length of core tube = 600 mm). Coring was conducted at 54°11.7635'N 166°58.3413'W (1536 m depth). Tanaidaceans were picked from sediments at RT, fixed in 80% ethanol, and later transferred to 99% ethanol for preservation. Samples were stored at –20°C until use.