Table S2. Sequence divergence and nucleotide composition for the sand flies genera. The frequencies of nucleotides in sequence are presented as the total average values for all Condon positions and for each condon position separately with the accuracy to tenths of a percent.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Especie** | **Total** | | | | | **First codon position** | | | | | **Second codon position** | | | | | **Third codon position** | | | | |
|  | **T%** | **C%** | **A%** | **G%** | **A+T%** | **T%** | **C%** | **A%** | **G%** | **A+T%** | **T%** | **C%** | **A%** | **G%** | **A+T%** | **T%** | **C%** | **A%** | **G%** | **A+T%** |
| *B. beapertuyi* | 34.9 | 19.1 | 29.3 | 16.7 | 64.2 | 23.2 | 18.9 | 27.5 | 30.5 | 50.7 | 41.6 | 25.8 | 15.5 | 17.2 | 57.1 | 39.7 | 12.8 | 44.9 | 2.6 | 84.6 |
| *B. hamata* | 36.0 | 18.4 | 28.8 | 16.9 | 64.8 | 24.0 | 18.0 | 27.5 | 30.5 | 51.5 | 41.6 | 25.8 | 15.5 | 17.2 | 57.1 | 42.3 | 11.3 | 43.4 | 3.0 | 85.7 |
| *B. guimareasi* | 37.4 | 17.7 | 28.4 | 16.5 | 65.8 | 23.6 | 18.5 | 27.5 | 30.5 | 51.1 | 41.6 | 25.8 | 15.5 | 17.2 | 57.1 | 47.0 | 8.8 | 42.2 | 2.0 | 89.2 |
| *B. mesai* | 35.2 | 19.1 | 30.2 | 15.5 | 65.4 | 21.9 | 18.6 | 29.5 | 30.1 | 51.4 | 43.2 | 27.9 | 13.7 | 15.3 | 56.9 | 40.4 | 10.9 | 47.5 | 1.1 | 87.9 |
| *L. antunesi* | 38.0 | 16.2 | 30.0 | 15.9 | 68.0 | 27.3 | 15.7 | 27.9 | 29.2 | 55.2 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 44.7 | 7.7 | 46.4 | 1.3 | 91.1 |
| *L. barretoi majuscula* | 36.2 | 18.3 | 30.2 | 15.2 | 66.4 | 24.9 | 18.0 | 28.8 | 28.3 | 53.7 | 42.5 | 24.9 | 15.5 | 17.2 | 58.0 | 41.3 | 12.1 | 46.3 | 0.3 | 87.6 |
| *L. coutinhoi* | 38.1 | 16.7 | 28.2 | 17.0 | 66.3 | 25.8 | 17.2 | 27.9 | 29.2 | 53.7 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 46.5 | 7.6 | 41.3 | 4.7 | 87.8 |
| *L. bifoliata* | 39.1 | 17.1 | 27.6 | 16.1 | 66.7 | 23.2 | 19.3 | 28.3 | 29.2 | 51.5 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 52.1 | 6.8 | 38.9 | 2.1 | 91.0 |
| *L. carpenteri* | 36.6 | 18.7 | 28.4 | 16.3 | 65.0 | 25.3 | 17.6 | 28.3 | 28.8 | 53.6 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 42.3 | 13.2 | 41.5 | 3.0 | 83.8 |
| *L. carreraithula* | 39.1 | 15.7 | 28.8 | 16.4 | 67.9 | 27.5 | 14.6 | 28.3 | 29.6 | 55.8 | 42.1 | 25.8 | 15.0 | 17.2 | 57.1 | 48.0 | 6.7 | 42.9 | 2.4 | 90.9 |
| *L. cayennensis cayennensis* | 38.0 | 17.0 | 28.1 | 16.9 | 66.1 | 25.3 | 17.2 | 28.3 | 29.2 | 53.6 | 42.5 | 24.9 | 15.5 | 17.2 | 58.0 | 46.2 | 9.0 | 40.6 | 4.3 | 86.8 |
| *L. columbiana* | 35.3 | 19.4 | 28.9 | 16.4 | 64.2 | 24.8 | 17.7 | 28.3 | 29.2 | 53.1 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 39.1 | 15.2 | 42.8 | 2.9 | 81.9 |
| *L. evansi* | 39.7 | 16.9 | 26.9 | 16.6 | 66.6 | 26.2 | 16.3 | 27.9 | 29.6 | 54.1 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 50.7 | 9.1 | 37.2 | 3.0 | 87.9 |
| *L. gomezi* | 37.0 | 18.9 | 27.9 | 16.2 | 64.9 | 24.1 | 18.4 | 27.4 | 30.1 | 51.5 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 44.9 | 13.0 | 40.8 | 1.3 | 85.7 |
| *L. hartmanni* | 38.9 | 16.8 | 28.4 | 16.0 | 67.2 | 24.9 | 17.6 | 28.0 | 29.5 | 52.9 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 49.6 | 7.4 | 41.6 | 1.5 | 91.2 |
| *L. lichyi* | 38.0 | 18.3 | 28.0 | 15.7 | 66.0 | 24.0 | 18.5 | 29.6 | 27.9 | 53.6 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 47.9 | 11.1 | 38.9 | 2.1 | 86.8 |
| *L. longiflocosa* | 39.3 | 16.4 | 28.1 | 16.2 | 67.4 | 28.3 | 14.2 | 27.9 | 29.6 | 56.2 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 47.5 | 9.7 | 40.9 | 1.8 | 88.5 |
| *L. longipalpis* | 38.5 | 17.2 | 27.2 | 17.0 | 65.7 | 27.0 | 15.6 | 27.9 | 29.5 | 54.9 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 46.5 | 10.8 | 38.3 | 4.5 | 84.8 |
| *L. (Lutzomyia)* sp. | 38.7 | 16.0 | 29.6 | 15.7 | 68.3 | 27.5 | 15.9 | 27.0 | 29.6 | 54.5 | 42.1 | 26.2 | 15.5 | 16.3 | 57.6 | 46.6 | 6.0 | 46.2 | 1.3 | 92.8 |
| *L. migonei* | 37.9 | 15.0 | 31.1 | 16.1 | 69.0 | 28.3 | 14.2 | 27.9 | 29.6 | 56.2 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 43.2 | 5.6 | 49.8 | 1.5 | 93.0 |
| *L. nuneztovari* | 36.1 | 19.0 | 29.0 | 15.9 | 65.1 | 24.5 | 17.6 | 28.8 | 29.2 | 53.3 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 41.9 | 14.1 | 42.7 | 1.3 | 84.6 |
| *L. panamensis* | 40.0 | 14.9 | 28.8 | 16.3 | 68.8 | 26.7 | 16.2 | 27.7 | 29.4 | 54.4 | 42.2 | 25.2 | 15.5 | 17.2 | 57.7 | 51.2 | 3.2 | 43.2 | 2.4 | 94.4 |
| *L. pia* | 38.9 | 16.3 | 29.3 | 15.6 | 68.2 | 25.3 | 16.8 | 29.6 | 28.3 | 54.9 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 49.0 | 6.9 | 42.7 | 1.3 | 91.7 |
| *L. reburra* | 38.4 | 16.3 | 29.3 | 16.0 | 67.7 | 27.0 | 15.9 | 27.6 | 29.5 | 54.6 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 46.2 | 7.7 | 44.9 | 1.3 | 91.1 |
| *L. scorzai* | 37.0 | 19.5 | 26.4 | 17.1 | 63.4 | 22.9 | 19.5 | 27.8 | 29.7 | 50.7 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 46.0 | 13.7 | 36.0 | 4.4 | 81.9 |
| *L. (Helcocyrtomyia)* sp.1 | 37.6 | 18.4 | 26.9 | 17.1 | 64.5 | 25.3 | 17.2 | 27.9 | 29.6 | 53.2 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 45.3 | 12.8 | 37.2 | 4.7 | 82.5 |
| *L. shannoni* | 36.7 | 19.4 | 27.6 | 16.3 | 64.3 | 24.5 | 18.5 | 27.5 | 29.6 | 52.0 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 43.6 | 14.5 | 39.7 | 2.1 | 83.3 |
| *L. spinicrassa* | 38.6 | 16.4 | 27.6 | 17.5 | 66.2 | 27.4 | 15.0 | 28.0 | 29.6 | 55.4 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 46.4 | 8.8 | 39.2 | 5.7 | 85.6 |
| *L. sordelli* | 36.8 | 17.9 | 29.1 | 16.3 | 65.9 | 24.3 | 18.5 | 27.7 | 29.6 | 52.0 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 44.0 | 9.8 | 44.0 | 2.1 | 88.0 |
| *L. trapidoi* | 36.8 | 18.8 | 27.7 | 16.8 | 64.5 | 25.9 | 17.1 | 27.5 | 29.6 | 53.4 | 42.0 | 25.3 | 15.6 | 17.1 | 57.6 | 42.5 | 13.9 | 39.9 | 3.7 | 82.5 |
| *L. trinidadensis* | 36.0 | 19.0 | 28.7 | 16.5 | 64.6 | 22.3 | 19.3 | 28.3 | 30.0 | 50.6 | 42.1 | 25.8 | 15.0 | 17.2 | 57.1 | 43.5 | 11.8 | 42.5 | 2.2 | 86.0 |
| *L. triramula* | 37.2 | 17.7 | 28.7 | 16.4 | 65.9 | 26.9 | 15.6 | 27.9 | 29.6 | 54.8 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 42.5 | 12.2 | 42.6 | 2.6 | 85.1 |
| *L. walkery* | 36.6 | 18.1 | 29.0 | 16.3 | 65.6 | 26.2 | 16.3 | 27.9 | 29.6 | 54.1 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 41.5 | 12.8 | 43.6 | 2.1 | 85.1 |
| *L. yuilli yuilli* | 38.5 | 15.3 | 30.1 | 16.1 | 68.6 | 27.0 | 15.9 | 27.5 | 29.6 | 54.5 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 46.5 | 4.8 | 47.2 | 1.6 | 93.7 |
| *L. youngi* | 38.6 | 16.4 | 28.6 | 16.4 | 67.2 | 26.6 | 15.9 | 27.9 | 29.6 | 54.5 | 42.1 | 25.3 | 15.5 | 17.2 | 57.6 | 47.0 | 8.1 | 42.3 | 2.6 | 89.3 |
| *W. rotundipennis* | 38.0 | 15.6 | 29.6 | 16.8 | 67.6 | 27.9 | 15.0 | 27.6 | 29.5 | 55.5 | 42.5 | 24.5 | 15.9 | 17.2 | 58.4 | 43.6 | 7.3 | 45.3 | 3.8 | 88.9 |