**Supplementary Table S1.** Average number of individuals of potential prey items for *T. culeus* in benthic habitat (traps) at different depths at Isla de la Luna, Titicaca Lake, Bolivia from November 2016 to January 2017.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Depths** |  |
| **Species** | **0.5 m** | **1.5 m** | **3 m** |
| *Hyalella* | 411.9 | 106.7 | 70.1 |
| *Taphius* | 0.5 | 0.1 | 0.9 |
| *Helobdella* | 8.7 | 6.8 | 12.9 |
| Trychoptera | 0.1 | 0.1 | 0.1 |
| Chironomidae | 30.1 | 25.2 | 19.7 |
| Corixidae | 0.1 | 0.1 | 0.2 |
| Elmidae | 20.1 | 8.2 | 5 |
| Trichoptera | 1.1 | 3.4 | 2.8 |
| *Littoridina* | 20.9 | 6.5 | 13.7 |
| *Austrelmis* | 20.7 | 32.9 | 20.3 |
| *Girardia* | 16.8 | 22.9 | 38.7 |

**Supplementary Table S2.** ANOVA Tukey's Honest Significance Test of Abundances of potential prey items measured underwater at different depths in Isla de la Luna, Titicaca Lake, Bolivia from November 2016 to January 2017.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Species** | **Depths** | **diff** | **lwr** | **upr** | **p** |
|  | 1.5-0.5 | -305.133 | -474.076 | -136.19 | 0.000219 |
| *Hyalella* | 3-0.5 | -341.8 | -510.743 | -172.857 | 4.11E-05 |
|  | 3-1.5 | -36.6667 | -205.61 | 132.2764 | 0.858441 |
|  | 1.5-0.5 | -0.2 | -1.34309 | 0.943091 | 0.905431 |
| *Anysanculus* | 3-0.5 | -0.33333 | -1.47642 | 0.809758 | 0.759866 |
|  | 3-1.5 | -0.13333 | -1.27642 | 1.009758 | 0.956743 |
|  | 1.5-0.5 | -0.4 | -1.10334 | 0.303335 | 0.359488 |
| *Taphius* | 3-0.5 | 0.4 | -0.30334 | 1.103335 | 0.359488 |
|  | 3-1.5 | 0.8 | 0.096665 | 1.503335 | 0.022549 |
|  | 1.5-0.5 | -14.4 | -28.3863 | -0.41371 | 0.042375 |
| *Littoridina* | 3-0.5 | -7.2 | -21.1863 | 6.786287 | 0.430654 |
|  | 3-1.5 | 7.2 | -6.78629 | 21.18629 | 0.430654 |
|  | 1.5-0.5 | 12.26667 | -3.8741 | 28.40743 | 0.167182 |
| *Austrelmis* | 3-0.5 | -0.33333 | -16.4741 | 15.80743 | 0.998613 |
|  | 3-1.5 | -12.6 | -28.7408 | 3.540766 | 0.152234 |
|  | 1.5-0.5 | 6.133333 | -15.1791 | 27.44575 | 0.765283 |
| *Girardia* | 3-0.5 | 21.86667 | 0.554246 | 43.17909 | 0.043239 |
|  | 3-1.5 | 15.73333 | -5.57909 | 37.04575 | 0.18411 |
|  | 1.5-0.5 | -1.86667 | -12.1201 | 8.38673 | 0.898047 |
| *Helobdella* | 3-0.5 | 4.266667 | -5.98673 | 14.52006 | 0.574149 |
|  | 3-1.5 | 6.133333 | -4.12006 | 16.38673 | 0.323517 |
|  | 1.5-0.5 | 2.266667 | -0.00636 | 4.539697 | 0.05078 |
| Trychoptera | 3-0.5 | 1.666667 | -0.60636 | 3.939697 | 0.188165 |
|  | 3-1.5 | -0.6 | -2.87303 | 1.67303 | 0.798255 |
|  | 1.5-0.5 | -11.8667 | -22.4374 | -1.29594 | 0.024654 |
| *Austrelmis* larvae | 3-0.5 | -15.0667 | -25.6374 | -4.49594 | 0.003488 |
|  | 3-1.5 | -3.2 | -13.7707 | 7.370732 | 0.743955 |
|  | 1.5-0.5 | -4.86667 | -34.2481 | 24.51475 | 0.91479 |
| Chironomidae | 3-0.5 | -10.4 | -39.7814 | 18.98142 | 0.668193 |
|  | 3-1.5 | -5.53333 | -34.9148 | 23.84809 | 0.891323 |
|  | 1.5-0.5 | 0 | -0.6243 | 0.624298 | 1 |
| *Anysanculus* | 3-0.5 | 0.533333 | -0.09097 | 1.157632 | 0.107241 |
|  | 3-1.5 | 0.533333 | -0.09097 | 1.157632 | 0.107241 |
|  | 1.5-0.5 | -6.67E-02 | -0.32639 | 0.193057 | 0.808044 |
| *Trichomycterus* | 3-0.5 | -6.67E-02 | -0.32639 | 0.193057 | 0.808044 |
|  | 3-1.5 | -8.33E-17 | -0.25972 | 0.259724 | 1 |
|  | 1.5-0.5 | -6.94E-17 | -0.34267 | 0.342672 | 1 |
| Corixidae | 3-0.5 | 1.33E-01 | -0.20934 | 0.476006 | 0.615041 |
|  | 3-1.5 | 1.33E-01 | -0.20934 | 0.476006 | 0.615041 |

**Supplementary Table S3.** Average number of consumed prey items individuals by *T. culeus* per sex at Isla de la Luna, Lake Titicaca, Bolivia.

|  |  |  |
| --- | --- | --- |
|  | **Sex** |  |
| **Species** | **Female** | **Male** |
| *Hyalella* | 8.96 | 6.21 |
| *Littoridina* | 6.56 | 1 |
| *Taphius* | 1.12 | 0.21 |
| *Anysanculus* | 0.12 | 0 |
| *Austrelmis* | 0.08 | 0.07 |
| *Helobdella* | 0 | 0.07 |
| Chironomidae | 0.04 | 0.07 |
| *Austrelmis* Larvae | 0.16 | 0.42 |
| Trichoptera | 0.2 | 0 |
| *Orestias* | 0.08 | 0 |

**Supplementary Table S4.** ANOVA Tukey's Honest Significance Test of Abundances of consumed prey items by *T. culeus* per sex at Isla de la Luna, Titicaca Lake, Bolivia.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Species** | **Comparison** | **diff** | **lwr** | **ipr** | **P** |
| *Hyalella* | M-F | -2.745714 | -10.76961 | 5.278179 | 0.4924214 |
| *Littoridina* | M-F | -5.56 | -13.56294 | 2.442943 | 0.1675705 |
| *Taphius* | M-F | -0.9057143 | -2.290045 | 0.4786168 | 0.1930796 |

**Supplementary Table S5.** Specimens of *Telmatobius culeus* deposited in the Museo de Historia Natural Al­cide d’Orbigny, Cochabamba, Bolivia

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Voucher sample** | **weight** | **SVL** | **AGE** | **Sex** |
| MHNCA 2006 | 9.09 | 51.82 | Adult | Male |
| MHNCA 2007 | 14.48 | 60.92 | Adult | Female |
| MHNCA 2007 | 14.48 | 60.92 | Adult | Female |
| MHNCA 2008 | 9.78 | 51.92 | Adult | indeterminate |
| MHNCA 2009 | 11.08 | 51.52 | Adult | Male |
| MHNCA 2010 | 15.2 | 53.52 | Adult | Male |
| MHNCA 2011 | 18.15 | 65.42 | Adult | Female |
| MHNCA 2012 | 11.43 | 57.42 | Adult | Female |
| MHNCA 2013 | 9.08 | 54.12 | Adult | Male |
| MHNCA 2019 | 22.41 | 69.12 | Adult | Male |
| MHNCA 2020 |  |  | Adult | indeterminate |
| MHNCA 2021 | 12.98 | 61.52 | Adult | Male |
| MHNCA 2022 | 15.48 | 61.94 | Adult | Female |
| MHNCA 2023 | 22.09 | 63.94 | Adult | Male |
| MHNCA 2024 | 4.7 | 44.24 | Juvenile | indeterminate |
| MHNCA 2025 | 27.2 | 77.12 | Adult | Female |
| MHNCA 2026 | 14.39 | 62.64 | Adult | indeterminate |
| MHNCA 2027 | 15.6 | 58.86 | Adult | Female |
| MHNCA 2031 | 7.59 | 52.44 | Adult | Female |
| MHNCA 2032 | 18.15 | 60.62 | Adult | Female |
| MHNCA 2038 | 14.1 | 53.66 | Adult | Female |
| MHNCA 2040 | 18.55 | 61.22 | Adult | Female |
| MHNCA 2041 | 13.91 | 55.84 | Adult | Female |
| MHNCA 2042 | 12.27 | 54.42 | Adult | Male |
| MHNCA 2044 | 18.7 | 56.52 | Adult | Female |
| MHNCA 2045 | 19.88 | 50.52 | Adult | Female |
| MHNCA 2046 | 61.45 | 82.42 | Adult | Female |
| MHNCA 2047 | 31.64 | 75 | Adult | Male |
| MHNCA 2049 | 18.73 | 63.14 | Adult | Female |
| MHNCA 2050 | 15.52 | 59.66 | Adult | Female |
| MHNCA 2051 | 20.33 | 63.44 | Adult | Female |
| MHNCA 2053 | 18.33 | 59 | Adult | Male |
| MHNCA 2059 | 47.03 | 75 | Adult | Female |
| MHNCA 2073 | 7.93 | 44.32 | Juvenile | Male |
| MHNCA 2342 | 58.24 | 80.62 | Adult | Female |
| MHNCA 2352 | 21.75 | 62.94 | Adult | Female |
| MHNCA 2366 | 16.7 | 57.5 | Adult | Male |
| MHNCA 2374 | 17.05 | 56.44 | Adult | Female |
| MHNCA 777 | 41.97 | 72.82 | Adult | Female |
| MHNCA 778 | 13.78 | 57.4 | Adult | indeterminate |

|  |  |
| --- | --- |
| a) | b) |
| c) | d) |
| e) | f) |
| g) | h) |
| i) |  |

**Supplementary Figure S1.** Correlation between average temperature and relative abundance of different prey items of T. culeus at Isla de la Luna, Lake Titicaca, Bolivia. a) *Hyalella* spp., b) *Littoridina* sp., c) *Taphius* sp., d) *Anysanculus* sp., e) *Helobdella* sp., f) *Austrelmis* sp., g) Chironomidae , h) Trichoptera , i) *Girardia dorotocephala*



**Supplementary Figure S2.** Correlation showing the number of prey species found in individuals of *Telmatobius culeus* of different body size at Isla de la Luna, Lake Titicaca, Bolivia.