Supplement

Table S1. DSCF Pairwise comparison of height distribution of aroids species

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **antpen** | **monacu** | **montub** | **phihed** | **phiina** | **phisag** | **phiseg** | **phitri** | **rhowen** | **synchi** | **synpod** |
| antfle | < .001 | < .001 | 0.003 | < .001 | < .001 | < .001 | < .001 | < .001 | < .001 | < .001 | < .001 |
| antpen |  | 1 | 1 | < .001 | 0.335 | < .001 | < .001 | < .001 | 1 | < .001 | < .001 |
| monacu |  |  | 1 | < .001 | 0.728 | < .001 | < .001 | < .001 | 1 | < .001 | < .001 |
| montub |  |  |  | < .001 | 0.596 | < .001 | < .001 | < .001 | 1 | < .001 | < .001 |
| phihed |  |  |  |  | < .001 | 0.352 | 0.096 | < .001 | < .001 | 0.132 | < .001 |
| phiina |  |  |  |  |  | 0.004 | < .001 | 0.009 | 0.274 | < .001 | 0.018 |
| phisag |  |  |  |  |  |  | 1 | 0.751 | < .001 | 1 | 0.757 |
| phiseg |  |  |  |  |  |  |  | 0.01 | < .001 | 1 | 0.005 |
| phitri |  |  |  |  |  |  |  |  | < .001 | 0.098 | 1 |
| rhowen |  |  |  |  |  |  |  |  |  | < .001 | < .001 |
| synchi |  |  |  |  |  |  |  |  |  |  | 0.214 |

Table S2. Correlation Matrix of Pearson Correlation Coefficients

|  |
| --- |
|  | **Statistic metric** | **Total plant length** | **Shoot apex height** | **Ontogenetic class** |
| Total plant length |  | Pearson's r |  | — |  |   |  |   |  |
|   |  | p-value |  | — |  |   |  |   |  |
| Shoot apex height |  | Pearson's r |  | 0.924 |  | — |  |   |  |
|   |  | p-value |  | < .001 |  | — |  |   |  |
| Ontogenic class |  | Pearson's r |  | 0.653 |  | 0.664 |  | — |  |
|   |  | p-value |  | < .001 |  | < .001 |  | — |  |
|  |

 Table S3. DSCF Pairwise comparison of host size distribution of each aroid species (DBH ≥ 1 cm)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **antpen** | **monacu** | **montub** | **phihed** | **phiina** | **phisag** | **phiseg** | **phitri** | **rhowen** | **synchi** | **synpod** |
| antfle | 1 | < .001\* | < .001\* | < .001\* | 1 | < .001\* | < .001\* | < .001\* | 0.047\* | < .001\* | < .001\* |
| antpen |  | < .001\* | < .001\* | < .001\* | 1 | < .001\* | < .001\* | < .001\* | 0.856 | < .001\* | < .001\* |
| monacu |  |  | < .001\* | < .001\* | 0.004\* | < .001\* | < .001\* | 0.976 | < .001\* | 0.493 | 1 |
| montub |  |  |  | 0.003\* | < .001\* | 0.997 | 1 | 0.008\* | < .001\* | 0.994 | < .001\* |
| phihed |  |  |  |  | < .001\* | 0.886 | 0.003\* | < .001\* | < .001\* | 0.029\* | < .001\* |
| phiina |  |  |  |  |  | < .001\* | < .001\* | < .001\* | 1 | 0.001\* | 0.006\* |
| phisag |  |  |  |  |  |  | 0.987 | 0.017\* | < .001\* | 0.87\* | 0.001\* |
| phiseg |  |  |  |  |  |  |  | 0.09 | < .001\* | 1 | 0.001\* |
| phitri |  |  |  |  |  |  |  |  | < .001\* | 0.952 | 0.993 |
| rhowen |  |  |  |  |  |  |  |  |  | < .001\* | < .001\* |
| synchi |  |  |  |  |  |  |  |  |  |  | 0.517 |

Table S4. Predicted probability of ontogenetic class establishment as a function of host DBH (cm) (a) and host density (b), based on the multinomial logistic regression model (Overall model fit: AIC = 6453, R² McF = 0.038, χ² = 251, df = 4, *p* = 0.001). Ontogenetic class 1 was used as a reference level. The significant predictor is shown in bold.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Ontogenic class** | **Predictor** | **Estimate** | **SE** | **Z** | **p** | **Odds ratio** | **95% CI** |
| 2-1  | Intercept | -0.46582 | 0.11545 | -4.035 | < .001 | 0.628 | [0.501, 0.787] |
|  | Host DBH (cm) | 0.01083 | 0.003 | 3.606 | **< .001** | **1.011** | [1.005, 1.017] |
|  | Host density | -0.0089 | 0.00885 | -1.005 | 0.315 | 0.991 | [ 0.974, 1.008] |
| 3-1 | Intercept | -1.33295 | 0.13371 | -9.969 | < .001 | 0.264 | [0.203, 0.343] |
|  | Host DBH (cm) | 0.04007 | 0.00281 | 14.262 | **< .001** | **1.041** | [1.035,1.047] |
|  | Host density | -0.00511 | 0.01017 | -0.502 | 0.615 | 0.995 | [0.975, 1.1015] |

Table S5. Abundance of each aroid species found on four hosts different life forms in two different years. Observed values are shown in bold, and expected values are shown in italics. An association test was performed between species and host life forms (χ² = 568, p = 0.001)

|  |  |  |
| --- | --- | --- |
|   |   | Life forms of hosts |
|   |   | Liana | Palm | Shrub | Tree |
| Aroid species |   | 2020 | 2022 | 2020 | 2022 | 2020 | 2022 | 2020 | 2022 |
| no colonization | Observed | **25** | **25** | **606** | **656** | **67** | **74** | **759** | **801** |
| Expected | *20* | *23* | *571* | *600* | *48* | *53* | *818* | *880* |
| Anthurium flexile  | Observed | **4** | **4** | **147** | **128** | **9** | **8** | **115** | **98** |
| Expected | *4* | *3* | *106* | *92* | *9* | *8* | *152* | *135* |
| *Anthurium pentaphyllum* | Observed | **5** | **4** | **43** | **35** | **2** | **2** | **68** | **52** |
| Expected | *2* | *1* | *46* | *36* | *4* | *3* | *66* | *53* |
| *Monstera acuminata* | Observed | **7** | **6** | **142** | **102** | **10** | **3** | **253** | **201** |
| Expected | *6* | *5* | *162* | *120* | *14* | *11* | *231* | *177* |
| *Monstera tuberculata* | Observed | **2** | **1** | **51** | **38** | **2** | **1** | **211** | **193** |
| Expected | *4* | *3* | *104* | *90* | *9* | *8* | *149* | *132* |
| *Philodendron hederaceum* | Observed | **0** | **0** | **14** | **10** | **6** | **3** | **92** | **84** |
| Expected | *1.5* | *1* | *43.9* | *37* | *3.7* | *3* | *62.9* | *55* |
| *Philodendron inaequilaterum* | Observed | **0** | **1** | **8** | **7** | **0** | **0** | **15** | **8** |
| Expected | *0* | *0* | *9* | *6* | *1* | *1* | *13* | *9* |
| *Philodendron sagittifolium* | Observed | **0** | **0** | **5** | **6** | **1** | **1** | **30** | **22** |
| Expected | *0* | *0* | *14* | *11* | *1* | *1* | *20* | *16* |
| *Philodendron seguine* | Observed | **2** | **1** | **30** | **14** | **0** | **0** | **111** | **80** |
| Expected | *2* | *1* | *56* | *37* | *5* | *3* | *80* | *54* |
| *Philodendron tripartitum* | Observed | **0** | **0** | **5** | **5** | **4** | **4** | **48** | **43** |
| Expected | *1* | *1* | *22* | *20* | *2* | *2* | *32* | *29* |
| *Rhodospatha wendlandii* | Observed | **3** | **4** | **263** | **182** | **8** | **7** | **142** | **118** |
| Expected | *6* | *5* | *163* | *120* | *14* | *11* | *234* | *176* |
| *Syngonium chiapense* | Observed | **0** | **0** | **13** | **8** | **0** | **0** | **39** | **27** |
| Expected | *1* | *1* | *20* | *13* | *2* | *1* | *29* | *20* |
| *Syngonium podophyllum* | Observed | **0** | **0** | **49** | **26** | **6** | **5** | **91** | **59** |
| Expected | *2* | *1* | *57* | *35* | *5* | *3* | *82* | *51* |