***Supplementary Material 3***

**How bats escape the competitive exclusion principle - Seasonal shift from intraspecific to interspecific competition drives space use in a bat ensemble**

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Supplement 3 – Numbers and masses of parataxonomic insect groups for the respective recording sites and seasons.

misc = Insects other than Coleoptera, Lepidoptera, or Trichoptera. These were mainly Diptera, especially Chironomidae and Mosquito-like insects

col = Coleoptera

lepi = Lepidoptera

trich = Trichoptera

Numbers in column names depict the different size classes:

3 = body length < 3 mm

6 = body length between 3 and 6 mm

9 = body length between 6 and 9 mm

12 = body length > 9 mm

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **date** | **location** | **season** | **misc12** | **misc9** | **misc6** | **misc3** | **col12** | **col9** | **col6** | **col3** | **lepi** | **trich** | **sum no** | **misc12 mass** | **misc9 mass** | **misc6 mass** | **misc3 mass** | **col12 mass** | **col9 mass** | **col6 mass** | **col3 mass** | **lepi mass** | **trich mass** | **sum mass** |
| 6/12/2016 | 1-2 | early | 1 | 12 | 15 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 2.4 | 10.0 | 4.4 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.2 |
| 6/12/2016 | 1-1 | early | 0 | 0 | 13 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0.0 | 0.0 | 3.8 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 |
| 6/20/2016 | 2-1 | early | 0 | 8 | 11 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 0.0 | 6.7 | 3.2 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.6 |
| 6/22/2016 | 4-2 | early | 0 | 55 | 22 | 22 | 0 | 2 | 25 | 18 | 0 | 0 | 144 | 0.0 | 45.9 | 6.4 | 1.9 | 0.0 | 7.5 | 19.9 | 4.9 | 0.0 | 0.0 | 86.4 |
| 6/22/2016 | 4-1 | early | 0 | 48 | 132 | 1395 | 0 | 7 | 345 | 168 | 0 | 0 | 2095 | 0.0 | 40.0 | 38.2 | 121.8 | 0.0 | 26.1 | 274.5 | 45.8 | 0.0 | 0.0 | 546.5 |
| 6/23/2016 | 5-1 | early | 1 | 18 | 102 | 295 | 1 | 3 | 167 | 156 | 0 | 0 | 743 | 2.4 | 15.0 | 29.6 | 25.8 | 13.1 | 11.2 | 132.9 | 42.5 | 0.0 | 0.0 | 272.3 |
| 6/23/2016 | 5-2 | early | 3 | 449 | 1205 | 500 | 3 | 367 | 2205 | 786 | 0 | 0 | 5518 | 7.2 | 280.4 | 351.4 | 50.5 | 39.2 | 1196.3 | 2115.0 | 161.9 | 0.0 | 0.0 | 4201.9 |
| 7/12/2016 | 6-1 | early | 0 | 0 | 4 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 8 | 0.0 | 0.0 | 1.2 | 0.1 | 0.0 | 0.0 | 0.8 | 0.0 | 370.2 | 0.0 | 372.2 |
| 7/14/2016 | 7-2 | early | 2 | 32 | 3 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 45 | 4.8 | 26.7 | 0.9 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 25.2 | 0.0 | 58.2 |
| 7/14/2016 | 7-1 | early | 3 | 4 | 9 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 20 | 7.2 | 3.3 | 2.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 28.0 | 0.0 | 41.4 |
| 7/15/2016 | 8-2 | early | 1 | 14 | 1 | 7 | 0 | 0 | 0 | 0 | 2 | 0 | 25 | 2.4 | 11.7 | 0.3 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 58.4 | 0.0 | 73.4 |
| 7/15/2016 | 8-1 | early | 20 | 6 | 82 | 27 | 0 | 0 | 1 | 0 | 0 | 0 | 136 | 47.8 | 5.0 | 23.8 | 2.4 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.0 | 79.7 |
| 7/27/2016 | 10-1 | early | 338 | 30 | 35 | 74 | 0 | 0 | 308 | 10 | 0 | 0 | 795 | 613.6 | 14.2 | 9.6 | 6.6 | 0.0 | 0.0 | 294.8 | 2.4 | 0.0 | 0.0 | 941.2 |
| 7/28/2016 | 11-1 | early | 11 | 48 | 20 | 16 | 0 | 2 | 63 | 12 | 5 | 0 | 177 | 26.3 | 40.0 | 5.8 | 1.4 | 0.0 | 7.5 | 50.1 | 3.3 | 203.4 | 0.0 | 337.7 |
| 8/3/2016 | 12-1 | early | 0 | 15 | 8 | 3 | 0 | 0 | 2 | 0 | 1 | 0 | 29 | 0.0 | 12.5 | 2.3 | 0.3 | 0.0 | 0.0 | 1.6 | 0.0 | 103.7 | 0.0 | 120.4 |
| 8/4/2016 | 13-1 | early | 1 | 4 | 8 | 11 | 0 | 0 | 0 | 5 | 0 | 0 | 29 | 2.4 | 3.3 | 2.3 | 1.0 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 10.4 |
| 8/8/2016 | 14-2 | early | 2 | 17 | 77 | 87 | 0 | 4 | 7 | 2 | 1 | 0 | 197 | 4.8 | 14.2 | 22.3 | 7.6 | 0.0 | 14.9 | 5.6 | 0.6 | 46.2 | 0.0 | 116.1 |
| 8/8/2016 | 14-1 | early | 0 | 0 | 12 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 18 | 0.0 | 0.0 | 3.5 | 0.4 | 0.0 | 3.7 | 0.8 | 0.0 | 0.0 | 0.0 | 8.4 |
| 8/9/2016 | 15-2 | early | 0 | 1 | 20 | 155 | 0 | 0 | 0 | 0 | 1 | 0 | 177 | 0.0 | 0.8 | 5.8 | 13.5 | 0.0 | 0.0 | 0.0 | 0.0 | 32.8 | 0.0 | 53.0 |
| 8/9/2016 | 15-1 | early | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.0 | 0.0 | 0.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 8/10/2016 | 16-2 | early | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| 8/10/2016 | 16-1 | early | 0 | 2 | 3 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 66 | 0.0 | 1.7 | 0.9 | 5.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.9 |
| 8/11/2016 | 17-2 | early | 0 | 0 | 3 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0.0 | 0.0 | 0.9 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 |
| **sum** | all | early | 383 | 763 | 1789 | 2752 | 4 | 386 | 3125 | 1157 | 14 | 0 | 10373 | 721.0 | 531.3 | 520.1 | 247.3 | 52.2 | 1267.2 | 2896.7 | 262.7 | 867.9 | 0.0 | 7366.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **date** | **location** | **season** | **misc12** | **misc9** | **misc6** | **misc3** | **col12** | **col9** | **col6** | **col3** | **lepi** | **trich** | **sum no** | **misc12 mass** | **misc9 mass** | **misc6\_mass** | **misc3 mass** | **col12 mass** | **col9 mass** | **col6 mass** | **col3 mass** | **lepi mass** | **trich mass** | **sum mass** |
| 8/29/2016 | 15-2 | late | 0 | 12 | 27 | 385 | 1 | 0 | 31 | 2 | 2 | 1 | 461 | 0.0 | 10.0 | 7.8 | 33.6 | 13.1 | 0.0 | 24.7 | 0.6 | 182.4 | 29.8 | 301.8 |
| 8/29/2016 | 15-1 | late | 0 | 1 | 51 | 571 | 0 | 3 | 11 | 8 | 1 | 0 | 646 | 0.0 | 0.8 | 14.8 | 49.9 | 0.0 | 11.2 | 8.8 | 2.2 | 22.5 | 0.0 | 110.1 |
| 8/30/2016 | 1-2 | late | 0 | 119 | 53 | 67 | 0 | 0 | 11 | 2 | 0 | 0 | 252 | 0.0 | 99.2 | 15.4 | 5.9 | 0.0 | 0.0 | 8.8 | 0.6 | 0.0 | 0.0 | 129.7 |
| 8/30/2016 | 1-1 | late | 7 | 21 | 40 | 190 | 0 | 0 | 1 | 0 | 1 | 0 | 260 | 16.7 | 17.5 | 11.6 | 16.6 | 0.0 | 0.0 | 0.8 | 0.0 | 18.9 | 0.0 | 82.1 |
| 8/31/2016 | 12-1 | late | 3 | 3 | 10 | 31 | 0 | 0 | 35 | 14 | 1 | 0 | 97 | 7.2 | 2.5 | 2.9 | 2.7 | 0.0 | 0.0 | 27.8 | 3.8 | 18.0 | 0.0 | 65.0 |
| 8/31/2016 | 13-1 | late | 1 | 8 | 7 | 45 | 0 | 0 | 2 | 0 | 3 | 1 | 67 | 2.4 | 6.7 | 2.0 | 3.9 | 0.0 | 0.0 | 1.6 | 0.0 | 55.1 | 12.3 | 84.0 |
| 9/1/2016 | 7-2 | late | 0 | 10 | 51 | 130 | 0 | 1 | 48 | 51 | 1 | 0 | 292 | 0.0 | 8.3 | 14.8 | 11.4 | 0.0 | 3.7 | 38.2 | 13.9 | 23.7 | 0.0 | 114.0 |
| 9/1/2016 | 7-1 | late | 1 | 11 | 17 | 53 | 1 | 2 | 101 | 46 | 0 | 0 | 232 | 2.4 | 9.2 | 4.9 | 4.6 | 13.1 | 7.5 | 80.4 | 12.5 | 0.0 | 0.0 | 134.5 |
| 9/5/2016 | 4-2 | late | 0 | 0 | 1 | 38 | 0 | 0 | 0 | 1 | 0 | 0 | 40 | 0.0 | 0.0 | 0.3 | 3.3 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 3.9 |
| 9/5/2016 | 4-1 | late | 0 | 3 | 5 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 0.0 | 2.5 | 1.5 | 4.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.8 |
| 9/6/2016 | 8-2 | late | 1 | 0 | 11 | 12 | 0 | 1 | 7 | 1 | 1 | 2 | 36 | 2.4 | 0.0 | 3.2 | 1.1 | 0.0 | 3.7 | 5.6 | 0.3 | 16.3 | 21.4 | 53.9 |
| 9/6/2016 | 8-1 | late | 3 | 2 | 3 | 15 | 0 | 1 | 10 | 7 | 1 | 0 | 42 | 7.2 | 1.7 | 0.9 | 1.3 | 0.0 | 3.7 | 8.0 | 1.9 | 3.1 | 0.0 | 27.7 |
| 9/7/2016 | 14-2 | late | 0 | 6 | 9 | 47 | 0 | 0 | 28 | 0 | 0 | 0 | 90 | 0.0 | 5.0 | 2.6 | 4.1 | 0.0 | 0.0 | 22.3 | 0.0 | 0.0 | 0.0 | 34.0 |
| 9/7/2016 | 14-1 | late | 0 | 21 | 51 | 226 | 0 | 0 | 15 | 1 | 0 | 0 | 314 | 0.0 | 17.5 | 14.8 | 19.7 | 0.0 | 0.0 | 11.9 | 0.3 | 0.0 | 0.0 | 64.2 |
| 9/8/2016 | 5-2 | late | 0 | 23 | 69 | 254 | 0 | 81 | 6461 | 185 | 0 | 0 | 7073 | 0.0 | 13.8 | 23.6 | 37.4 | 0.0 | 231.5 | 3569.5 | 39.2 | 0.0 | 0.0 | 3914.8 |
| 9/8/2016 | 5-1 | late | 20 | 62 | 80 | 470 | 1 | 12 | 408 | 36 | 1 | 1 | 1091 | 47.8 | 51.7 | 23.2 | 41.1 | 13.1 | 44.8 | 324.6 | 9.8 | 27.2 | 12.1 | 595.2 |
| 9/13/2016 | 6-1 | late | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 9/14/2016 | 10-1 | late | 1 | 41 | 60 | 603 | 0 | 0 | 12 | 6 | 0 | 0 | 723 | 2.4 | 34.2 | 17.4 | 52.7 | 0.0 | 0.0 | 9.6 | 1.6 | 0.0 | 0.0 | 117.8 |
| 9/14/2016 | 11-1 | late | 0 | 12 | 26 | 248 | 0 | 0 | 72 | 23 | 0 | 0 | 381 | 0.0 | 10.0 | 7.5 | 21.7 | 0.0 | 0.0 | 57.3 | 6.3 | 0.0 | 0.0 | 102.7 |
| 9/27/2016 | 16-2 | late | 0 | 0 | 3 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0.0 | 0.0 | 0.9 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 |
| 9/27/2016 | 16-1 | late | 0 | 1 | 1 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 13 | 0.0 | 0.8 | 0.3 | 0.9 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 2.3 |
| 9/28/2016 | 2-1 | late | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 |
| 9/28/2016 | 17-2 | late | 0 | 6 | 1 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 72 | 0.0 | 5.0 | 0.3 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.0 |
| **sum** | all | late | 37 | 362 | 576 | 3538 | 3 | 101 | 7253 | 384 | 12 | 5 | 12271 | 88.4 | 296.4 | 170.5 | 324.2 | 39.2 | 306.0 | 4199.5 | 93.4 | 367.2 | 75.5 | 5960.3 |