**Additional file 4: Table S4** Summary of sperm characteristics in Group I.

**Table S4** Summary of sperm characteristics in Group I.

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| --- | --- | --- | --- | --- | --- |
| Sperm characteristics | *Amphiprion clarkii* | *Chromis notata* | *Pomacentrus nagasakiensis* | *Ditrema temmincki temmincki* | Statistics |
| χ23 | P |
| Total length (μm) | 32.67 ± 2.29a (7, 95) | 30.91 ± 1.29b (9, 173) | 25.91 ± 2.01c (8, 108) | 43.71 ± 0.87d (9, 123) | 98.16 | < 0.0001 |
| Flagellum length (μm) | 29.27 ± 3.77a (7, 94) | 29.43 ± 1.25a (9, 126) | 23.72 ± 1.85b (8, 71) | 40.12 ± 0.88c (9, 119) | 77.73 | < 0.0001 |
| Head length (μm) | 2.65 ± 0.05a (7, 101) | 1.65 ± 0.10b (9, 128) | 2.15 ± 0.16c (8, 73) | 3.59 ± 0.08d (9, 124) | 136.27 | < 0.0001 |
| Head width (μm) | 2.67 ± 0.07a (7, 98) | 2.5 ± 0.10b (9, 126) | 2.28 ± 0.24c (8, 75) | 1.28 ± 0.07d (9, 126) | 100.43 | < 0.0001 |
| Midpiece length (μm) | 0.89 ± 0.12a (7, 66) | 0.99 ± 0.07a (9, 130) | 0.9 ± 0.18a (8, 61) | 3.4 ± 0.27b (9, 121) | 125.23 | < 0.0001 |
| Midpiece width (μm) | 2.6 ± 0.26a (7, 72) | 1.05 ± 0.1b (9, 130) | 1.28 ± 0.18c (8, 61) | 1.14 ± 0.1bc (9, 124) | 93.93 | < 0.0001 |
| Head length / head width | 0.99 ± 0.03a (7, 98) | 0.66 ± 0.02b (9, 121) | 1.02 ± 0.14c (8, 73) | 2.83 ± 0.15d (9, 122) | 146.62 | < 0.0001 |
| Midpiece length / midpiece width | 0.36 ± 0.05a (7, 66) | 0.96 ± 0.07b (9, 126) | 0.71 ± 0.1c (8, 58) | 3.06 ± 0.42d (9, 121) | 105.02 | < 0.0001 |
| Swimming speed (μm/s) | 68.89 ± 11.21a (7, 187) | 103.19 ± 28.58bc (7, 153) | 108.41 ± 20.51b (7, 172) | 86.3 ± 11.24c (10, 145) | 17.68 | 0.0005 |

All values represent mean ± SD. Brackets show the number of individuals (left) and sperm (right) used for the analyses. Different superscripts indicate significant differences in each sperm characteristic between the species (LMMs with sequential Bonferroni correction, P < 0.05).