**Supplementary Table 1**: Absolute minimum temperature and mean minimum temperature during the growing period of the gametophytes of *P. linearis* in Azkorri (January-February) and *P. endiviifolia* in Livingston (February-March)

|  |  |  |
| --- | --- | --- |
| Site | Livingston Island 62°S | Azkorri Beach 43°N |
| Year | Absolute min.  | Mean min.  | Absolute min.  | Mean min.  |
| 2019 | -4.0 | +0.2 | +3.3 | +7.7 |
| 2018 | -5.4 | +0.6 | -2.5 | +2.9 |
| 2017 | -3.8 | +1.1 | +4.2 | +8.0 |
| 2016 | -3.7 | +0.0 | +1.5 | +5.2 |
| 2015 | -5.8 | +0.3 | +1.3 | +7.1 |
| 2014 | -5.8 | -1.0 | +5.3 | +9.0 |