Supplementary Materials

Table 1 Prevalence (%) with 95% Clopper–Pearson confidence intervals and mean abundance ±standard error of all helminth species of wood mice by year and site.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Species | Year | Uninvaded Sites | | | Invaded Sites | | |  |
| Combined | Knocksink | Santry | Combined | Coole | Merlin | All Sites |
| All Helminths | 2011 | 98.6 (95.1-99.8)P  337.4 (±33.9) | 99.0 (94.4-100.0)P  353.1 (±41.1)A | 97.8 (88.5-99.9)P  303.9 (±60.4)A | 89.8 (82.5-94.8)P  40.2 (±9.14) | 96.1(89.0-99.2)P  44.9 (±12.5)A | 74.2 (55.4-88.1)P  28.6 (±7.47)A | 94.8 (91.3-97.2)P  210.0 (±21.8)A |
|  | 2012 | 100 (96.1-100)  548 (±73.6) | 100.0 (92.9-100)  540.3(±99.9) | 100.0 (91.8-100.0)  557.4 (±110.2) | 97.7(88-100)  159.7 (±56.0) | 97.0 (84.2-99.9)  209.2(±72.9) | 100.0 (71.5-100)  11.4 (±2.99) | 99.3 (96.0-100)  423.4 (±55.2) |
|  | Total | 99.2(97.0-100)  420.1 (±36.0) | 99.3 (96.3-100.0)  416.3 (±43.7) | 98.9 (93.9-100.0)  426.4 (±62.8) | 92.1(86.1-95.9)  74.8 (±17.9) | 96.4 (91.0-99.0)  94.2 (±24.4) | 81.0 (65.9-91.4)  24.1 (±5.67) | 96.4 (94.0-98.0)  285.2 (±24.5) |
| *S. stroma* | 2011 | 96.5 (92.1-98.9)  322.3 (±33.9) | 98.0 (92.8-99.8)  332.8 (±41.2) | 93.5 (82.1-98.6)  300.2 (±60.4) | 74.1 (64.8-82.0)  36.2 (±9.16) | 84.4 (74- 92)  40.4 (±12.5) | 48.4 (30.2-66.9)  25.9 (±7.65) | 86.9 (82.1-90.8)  199.7 (±21.7) |
|  | 2012 | 95.7 (89.3-98.8)  514.1 (±72.7) | 94.0 (83.5-98.7)  495.3 (±97.8) | 97.7 9(1.8-99.9)  536.0 (±109.8) | 77.3 (62.2-98.8)  149.9 (±55.9) | 87.9 (72-97)  198.3 (±73.0) | 45.5 (16.7-76.6)  4.5 (±2.79) | 89.8 (83.4-94.3)  397.1 (±54.4) |
|  | Total | 96.2 (92.9-98.2)  397.6 (±35.6) | 96.6 (92.3-98.9)  387.7 (±43.1) | 95.5 (88.9-98.8)  414.1 (±62.5) | 75.0 (67.3-81.7)  69.1 (±17.8) | 85.5 (77.5-91.5)  87.7 (±24.3) | 47.6 (32.0-63.6)  20.3 (±5.85) | 87.9 (84.3-91.0)  269.2 (±24.2) |
| *A.*  *murissylvatici* | 2011 | 0 (0-2.53)  0 (±0) | 0 (0-18.0)  0 (±0) | 0 (0-7.7)  0 (±0) | 13.0 (7.27-20.8)  1.75 (±1.23) | 16.9 (9.3-27.1)  2.43 (±1.72) | 3.2 (0.1-16.7)  0.06 (±0.06) | 5.6 (3.1-9.1)  0.75 (±0.53) |
|  | 2012 | 15.1 (8.48-24.0)  0.50 (±0.21) | 8.0 (2.2-19.2)  0.40 (±0.3) | 23.3 (11.8-38.6)  0.60 (±0.3) | 22.7 (11.5-37.8)  1.27 (±0.57) | 30.3 (15.6-48.7)  1.70 (±0.75) | 0.0 (0.0-28.5)  0.0 (±0.00) | 17.5 (11.6-24.9)  0.75 (±0.24) |
|  | Total | 5.9 (3.27-9.71)  0.20 (±0.08) | 2.7 (0.7-6.8)  0.1 (±0.10) | 11.2 (5.5-19.7)  0.3 (±0.1) | 15.8 (10.4-22.6)  1.61 (±0.89) | 20.9 (13.7 -29.7)  2.21 (±1.23) | 2.4 (0.1-12.6)  0.05 (±0.05) | 9.8 (7.0-13.2)  0.75 (±0.35) |
| *T. muris* | 2011 | 4.2 (1.54-8.84)  0.04 (±0.01) | 4.1 (1.1-10.1)  0.04 (±0.02) | 4.3 (0.5-14.8)  0.04 (±0.03 | 13.9 (7.97-21.9)  0.24 (±0.07) | 19.5 (11.3-30.1)  0.34 (±0.10) | 0.0 (0.0-11.2)  0.00 (±0.00) | 8.3 (5.2-12.5)  0.13 (±0.03) |
|  | 2012 | 19.4 (11.9-28.9)  0.43 (±0.12) | 8.0 (2.2-19.2)  0.20 (±0.1) | 32.6 (19.1-48.5)  0.70 (±0.2) | 13.6 (5.17-27.4)  0.25 (±0.10) | 18.2 (7.0-35.5)  0.33 (±0.14) | 0.0 (0.0-28.5)  0.00 (±0.00) | 17.5 (11.6-24.9)  0.37 (±0.09) |
|  | Total | 10.1 (6.60-14.7)  0.19 (±0.04) | 5.4 (2.4-10.4)  0.10 (0.03) | 18.0 (10.6-27.5)  0.40 (±0.1) | 13.8 (8.76-20.3)  0.24 (±0.06) | 19.1 (12.2-27.7)  0.34 (±0.08) | 0.0 0. (0-8.4)  0.00 (±0.00) | 11.6 (8.6-15.2)  0.21 (±0.04) |
| *H. polygyrus* | 2011 | 63.2 (54.8-71.1)  9.58 (±1.52) | 92.9 (85.8-97.1)  14.1 (±2.1) | 0 -7.7  0 (±0) | 0 (0-3.36)  0 (±0) | 0 (0-4.7)  0 (±0) | 0 (0-11. 2)  0 (±0) | 36.1 (30.2-42.4)  5.47 (±0.92) |
|  | 2012 | 50.5 (40.1-61.2)  12.2 (±2.18) | 94.0 (83.5-98.7)  22.6 (±3.4) | 0 (0.0-8.2)  0 (±0.00) | 0 (0-8.04)  0 (±0) | 0 (0.0-10.6)  0 (±0.00) | 0 (0.00-28. 5)  0 (±0.00) | 34.3 (26.4-42.9)  8.24 (±1.55) |
|  | Total | 58.2 (51.7-64.6)  10.6 (±1.26) | 93.2 (87.9-96.7)  16.9 (±1.8) | 0 (0.0-4.1)  0 (±0.00) | 0 (0-2.40)  0 (±0) | 0 (0.0-3.3)  0 (±0.00) | 0 (0.0-8.4)  0 (±0.00) | 35.5 (30.7-40.5)  6.45 (±0.81) |
| *H. hibernia* | 2011 | 20.8 (14.5-28.4)  0.42 (±0.09) | 25.5 (17.2-35.3)  0.5 (±0.1) | 10.9 (3.6-23.6)  0.28 (±0.20) | 1.9 (0.2-6.53)  0.03 (±0.03) | 1.3 0. (0-7.0)  0.01 (±0.01) | 3.2 (0.1-16.7)  0.06 (±0.06) | 12.7 (8.9-17.5)  0.25 (±0.06) |
|  | 2012 | 36.6 (26.8-47.2)  4.42 (±1.89) | 48.0 (33.7-62.6)  7.6 (±3.5) | 23.3 (11.8-38.6)  0.70 (±0.33) | 4.5 (0.5-15.5)  1.27 (±1.25) | 6.1 (0.7-20.2)  1.70 (±1.67) | 0 (0.0-28.5)  0 (±0.00) | 26.3 (19.1-34.5)  3.41 (±1.35) |
|  | Total | 27.0 (21.5-33.1)  1.99 (±0.75) | 33.1 (25.6-41.3)  2.9 (±1.2) | 16.9 (9.8-26.3)  0.48 (±0.19) | 2.6 (0.72-6.60)  0.39 (±0.36) | 2.7 (0.6-7.8)  0.52 (±0.50) | 2.4 (0.1-12.6)  0.05 (±0.05) | 17.5 (13.8-21.6)  1.37 (±0.48) |
| *S. lobata* | 2011 | 4.9 (1.97-9.76)  0.24 (±0.11) | 6.1 (2.3-12.9)  0.3 (±0.2) | 2.2 (0.1-11.5)  0.09 (±0.09) | 16.7 (10.2-25.1)  0.41 (±0.13) | 16.9 (9.3-27.1)  0.44 (±0.17) | 16.1 (5.5-33.7)  0.32 (±0.18) | 9.9 (6.5-14.3)  0.31 (±0.09) |
|  | 2012 | 17.2 (10.2-26.4)  1.35 (±0.54) | 14.0 (5.8-26.7)  0.4 (±0.2) | 20.9 (10.0-36.0)  2.44 (±1.14) | 70.4 (54.8-83.2)  4.55 (±0.94) | 72.7 (54.5-86.7)  5.24 (±1.20) | 63.6 (30.8-89.1)  2.45 (±0.79) | 34.3 (26.4-42.9)  2.38 (±0.49) |
|  | Total | 9.7 (6.25-14.2)  0.66 (±0.23) | 8.8 (4.8-14.6)  0.3 (±0.1) | 11.2 (5.5-19.7  1.22 (±0.56) | 32.2 (24.9-40.3)  1.61 (±0.32) | 33.6 (24.9-43.3)  1.88 (±0.43) | 28.6 (15.7-44.6)  0.88 (±0.28) | 18.5 (14.8-22.7)  1.04 (±0.19) |
| *T. martis* | 2011 | 0 (0-2.53)  0 (±0) | 0 (0.0-3.7)  0 (±0.0) | 0 (0.0-7.7)  0 (±0.00) | 0.9 (0-5.05)  0.03 (±0.03) | 1.3 (0.0-7.0)  0.04 (±0.04) | 0 (0-11.2)  0 (±0) | 0.4 (0.0-2.2)  0.01 (±0.01) |
|  | 2012 | 0 (0-3.89)  0 (±0) | 0 (0-7.1)  0 (±0) | 0 (0.0-8.2)  0 (±0) | 4.5 (0-15.5)  0.36 (±0.25) | 6.1 (0.7-20.2)  0.48 (±0.34) | 0(0-28.5)  0 (±0.00) | 1.5 (0.2-5.2)  0.12 (±0.08) |
|  | Total | 0 (0-1.54)  0 (±0) | 0 (0-2.5)  0 (±0) | 0 (0-4.1)  0 (±0) | 2.0 (0-5.56)  0.13 (±0.08) | 2.7 (0.6-7.8)  0.17(±0.11) | 0.0 (0.0-8.4)  0 (±0) | 0.8 (0.2-2.2)  0.05 (±0.03) |
| *T.*  *taeniaeformis* | 2011 | 0 (0-2.53)  0 (±0) | 0 (0-3.7)  0 (±0) | 0 (0-7.7)  0 (±0) | 0 (0-3.36)  0 (±0) | 0 (0-4.7)  0 (±0) | 0 (0-11.2)  0 (±0) | 0 (0-1.5)  0 (±0) |
|  | 2012 | 3.2 (0-9.14)  0.03 (±0.02) | 0 (0-7.1)  0 (±0) | 7.0 (1.5-19.1)  0.07 (±0.04) | 2.3 (0-12.0)  0.02 (±0.02) | 3.0 (0.1-15.8)  0.03 (±0.03) | 0 (0-28.5)  0 (±0) | 2.9(0.8-7.3)  0.03 (±0.01) |
|  | Total | 1.3 (0-7.31)  0.01 (±0.01) | 0(0-2.5)  0 (±0.0) | 3.4 (0.7-9.5)  0.03 (±0.02) | 0.7 (0-1.43)  0.01 (±0.01) | 0.9 (0.0-5.0)  0.01 (±0.01) | 0 (0-8.4)  0 (0.00) | 1.0 (0.3-2.6)  0.01 (±0.01) |
| *B. recurvum* | 2011 | 2.8 (0-3.81)  0.03 (±0.01) | 4.1 (1.1-10.1)  0.1(±0.0) | 0.0 (0.0-7.7)  0.00 (±0.00) | 7.4 (3.25-14.1)  0.17 (±0.07) | 7.8 (2.9-16.2)  0.19 (±0.10) | 6.5 (0.8-21.4)  0.10 (±0.07) | 4.8 (2.5-8.2)  0.09 (±0.03) |
|  | 2012 | 28.0 (19.1-38.2)  1.49 (±0.51) | 24.0 13.1-38 2)  1.8 (±0.9) | 32.6 (19.1-48.5)  1.16 (±0.40) | 11.4 (3.08-20.3)  0.98 (±0.78) | 12.1 (3.4-28.2)  1.24 (±1.03) | 9.1 0.2-41.3)  0.18 (±0.18) | 22.6 (15.9-30.6)  1.33 (±0.42) |
|  | Total | 12.7 (8.7-17.6)  0.61 (±0.20) | 10.8 (6.3-17.0)  0.60 (±0.3) | 15.7 (8.9-25.0)  0.56 (±0.20) | 8.6 (4.63-14.2)  0.40 (±0.23) | 9.1 (4.4-16.1)  0.51 (±0.32) | 7.1 (1.5-19.5)  0.12 (±0.07) | 11.1 (8.1-14.6)  0.53 (±0.15) |
| *C. vitta* | 2011 | 62.5 (54.0-70.4)  4.7 (±0.64) | 70.4 (60.3-79.2)  5.4 (±0.7) | 45.7 (30.9-61.0)  3.30 (±1.20) | 11.1 (5.87-18.6)  1.38 (±0.52) | 6.5 (2.1-14.5)  1.08 (±0.61) | 22.6 (9.6-41.1)  2.13 (±1.00) | 40.5 (34.4-46.8)  3.29 (±0.44) |
|  | 2012 | 77.4 (67.6-85.4)  13.8 (±1.83) | 76.0 (61.8-86.9)  12.0 (±1.8) | 79.1 (64.0-90.0)  15.79 (±3.38) | 20.5 (9.80-35.3)  1.14 (±0.51) | 6.1 (0.7-20.2)  0.12 (±0.08) | 63.6 (30.8-89.1)  4.18 (±1.76) | 59.1 (50.4-67.4)  9.71 (±1.35) |
|  | Total | 68.4 (62.0-74.2)  8.26 (±0.86) | 72.3 (64.3-79.3)  7.6 (±0.8) | 61.8 (50.9-71.9)  9.34 (±1.86) | 13.8 (8.76-20.3)  1.31 (±0.40) | 6.4 (2.6-12.7)  0.79 (±0.43) | 33.3 (19.6-49.5)  2.67 (±0.87) | 47.0 (42.0-52.1)  5.55 (±0.57) |

Table 2 Measures of helminth infracommunity structure in wood mice by year and site.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  | |  |  | |  |
|  | Year | Uninvaded | Knocksink | Santry | Invaded | Coole | Merlin | Total |
| Mean Species | 2011 | 2.55 (±0.09) | 3.01 (±0.09) | 1.57 (±0.10) | 1.39 (±0.09) | 1.55 (±0.11) | 1.00 (±0.14) | 2.05 (±0.07) |
| 2012 | 3.40 (±0.12) | 3.66 (±0.15) | 3.09 (±0.17) | 2.25 (±0.18) | 2.39 (±0.22) | 1.82 (±0.26) | 3.03 (±0.11) |
| Total | 2.88 (±0.08) | 3.23 (±0.08) | 2.30 (±0.13) | 1.64 (±0.09) | 1.80 (±0.11) | 1.21 (±0.13) | 2.40 (±0.07) |
| Max. Species | 2011 | 5 | 5 | 3 | 6 | 6 | 3 | 6 |
| 2012 | 5 | 5 | 6 | 5 | 5 | 3 | 6 |
| Total | 6 | 5 | 6 | 6 | 6 | 3 | 6 |
| Mean Helminths | 2011 | 337.4 (±33.9) | 353.1 (±41.1) | 303.9 (±60.4) | 40.2 (±9.1) | 44.9 (±12.5) | 28.6 (±7.47) | 210.0 (±21.8) |
| 2012 | 548.2 (±73.6) | 540.3 (±99.9) | 557.4 (±110.2) | 159.7 (±56.0) | 209.2 (±72.9) | 11.4 (±3.00) | 423.4 (±55.2) |
| Total | 420.1 (±36.0) | 416.3 (±43.7) | 426.4 (±62.8) | 74.8 (±17.9) | 94.2 (±24.4) | 24.1 (±5.67) | 285.2 (±24.5) |
| Mean Nematodes | 2011 | 332.0 (33.9) | 346.9 (±41.1) | 300.2 (±60.4) | 38.2 (9.18) | 43.1 (±12.5) | 26.0 (±7.64) | 206.1 (±21.8) |
| 2012 | 527.2 (73.1) | 518.4 (±98.7) | 537.3 (±109.7) | 151.4 (56.0) | 200.3 (72.9) | 4.55 (±2.79) | 406.5 (±54.8) |
| Total | 408.6 (35.8) | 404.8 (43.4) | 414.8 (±62.5) | 71.0 (17.8) | 90.3 (±24.3) | 20.4 (±5.85) | 276.6 (±24.3) |
| Mean Cestodes | 2011 | 0.66 (0.14) | 0.80 (±0.19) | 0.37 (±0.21) | 0.46 (0.13) | 0.50 (±0.17) | 0.39 (±0.18) | 0.58 (±0.10) |
| 2012 | 5.81 (1.94) | 8.04 (±3.45) | 3.21 (1.18) | 6.20 (1.50) | 7.45 (±1.94) | 2.45 (±0.79) | 5.93 (±1.40) |
| Total | 2.68 (0.78) | 3.24 (±1.20) | 1.74 (±0.59) | 2.13 (0.49) | 2.58 (±0.66) | 0.93 (±0.28) | 2.46 (±0.51) |
| Mean Trematodes | 2011 | 4.75 (0.64) | 5.43 (±0.75) | 3.30 (±1.20) | 1.55 (0.54) | 1.27 (±0.63) | 2.23 (±1.07) | 3.38 (±0.44) |
| 2012 | 15.3 (1.87) | 13.8 (±1.94) | 16.9(±3.36) | 2.11 (0.90) | 1.36 (±1.03) | 4.36 (±1.72) | 11.0 (±1.40) |
| Total | 8.87 (0.89) | 8.23 (±0.88) | 9.90 (±1.88) | 1.71 (0.46) | 1.30 (±0.54) | 2.78 (±0.91) | 6.07 (±0.60) |
| Mean Brilliouin's Index | 2011 | 0.27 (±0.02) | 0.35 (±0.03) | 0.10(±0.03) | 0.13 (±0.02) | 0.16 (±0.3) | 0.06 (±0.02) | 0.21 (±0.02) |
| 2012 | 0.36 (±0.03) | 0.45 (±0.04) | 0.26 (±0.04) | 0.27 (±0.04) | 0.27 (±0.04) | 0.29 (±0.09) | 0.34 (±0.03) |
| Total | 0.31 (±0.02) | 0.38 (±0.02) | 0.18 (±0.03) | 0.17 (±0.02) | 0.19 (±0.02) | 0.12 (±0.03) | 0.25 (±0.01) |
| Max Brilliouin's Index | 2011 | 1.04 | 1.0 | 0.7 | 1.19 | 1.2 | 0.5 | 1.2 |
| 2012 | 1.10 | 1.1 | 0.9 | 0.80 | 0.8 | 0.8 | 1.1 |