

Biotic resistance and facilitation of a non-indigenous mussel vary with environmental context

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Supplement. Tables adding detailed information about the linear regressions used to calculate condition index of mussels (Tables S1) and about *a priori* contrasts used to analyse for density-dependent effects and the strength of intra- and inter-specific interactions (Tables S2 & S3)

Table S1. Linear regressions used to calculate condition index (CI) of the two mussel species at the start and the end of the pilot study and experiment, respectively. AP = antero-posterior length of mussels; DSW = dry shell weight and DTW = dry tissue weight

| Phase | Mussel species | Time | Eq. (1) | R ² | p | Eq. (2) | R ² | p |
|------------|----------------------------------|-------|----------------------------------|----------------|--------------|----------------------------------|----------------|--------------|
| Pilot | <i>Xenostrobus securis</i> | Start | $DSW = 0.138 \times AP - 2.857$ | 0.90 | 0.000 | $DTW = 0.050 \times DSW + 0.039$ | 0.31 | 0.030 |
| | | End | $DSW = 0.123 \times AP - 2.528$ | 0.83 | 0.000 | $DTW = 0.049 \times DSW + 0.068$ | 0.52 | 0.000 |
| | <i>Mytilus galloprovincialis</i> | Start | $DSW = 0.343 \times AP - 10.898$ | 0.94 | 0.000 | $DTW = 0.190 \times DSW - 0.243$ | 0.56 | 0.000 |
| | | End | $DSW = 0.359 \times AP - 11.836$ | 0.82 | 0.000 | $DTW = 0.038 \times DSW + 0.121$ | 0.61 | 0.000 |
| Experiment | <i>X. securis</i> | Start | $DSW = 0.087 \times AP - 1.383$ | 0.83 | 0.000 | $DTW = 0.069 \times DSW - 1.383$ | 0.83 | 0.000 |
| | | End | $DSW = 0.105 \times AP - 2.072$ | 0.83 | 0.000 | $DTW = 0.071 \times DSW + 0.036$ | 0.43 | 0.000 |
| | <i>M. galloprovincialis</i> | Start | $DSW = 0.107 \times AP - 1.808$ | 0.94 | 0.000 | $DTW = 0.116 \times DSW - 0.015$ | 0.86 | 0.000 |
| | | End | $DSW = 0.186 \times AP - 4.115$ | 0.86 | 0.000 | $DTW = 0.065 \times DSW + 0.013$ | 0.59 | 0.000 |

Table S2. Test of hypotheses regarding the effects of Type of aggregation and Predation using linear *a priori* contrasts

| Predation × Type of aggregation; LS Means (n = 12) | | | | | | | |
|--|---------------------|-------------|-----------------|------------|----------|------------------|--|
| Predation | Type of aggregation | Contrast 1 | | Contrast 2 | | Survivorship (%) | |
| | | XXX vs. XMM | X vs. XXX & XMM | Mean | SE | | |
| E | X | 0 | 1.333 | 93.750 | 3.264 | | |
| E | XXX | 1 | -0.666 | 79.167 | 11.024 | | |
| E | XMM | -1 | -0.666 | 85.417 | 5.723 | | |
| O | X | 0 | 1.333 | 39.063 | 10.964 | | |
| O | XXX | 1 | -0.666 | 69.271 | 11.449 | | |
| O | XMM | -1 | -0.666 | 78.125 | 9.406 | | |
| Contrast estimates (only significant results are shown: Contrast 2 – Open treatment) | | | | | | | |
| Contrast 2 | | Estimate | SE | <i>t</i> | <i>p</i> | | |
| X < XXX & XMM | | -46.181 | 14.050 | -3.287 | 0.002 | | |

Table S3. Test of hypotheses regarding the effects of Type of aggregation and Site using linear *a priori* contrasts

| Site × Type of aggregation; LS Means (n = 4) | | | | | | | |
|--|---------------------|-------------|-----------------|------------|----------|----|--|
| Site | Type of aggregation | Contrast 1 | | Contrast 2 | | CI | |
| | | MMM vs. MXX | M vs. MMM & MXX | Mean | SE | | |
| 1 | M | 0 | 1 | 70.733 | 0.674 | | |
| 1 | MMM | 1 | 0 | 70.320 | 0.446 | | |
| 1 | MXX | -1 | -1 | 70.040 | 1.133 | | |
| 2 | M | 0 | 1 | 71.280 | 0.401 | | |
| 2 | MMM | 1 | 0 | 72.930 | 0.723 | | |
| 2 | MXX | -1 | -1 | 72.070 | 4.280 | | |
| 3 | M | 0 | 1 | 73.400 | 0.342 | | |
| 3 | MMM | 1 | 0 | 91.947 | 0.658 | | |
| 3 | MXX | -1 | -1 | 89.013 | 3.877 | | |
| Contrast estimates (only significant results are shown: Contrast 2 – Site 3) | | | | | | | |
| Contrast 2 | | Estimate | SE | <i>t</i> | <i>p</i> | | |
| M < MMM & MXX | | -22.773 | 3.289 | -6.923 | 0.000 | | |