**Table S1**: Summary of the samples collected and analyzed in this study and in Momigliano et al. (2017). N= sample size; % demersal = proportion of the sampled individuals that were identified as demersal flounders using genotypic data. Population codes are as per Figure 1. Samples from locations indicated by an asterisk (Öland and Bornholm) were originally part of the study published by Momigliano et al. (2017), but are used in this study as reference demersal and pelagic populations (respectively) for 2b-RAD analyses.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Location** | **Code** | **N** | **Coordinates** | **Date** | **% demersal** | **Reference** |
| Inkoo | INK | 17 | 60° 02' N, 24° 05' E | This study | 93.7 | This study |
| Tvärminne | TVÄ | 33 | 59° 51' N, 23° 14' E | This study | 95.8 | This study |
| Lausvik | GOT | 20 | 57° 18' N, 18° 52' E | This study | 90 | This study |
| Rostock  | ROS | 15 | 54° 12' N, 12° 0 ' E° | This study | 0 | This study |
| Helsinki | UFI | 24 | 60° 15´ N, 25° 30´ E | May 2003 | 87.5 | Momigliano et al. 2017 |
| Åland | ÅLA | 24 | 60° 09´ N, 19° 42´ E | May-June 2003 | 8  | Momigliano et al. 2017 |
| Hanko | HAN | 22 | 59° 49´ N, 23° 13´ E | June 2012 | 95.8 | Momigliano et al. 2017 |
| Kvädöfjärden  | KVÄ | 24 | 58° 01´ N, 16° 46´ E | May 2003 | 58  | Momigliano et al. 2017 |
| Öland\*  | ÖLA | 24 | 57° 14´ N, 17° 06´ E | April-June 2004 | **100** | Momigliano et al. 2017 |
| Irbe | IRB | 24 | 57° 44´ N, 22° 22´ E | May 2003 | 62.5 | Momigliano et al. 2017 |
| Latvian Sea | LAT | 24 | 56° 25´ N, 19° 44´ E | April 2003 | 0 | Momigliano et al. 2017 |
| Bornholm\* | BOR | 22 | 55° 42´ N, 16° 11´ E | March 2003 | **0** | Momigliano et al. 2017 |
| Gdynia | GDY | 24 | 54° 45´ N, 18° 30´ E | May 2003 | 0 | Momigliano et al. 2017 |
| Dabki | DAB | 24 | 54° 45´ N, 16° 30´ E | May 2003 | 0 | Momigliano et al. 2017 |
| Barsebäck | BAR | 22 | 55° 45´ N, 12° 53´ E | April 2003 | 0 | Momigliano et al. 2017 |
| Kattegat | KAT | 20 | 57° 15´ N, 12° 07´ E | Sept 2009 | 0 | Momigliano et al. 2017 |
| Gullmaren | GUL | 4 | 58° 17´ N, 11° 30´ E | February 2002 | 0 | Momigliano et al. 2017 |