**Table S1**. Number and percentage of ovules observed bearing different embryo sacs types in individual plants of five populations of four *Paspalum* species.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Population** | **Plant** | **Ovules (no.)** | **Number (%) of ovules with** | | | |
| **MES** | **AES** | **MES + AES** | **AbES** |
| *P. durifolium* | PD1 | 1 | 30 | 27(90.0) | - | - | 3(10.0) |
|  |  | 2 | 30 | 22(73.3) | - | - | 8(26.7) |
|  |  | 3 | 31 | 28(90.3) | - | 1(3.2) | 2(6.5) |
|  |  | 4 | 30 | 21(70.0) | - | - | 9(30.0) |
|  |  | 5 | 31 | 29(93.5) | - | - | 2(6.5) |
|  | PD2 | 1 | 30 | 28(93.3) | - | - | 2(6.7) |
|  |  | 2 | 30 | 27(90.0) | - | - | 3(10.0) |
|  |  | 3 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 4 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 5 | 30 | 28(93.3) | - | - | 2(6.7) |
|  | PD3 | 1 | 30 | 28(93.3) | - | - | 2(6.7) |
|  |  | 2 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 3 | 31 | 25(80.6) | - | 6(19.4) | - |
|  |  | 4 | 30 | 24(80.0) | - | - | 6(20.0) |
|  |  | 5 | 30 | 28(93.3) | - | - | 2(6.7) |
|  | PD4 | 1 | 30 | 24(80.0) | - | 6(20.0) | - |
|  |  | 2 | 30 | 15(50.0) | - | 4(13.3) | 11(36.7) |
|  |  | 3 | 33 | 30(90.9) | - | - | 3(9.1) |
|  |  | 4 | 30 | 30(100) | - | - | - |
|  |  | 5 | 30 | 30(100) | - | - | - |
|  | PD5 | 1 | 30 | 18(60.0) | - | 3(10.0) | 9(30.0) |
|  |  | 2 | 34 | 30(88.2) | - | 1(2.9) | 3(8.8) |
|  |  | 3 | 30 | 21(70.0) | - | - | 9(30.0) |
|  |  | 4 | 30 | 24(80.0) | - | - | 6(20.0) |
|  |  | 5 | 32 | 31(96.9) | - | 1(3.1) | - |
| *P. ionanthum* | PI1 | 1 | 31 | 28(90.3) | - | - | 3(9.7) |
|  |  | 2 | 30 | 26(86.7) | - | 3(10.0) | 1(3.3) |
|  |  | 3 | 34 | 33(97.19 | - | 1(2.9) | - |
|  |  | 4 | 30 | 30(100) | - | - | - |
|  |  | 5 | 33 | 33(100) | - | - | - |
|  | PI2 | 1 | 30 | 27(90.0) | - | 2(6.7) | 1(3.3) |
|  |  | 2 | 30 | 30(100) | - | - | - |
|  |  | 3 | 31 | 30(96.8) | - | - | 1(3.2) |
|  |  | 4 | 30 | 30(100) | - | - | - |
|  |  | 5 | 30 | 30(100) | - | - | - |
|  | PI3 | 1 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 2 | 30 | 30(100) | - | - | - |
|  |  | 3 | 30 | 30(100) | - | - | - |
|  |  | 4 | 30 | 30(100) | - | - | - |
|  |  | 5 | 30 | 30(100) | - | - | - |
|  | PI4 | 1 | 31 | 30(96.8) | - | - | 1(3.2) |
|  |  | 2 | 37 | 36(97.3) | - | - | 1(2.7) |
|  |  | 3 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 4 | 35 | 34(97.1) | - | - | 1(2.9) |
|  |  | 5 | 32 | 31(96.9) | - | - | 1(3.1) |
|  | PI5 | 1 | 36 | 35(97.2) | - | - | 1(2.8) |
|  |  | 2 | 30 | 30(100) | - | - | - |
|  |  | 3 | 32 | 31(96.9) | - | - | 1(3.1) |
|  |  | 4 | 30 | 30(100) | - | - | - |
|  |  | 5 | 30 | 30(100) | - | - | - |
| *P. regnellii* | PR1 | 1 | 30 | 20(66.7) | - | - | 10(33.3) |
|  |  | 2 | 31 | 23(74.2) | - | - | 8(25.8) |
|  |  | 3 | 30 | 27(90.0) | - | - | 3(10.0) |
|  |  | 4 | 39 | 18(46.2) | - | - | 21(53.8) |
|  |  | 5 | 30 | 24(80.0) | - | - | 6(20.0) |
|  | PR2 | 1 | 30 | 28(93.3) | - | - | 2(6.7) |
|  |  | 2 | 31 | 19(61.3) | - | - | 12(38.7) |
|  |  | 3 | 30 | 28(93.3) | - | - | 2(6.7) |
|  |  | 4 | 30 | 28(93.3) | - | - | 2(6.7) |
|  |  | 5 | 30 | 29(96.7) | - | - | 1(3.3) |
|  | PR3 | 1 | 30 | 26(86.7) | - | - | 4(13.3) |
|  |  | 2 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 3 | 32 | 31(96.9) | - | - | 1(3.1) |
|  |  | 4 | 32 | 31(96.9) | - | - | 1(3.1) |
|  |  | 5 | 31 | 31(100) | - | - | - |
|  | PR4 | 1 | 34 | 33(97.1) | - | - | 1(2.9) |
|  |  | 2 | 37 | 35(94.6) | - | - | 2(5.4) |
|  |  | 3 | 34 | 32(94.1) | - | - | 2(5.9) |
|  |  | 4 | 33 | 30(90.9) | - | - | 3(9.1) |
|  |  | 5 | 32 | 32(100) | - | - | - |
|  | PR5 | 1 | 37 | 36(97.3) | - | - | 1(2.7) |
|  |  | 2 | 30 | 30(100) | - | - | - |
|  |  | 3 | 34 | 30(88.2) | - | - | 4(11.8) |
|  |  | 4 | 33 | 30(90.9) | - | - | 3(9.1) |
|  |  | 5 | 30 | 27(90.0) | - | - | 3(10.0) |
| *P. urvillei* | PU1 | 1 | 34 | 32(94.1) | - | - | 2(5.9) |
|  |  | 2 | 40 | 39(97.5) | - | - | 1(2.5) |
|  |  | 3 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 4 | 33 | 33(100) | - | - | - |
|  |  | 5 | 30 | 27(90.0) | - | - | 3(10.0) |
|  | PU2 | 1 | 32 | 29(90.6) | - | - | 3(9.4) |
|  |  | 2 | 35 | 35(100) | - | - | - |
|  |  | 3 | 30 | 30(100) | - | - | - |
|  |  | 4 | 30 | 29(96.7) | - | - | 1(3.3) |
|  |  | 5 | 31 | 30(96.8) | - | - | 1(3.2) |
|  | PU3 | 1 | 30 | 30(100) | - | - | - |
|  |  | 2 | 30 | 30(100) | - | - | - |
|  |  | 3 | 30 | 30(100) | - | - | - |
|  |  | 4 | 33 | 32(97.0) | - | - | 1(3.0) |
|  |  | 5 | 33 | 33(100) | - | - | - |
|  | PU4 | 1 | 31 | 30(96.8) | - | - | 1(3.2) |
|  |  | 2 | 33 | 33(100) | - | - | - |
|  |  | 3 | 30 | 30(100) | - | - | - |
|  |  | 4 | 32 | 30(93.8) | - | - | 2(6.2) |
|  |  | 5 | 30 | 28(93.3) | - | - | 2(6.7) |
|  | PU5 | 1 | 30 | 30(100) | - | - | - |
|  |  | 2 | 30 | 30(100) | - | - | - |
|  |  | 3 | 35 | 30(100) | - | - | - |
|  |  | 4 | 30 | 30(100) | - | - | - |
|  |  | 5 | 30 | 30(100) | - | - | - |

MES: meiotic embryo sac, AES: aposporous embryo sac; MES+AES: ovules bearing meiotic and aposporous embryo sacs, AbES: absent or undeveloped embryo sac.

**Table S2** Number of pollinated spikelets and seed set for two pollination conditions (self- and open-pollination) during two flowering periods (1st, 2015-2016 and 2nd, 2016-2017) in populations of four *Paspalum* species.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Population** | **Pollination method** | **Period** | **Pollinated**  **Spikelets (no.)** | **Seed set (%)** | | | |
| **Mean** | **Min.** | **Max.** | **CV** |
| *P. durifolium* | PD1 | Self-pollination | 1st | 13,870 | 0.27 | 0.00 | 0.49 | 74.63 |
| 2nd | 12,447 | 0.61 | 0.00 | 1.46 | 102.00 |
| Open-pollination | 1st | 18,155 | 28.09 | 13.84 | 38.50 | 34.11 |
| 2nd | 19,620 | 29.58 | 10.10 | 44.10 | 43.04 |
| PD2 | Self-pollination | 1st | 12,510 | 0.35 | 0.00 | 1.15 | 147.77 |
| 2nd | 17,633 | 0.65 | 0.20 | 1.10 | 62.46 |
| Open-pollination | 1st | 17,537 | 46.30 | 39.80 | 60.30 | 17.88 |
| 2nd | 23,034 | 51.54 | 43.30 | 60.00 | 14.66 |
| PD3 | Self-pollination | 1st | 20,534 | 0.16 | 0.00 | 0.58 | 145.17 |
| 2nd | 17,967 | 0.65 | 0.04 | 2.10 | 133.32 |
| Open-pollination | 1st | 18,470 | 57.90 | 45.87 | 75.91 | 20.12 |
| 2nd | 24,338 | 45.16 | 19.00 | 69.40 | 42.75 |
| PD4 | Self-pollination | 1st | 9,538 | 1.24 | 0.05 | 4.45 | 148.39 |
| 2nd | 10,729 | 0.47 | 0.00 | 1.50 | 128.02 |
| Open-pollination | 1st | 13,059 | 45.52 | 6.14 | 95.37 | 83.83 |
| 2nd | 14,763 | 42.70 | 30.00 | 64.00 | 34.75 |
| PD5 | Self-pollination | 1st | 10,632 | 0.17 | 0.00 | 0.48 | 129.51 |
| 2nd | 20,406 | 1.18 | 0.06 | 3.20 | 107.46 |
| Open-pollination | 1st | 20,748 | 33.17 | 17.6 | 51.22 | 42.53 |
| 2nd | 23,408 | 27.97 | 18.13 | 42.60 | 32.28 |
| *P. ionanthum* | PI1 | Self-pollination | 1st | 896,00 | 1.00 | 0.00 | 3.60 | 152.88 |
| 2nd | 600,00 | 1.00 | 0.00 | 3.60 | 152.26 |
| Open-pollination | 1st | 1,402 | 35.60 | 20.00 | 49.60 | 31.79 |
| 2nd | 1,974 | 23.20 | 3.50 | 39.20 | 61.74 |
| PI2 | Self-pollination | 1st | 1,146 | 0.26 | 0.00 | 1.33 | 223.61 |
| 2nd | 2,289 | 1.22 | 0.00 | 3.58 | 139.84 |
| Open-pollination | 1st | 2,186 | 60.25 | 44.92 | 80.71 | 22.59 |
| 2nd | 4,288 | 31.27 | 15.33 | 51.27 | 44.79 |
| PI3 | Self-pollination | 1st | 1,315 | 4.26 | 0.00 | 21.27 | 223.61 |
| 2nd | 1,324 | 1.36 | 0.00 | 3.55 | 118.00 |
| Open-pollination | 1st | 2,533 | 49.66 | 42.00 | 58.36 | 13.06 |
| 2nd | 1,143 | 58.88 | 29.22 | 75.47 | 29.89 |
| PI4 | Self-pollination | 1st | 1,214 | 0.16 | 0.00 | 0.58 | 223.61 |
| 2nd | 2,549 | 1.10 | 0.00 | 2.91 | 109.53 |
| Open-pollination | 1st | 1,608 | 52.80 | 19.76 | 68.46 | 38.24 |
| 2nd | 2,970 | 39.22 | 30.63 | 46.70 | 15.39 |
| PI5 | Self-pollination | 1st | 1,261 | 2.85 | 0.00 | 9.02 | 123.99 |
| 2nd | 1,969 | 0.71 | 0.00 | 2.21 | 122.51 |
| Open-pollination | 1st | 1,711 | 45.53 | 11.29 | 64.40 | 47.33 |
| 2nd | 2,444 | 27.82 | 15.58 | 41.88 | 42.23 |
| *P. regnellii* | PR1 | Self-pollination | 1st | 15,139 | 8.51 | 0.96 | 15.35 | 73.56 |
| 2nd | 18,527 | 4.96 | 0.33 | 18.13 | 151.33 |
| Open-pollination | 1st | 14,894 | 23.47 | 9.22 | 49.76 | 72.02 |
| 2nd | 18,481 | 34.19 | 16.61 | 58.51 | 52.63 |
| PR2 | Self-pollination | 1st | 13,811 | 25.93 | 12.00 | 46.31 | 54.58 |
| 2nd | 17,928 | 6.19 | 2.62 | 12.95 | 69.72 |
| Open-pollination | 1st | 16,890 | 38.14 | 17.68 | 62.96 | 43.30 |
| 2nd | 15,929 | 44.17 | 18.33 | 68.70 | 41.93 |
| PR3 | Self-pollination | 1st | 12,753 | 12.44 | 0.45 | 31.24 | 101.83 |
| 2nd | 11,263 | 9.74 | 3.62 | 24.75 | 89.48 |
| Open-pollination | 1st | 20,919 | 24.06 | 12.40 | 41.37 | 52.51 |
| 2nd | 18,050 | 28.70 | 9.73 | 62.12 | 72.44 |
| PR4 | Self-pollination | 1st | 12,584 | 10.48 | 1.17 | 29.58 | 110.58 |
| 2nd | 15,553 | 2.34 | 0.16 | 4.83 | 82.49 |
| Open-pollination | 1st | 15,157 | 35.83 | 11.01 | 54.41 | 44.93 |
| 2nd | 18,991 | 20.77 | 1.52 | 35.48 | 63.21 |
| PR5 | Self-pollination | 1st | 12,280 | 25.16 | 11.58 | 37.30 | 41.70 |
| 2nd | 12,978 | 12.47 | 0.13 | 18.34 | 56.92 |
| Open-pollination | 1st | 15,833 | 62.20 | 44.41 | 85.16 | 25.00 |
| 2nd | 15,765 | 37.35 | 0.36 | 63.31 | 69.19 |
| *P. urvillei* | PU1 | Self-pollination | 1st | 9,993 | 44.61 | 20.56 | 84.17 | 56.86 |
| 2nd | 14,976 | 40.75 | 12.06 | 59.80 | 43.60 |
| Open-pollination | 1st | 20,346 | 80.15 | 72.64 | 88.53 | 8.12 |
| 2nd | 29,845 | 59.76 | 31.86 | 83.20 | 30.82 |
| PU2 | Self-pollination | 1st | 9,029 | 30.76 | 1.47 | 58.60 | 67.84 |
| 2nd | 14,994 | 52.99 | 36.37 | 63.98 | 22.00 |
| Open-pollination | 1st | 14,871 | 86.87 | 72.22 | 92.83 | 9.78 |
| 2nd | 31,962 | 74.41 | 44.00 | 93.80 | 29.39 |
| PU3 | Self-pollination | 1st | 9,233 | 38.47 | 11.10 | 71.88 | 68.40 |
| 2nd | 13,788 | 32.75 | 20.90 | 50.48 | 37.07 |
| Open-pollination | 1st | 8,841 | 92.01 | 84.77 | 96.48 | 5.53 |
| 2nd | 21,562 | 64.01 | 51.47 | 89.25 | 25.76 |
| PU4 | Self-pollination | 1st | 10,436 | 33.34 | 6.88 | 75.80 | 75.79 |
| 2nd | 14,567 | 52.22 | 41.10 | 68.40 | 20.77 |
| Open-pollination | 1st | 13,736 | 76.71 | 55.83 | 95.19 | 21.07 |
| 2nd | 29,181 | 69.56 | 64.85 | 75.09 | 6.02 |
| PU5 | Self-pollination | 1st | 10,020 | 31.80 | 21.70 | 40.20 | 24.74 |
| 2nd | 11,706 | 54.44 | 26.05 | 71.70 | 39.28 |
| Open-pollination | 1st | 11,910 | 74.00 | 56.90 | 91.70 | 18.34 |
| 2nd | 23,105 | 66.05 | 52.00 | 85.70 | 21.41 |