**Table S1.** Averages, coefficients of variation, and mean squares of the 77 variables evaluated in the labella of 47 flowers from 11 collections of *V. insignis*.

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Means | Coefficient of variation  | Mean squares |
| Error | Collection  | Environment |
| BASAL REGION |
| A | 29.14 | 8.07 | 5.53 | 25.26\*\*\* | 58.66\*\*\* |
| A1 | 4.19 |  15.25 | 0.41 |  1.40\*\* |  2.53\*\*\* |
| A2 | 29.25 | 9.32 | 7.44 | 25.24\*\* | 59.86\*\*\* |
| A3 | 28.96 | 7.80 | 5.10 | 30.19\*\*\* | 61.31\*\*\* |
| A4 | 28.99 | 9.08 | 6.93 | 23.01\*\* | 44.78\*\*\* |
| A5 | 29.20 | 7.84 | 5.24 | 32.67\*\*\* | 78.31\*\*\* |
| aA | 26.62 | 9.28 | 6.10 | 24.46\*\*\* | 46.79\*\*\* |
| MIDDLE REGION  |
| B | 12.65 | 8.12 | 1.06 | 2.95\*\* | 7.14\*\*\* |
| B1 | 4.74 | 11.35 | 0.29 | 1.20\*\* | 3.12\*\*\* |
| B2 | 12.42 | 13.30 | 2.73 | 8.67\*\* | 17.58\*\*\* |
| B3 | 12.85 | 8.44 | 1.18 | 11.11\*\*\* | 26.59\*\*\* |
| B4 | 12.90 | 10.03 | 1.67 | 6.59\*\*\* | 16.01\*\*\* |
| B5 | 12.65 | 10.46 | 1.75 | 2.43 | 1.63 |
| B6 | 4.78 | 11.27 | 0.29 | 1.18\*\*\* | 2.98\*\*\* |
| B7 | 13.35 | 6.79 | 0.82 | 7.55\*\*\* | 16.26\*\*\* |
| B8 | 12.63 | 10.30 | 1.69 | 8.78\*\*\* | 17.01\*\*\* |
| B9 | 12.70 | 10.53 | 1.79 | 2.56 | 1.74 |
| B10 | 13.64 | 7.39 | 1.02 | 5.34\*\*\* | 10.29\*\*\* |
| aB | 42.00 | 14.85 | 38.89 | 72.57 | 132.02 |
| C | 12.75 | 7.95 | 1.03 | 3.14\*\* | 7.87\*\*\* |
| C1 | 12.85 | 8.44 | 1.18 | 11.11\*\*\* | 26.60\*\*\* |
| C2 | 12.75 | 8.05 | 1.05 | 3.33\*\* | 8.42\*\*\* |
| C3 | 21.13 | 6.16 | 1.69 | 34.89\*\*\* | 104.18\*\*\* |
| C4 | 21.12 | 6.16 | 1.69 | 35.08\*\*\* | 104.30\*\*\* |
| C5 | 12.66 | 8.22 | 1.08 | 3.13\*\* | 7.44\*\*\* |
| C6 | 12.90 | 10.03 | 1.67 | 6.59\*\*\* | 16.01\*\*\* |
| C7 | 20.89 | 7.33 | 2.35 | 38.26\*\*\* | 117.57\*\*\* |
| C8 | 13.64 | 6.03 | 0.68 | 7.60\*\*\* | 14.45\*\*\* |
| C9 | 13.43 | 7.35 | 0.97 | 5.83\*\*\* | 13.00\*\*\* |
| C10 | 21.36 | 5.52 | 1.39 | 33.78\*\*\* | 94.88\*\*\* |
| D | 13.98 | 11.85 | 2.74 | 1.22 | 3.17 |
| D1 | 21.13 | 6.16 | 1.69 | 34.89\*\*\* | 104.18\*\*\* |
| D2 | 13.77 | 10.04 | 1.91 | 6.98\*\* | 22.32\*\*\* |
| D3 | 21.86 | 5.73 | 1.57 | 15.51\*\*\* | 40.99\*\*\* |
| D4 | 21.82 | 6.33 | 1.91 | 19.35\*\*\* | 54.43\*\*\* |
| D5 | 13.75 | 10.30 | 2.00 | 6.79\*\* | 21.78\*\*\* |
| D6 | 21.11 | 6.17 | 1.69 | 34.82\*\*\* | 103.29\*\*\* |
| D7 | 14.70 | 10.03 | 2.17 | 12.20\*\*\* | 32.29\*\*\* |
| D8 | 13.99 | 12.42 | 3.02 | 11.28\*\*\* | 33.01\*\*\* |
| D9 | 13.96 | 12.32 | 2.96 | 11.06\*\*\* | 32.19\*\*\* |
| D10 | 14.84 | 9.62 | 2.04 | 12.38\*\*\* | 33.23\*\*\* |
| aD | 60.33 | 11.53 | 48.35 | 271.26\*\*\* | 711.53\*\*\* |
| aDE22 | 125.87 | 4.21 | 28.03 | 501.46\*\*\* | 1550.66\*\*\* |
| aDE55 | 127.74 | 4.29 | 30.06 | 325.32\*\*\* | 931.87\*\*\* |
| E | 8.27 | 15.67 | 1.68 | 6.73\*\*\* | 21.09\*\*\* |
| E1 | 21.85 | 5.66 | 1.53 | 15.51\*\*\* | 41.02\*\*\* |
| E2 | 10.26 | 12.11 | 1.54 | 8.29\*\*\* | 23.64\*\*\* |
| E3 | 12.16 | 10.20 | 1.54 | 12.85\*\*\* | 30.35\*\*\* |
| E4 | 12.07 | 9.06 | 1.20 | 13.70\*\*\* | 31.27\*\*\* |
| E5 | 10.09 | 12.64 | 1.63 | 4.00\* | 7.43\*\* |
| E6 | 21.83 | 6.46 | 1.99 | 19.35\*\*\* | 54.32\*\*\* |
| E7 | 7.87 | 8.47 | 0.44 | 0.80 | 0.41 |
| E8 | 8.30 | 6.11 | 0.26 | 0.56\* | 0.89\* |
| E9 | 8.41 | 6.34 | 0.28 | 1.21\*\*\* | 1.29\*\* |
| E10 | 8.00 | 7.95 | 0.41 | 0.47 | 0.005 |
| aE | 88.07 | 6.69 | 34.71 | 228.49\*\*\* | 657.35\*\*\* |
| APICAL REGION |
| F | 5.24 | 14.88 | 0.61 | 3.58\*\*\* | 8.34\*\*\* |
| F1 | 12.16 | 10.20 | 1.54 | 12.82\*\*\* | 30.29\*\*\* |
| F2 | 4.42 | 17.64 | 0.61 | 17.58\*\*\* | 48.29\*\*\* |
| F3 | 7.35 | 9.51 | 0.49 | 56.83\*\*\* | 173.75\*\*\* |
| F4 | 7.57 | 9.87 | 0.56 | 58.99\*\*\* | 181.03\*\*\* |
| F5 | 4.31 | 27.73 | 1.43 | 16.80\*\*\* | 46.56\*\*\* |
| F6 | 12.07 | 9.06 | 1.20 | 13.46\*\*\* | 30.63\*\*\* |
| F7 | 7.22 | 17.45 | 1.59 | 49.39\*\*\* | 155.70\*\*\* |
| F8 | 12.30 | 12.77 | 2.46 | 16.59\*\*\* | 36.06\*\*\* |
| F9 | 11.99 | 9.06 | 1.18 | 10.86\*\*\* | 25.51\*\*\* |
| F10 | 7.75 | 9.69 | 0.56 | 64.58\*\*\* | 192.91\*\*\* |
| G | 3.25 | 14.92 | 0.23 | 16.85\*\*\* | 52.67\*\*\* |
| G1 | 7.39 | 9.13 | 0.46 | 58.25\*\*\* | 179.19\*\*\* |
| G2 | 4.57 | 18.15 | 0.69 | 27.84\*\*\* | 84.88\*\*\* |
| G3 | 6.15 | 23.68 | 2.12 | 38.67\*\*\* | 106.01\*\*\* |
| G4 | 4.43 | 19.19 | 0.72 | 24.71\*\*\* | 70.79\*\*\* |
| G5 | 7.58 | 9.97 | 0.57 | 58.92\*\*\* | 180.85\*\*\* |
| G6 | 3.86 | 19.34 | 0.56 | 15.51\*\*\* | 47.06\*\*\* |
| G7 | 33.70 | 21.65 | 0.64 | 14.50\*\*\* | 45.86\*\*\* |
| aG | 76.23 | 15.53 | 140.18 | 6741.81\*\*\* | 21202.41\*\*\* |
| Índice | 0.52 | 9.99 | 0.002 | 0.007\*\* | 0.01\*\*\* |

\* = p≤0.05, \*\*= p≤0.01, \*\*\* = p≤0.001.

**Table S2.** Eigenvalues, eigenvectors, and accumulated proportions of the variation explained by the variables of greater impact (in bold print) on the first three principal components (PC) in the characterization of 11 *V. insignis* collections in five environments.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **Prin1** | **Prin2** | **Prin3** | **Variables** | **Prin1** | **Prin2** | **Prin3** |
| **A** | 0.046 | 0.141 | **0.204** | **E** | -0.078 | **-0.168** | 0.069 |
| **A1** | 0.041 | 0.063 | **0.245** | **E1** | 0.128 | 0.122 | -0.094 |
| **A2** | 0.021 | 0.122 | **0.239** | **E2** | -0.047 | **0.177** | 0.09 |
| **A3** | 0.063 | 0.145 | 0.153 | **E3** | 0.129 | -0.107 | -0.093 |
| **A4** | 0.023 | 0.115 | **0.216** | **E4** | 0.13 | -0.115 | -0.066 |
| **A5** | 0.059 | 0.149 | **0.176** | **E5** | 0.036 | **0.173** | 0.102 |
| **B** | 0.109 | 0.154 | -0.031 | **E6** | 0.146 | 0.092 | -0.055 |
| **B1** | 0.155 | 0.001 | 0.074 | **E7** | -0.051 | 0.001 | -0.022 |
| **B2** | 0.106 | 0.123 | -0.063 | **E8** | 0.126 | -0.033 | -0.072 |
| **B3** | **0.157** | 0.025 | -0.085 | **E9** | 0.12 | -0.026 | -0.082 |
| **B4** | 0.154 | 0.041 | -0.091 | **E10** | -0.002 | -0.012 | -0.009 |
| **B5** | 0.048 | 0.084 | 0.009 | **F** | -0.093 | 0.054 | **-0.165** |
| **B6** | 0.155 | 0.01 | 0.068 | **F1** | 0.129 | -0.107 | -0.094 |
| **B7** | 0.151 | 0.066 | -0.061 | **F2** | 0.1 | -0.077 | **0.23** |
| **B8** | 0.106 | 0.132 | -0.048 | **F3** | 0.13 | -0.11 | 0.125 |
| **B9** | 0.052 | 0.081 | 0.013 | **F4** | 0.133 | -0.106 | 0.126 |
| **B10** | 0.147 | 0.049 | -0.086 | **F5** | 0.091 | -0.077 | **0.245** |
| **C** | 0.116 | 0.146 | -0.036 | **F6** | 0.129 | -0.114 | -0.067 |
| **C1** | **0.157** | 0.025 | -0.085 | **F7** | 0.126 | -0.1 | 0.152 |
| **C2** | 0.112 | 0.153 | -0.031 | **F8** | 0.116 | -0.112 | -0.093 |
| **C3** | **0.156** | 0.042 | -0.095 | **F9** | 0.14 | -0.101 | -0.068 |
| **C4** | **0.156** | 0.041 | -0.095 | **F10** | 0.13 | -0.111 | 0.122 |
| **C5** | 0.112 | 0.152 | -0.03 | **G** | 0.134 | -0.125 | 0.037 |
| **C6** | 0.154 | 0.041 | -0.091 | **G1** | 0.13 | -0.111 | 0.122 |
| **C7** | **0.157** | 0.047 | -0.075 | **G2** | 0.114 | -0.147 | 0.078 |
| **C8** | 0.151 | 0.035 | -0.079 | **G3** | 0.128 | -0.05 | **0.187** |
| **C9** | 0.142 | 0.093 | -0.024 | **G4** | 0.132 | -0.114 | 0.08 |
| **C10** | 0.153 | 0.032 | -0.113 | **G5** | 0.133 | -0.106 | 0.127 |
| **D** | -0.104 | 0.129 | 0.089 | **G6** | 0.129 | -0.097 | 0.143 |
| **D1** | **0.156** | 0.042 | -0.095 | **G7** | 0.138 | -0.093 | 0.124 |
| **D2** | 0.025 | **0.204** | -0.027 | **aA** | 0.108 | -0.062 | 0.016 |
| **D3** | 0.128 | 0.123 | -0.092 | **aB** | 0.091 | -0.091 | 0.11 |
| **D4** | 0.146 | 0.091 | -0.058 | **aD** | 0.096 | **-0.156** | -0.041 |
| **D5** | 0.025 | **0.204** | -0.025 | **aDE22** | 0.07 | **-0.18** | 0.043 |
| **D6** | 0.155 | 0.041 | -0.095 | **aDE55** | 0.012 | **-0.207** | -0.065 |
| **D7** | 0.071 | **0.18** | 0.042 | **aE** | 0.155 | -0.035 | -0.072 |
| **D8** | 0.005 | **0.191** | 0.049 | **aG** | 0.065 | 0.007 | **0.308** |
| **D9** | 0.005 | **0.191** | 0.045 | **index** | -0.005 | 0.152 | **0.234** |
| **D10** | 0.083 | **0.17** | 0.038 |
| **Eigenvalue** | 35.35 | 21.55 | 8.2 |
| **Proportion** | 0.46 | 0.28 | 0.11 |
| **Accumulated** | 0.46 | 0.74 | 0.85 |