**Online-only Table 1. Available trait information in PalmTraits 1.0.** The ‘header’ column gives the column names of the trait dataset which is provided as a tab-limited text file1. The other information summarizes the description, category of the thesaurus of plant characteristics (TOP)2, data type, unit and species coverage information (number and percentage) of the taxonomy and trait data.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Header** | **Description** | **TOP**  **category** | **Type** | **Unit** | **Coverage (# species)** | **Coverage (% species)** |
| *Taxonomy* |  |  |  |  |  |  |
| SpecName | Taxonomic name of species (binomial nomenclature) following the World Checklist of palms3 | - | Text | - | 2557 | 100 |
| accGenus | Accepted genus name from the World Checklist of palms3 | - | Text | - | 2557 | 100 |
| accSpecies | Accepted species name from the World Checklist of palms3 | - | Text | - | 2557 | 100 |
| PalmTribe | Name of palm tribe from the World Checklist of palms3 | - | Text | - | 2557 | 100 |
| PalmSubfamily | Name of palm subfamily from the World Checklist of palms3 | - | Text | - | 2557 | 100 |
|  |  |  |  |  |  |  |
| *Growth form and habit* |  |  |  |  |  |  |
| Climbing | Whether palm species has climbing habit or not, or both if populations vary in this trait | whole plant growth form | Binary | Climbing (1), non-climbing (0), both (2) | 2557 | 100 |
| Acaulescent | Whether palm species has an acaulescent growth form (leaves and inflorescence rise from the ground, i.e. lacking a visible aboveground stem) or not, or both if populations vary in this trait | whole plant growth form | Binary | Acaulescent (1), non-acaulescent (0), both (2) | 2557 | 100 |
| Erect | Whether palm species has an erect stem (rather than an acaulescent or climbing growth form) or not, or both if local populations vary in this trait | whole plant growth form | Binary | Erect (1), non-erect (0), both (2) | 2559 | 100 |
| StemSolitary | Whether stems are solitary (single-stemmed) or clustered (with several stems), or both if populations vary in this trait | - | Binary | Solitary (1), non-solitary (0), both (2) | 2182 | 85 |
|  |  |  |  |  |  |  |
| *Armature* |  |  |  |  |  |  |
| StemArmed | Whether bearing some form of spines at the stem or not, or both if populations vary in this trait | - | Binary | Armed (1), non-armed (0) | 2502 | 98 |
| LeavesArmed | Whether bearing some form of spines on the leaves or not, or both if populations vary in this trait | - | Binary | Armed (1), non-armed (0) | 2437 | 95 |
|  |  |  |  |  |  |  |
| *Stem size* |  |  |  |  |  |  |
| MaxStemHeight\_m | Maximum stem height | whole plant height | Continuous | m | 2110 | 83 |
| MaxStemDia\_cm | Maximum stem diameter | - | Continuous | cm | 1954 | 76 |
| UnderstoreyCanopy | Understory palms are defined as short-stemmed palms with a maximum stem height ≤ 5 m or an acaulescent growth form, canopy palms with maximum stem height > 5, following classification in ref4 | - | Categorical | Understory, canopy, both | 2291 | 90 |
|  |  |  |  |  |  |  |
| *Leaf* |  |  |  |  |  |  |
| MaxLeafNumber | Maximum number of leaves | - | Count | - | 1305 | 51 |
| Max\_Blade\_Length\_m | Maximum length of the blade (the flat expanded part of a leaf as distinguished from the petiole) | leaf length trait | Continuous | m | 1897 | 74 |
| Max\_Rachis\_Length\_m | Maximum length of the rachis (the axis of the leaf beyond the petiole) | leaf length trait | Continuous | m | 1531 | 60 |
| Max\_Petiole\_length\_m | Maximum length of the petiole (the stalk of the leave) | petiole length | Continuous | m | 1209 | 47 |
|  |  |  |  |  |  |  |
| *Fruit* |  |  |  |  |  |  |
| AverageFruitLength\_cm | Average length of the fruit as provided in a monograph or species description | dispersule length | Continuous | cm | 2052 | 80 |
| MinFruitLength\_cm | Minimum fruit length as provided in a monograph or species description | dispersule length | Continuous | cm | 906 | 35 |
| MaxFruitLength\_cm | Maximum fruit length as provided in a monograph or species description | dispersule length | Continuous | cm | 916 | 36 |
| AverageFruitWidth\_cm | Average width of the fruit as provided in a monograph or species description | dispersule width | Continuous | cm | 1993 | 78 |
| MinFruitWidth\_cm | Minimum fruit width as provided in a monograph or species description | dispersule width | Continuous | cm | 994 | 39 |
| MaxFruitWidth\_cm | Maximum fruit width as provided in a monograph or species description | dispersule width | Continuous | cm | 1002 | 39 |
| FruitSizeCategorical | Species classified into small-fruited palms (fruits < 4 cm in length) and large-fruited palms (fruits ≥ 4 cm in length), following ref4 | - | Categorical | small, large | 2052 | 80 |
| FruitShape | Description of fruit shape as provided in a monograph or species description | - | Categorical | Ellipsoid, elongate, fusiform, globose, ovoid, pyramidal, rounded | 1791 | 70 |
| FruitColorDescription | Verbatim description of fruit color (e.g. red to dark purple, green to orange to red, purple-brown) as provided in a monograph or species description | - | Descriptive | - | 1848 | 72 |
| MainFruitColors | Main fruit colors summarized from fruit color descriptions (black, yellow, orange, red, purple etc.) | - | Descriptive | - | 1799 | 70 |
| Conspicuousness | Main fruit colors classified into conspicuous colors (e.g. orange, red, yellow, pink, crimson, scarlet) vs. cryptic colors (brown, black, green, blue, cream, grey, ivory, straw-coloured, white, purple) | - | Categorical | conspicuous, cryptic | 1799 | 70 |

**References**

1 Kissling, W. D. *et al.* Data from: PalmTraits 1.0, a species-level functional trait database for palms worldwide. *Dryad*, doi:TO BE PROVIDED (2019).

2 Garnier, E. *et al.* Towards a thesaurus of plant characteristics: an ecological contribution. *Journal of Ecology* **105**, 298–309, doi:10.1111/1365-2745.12698 (2017).

3 Govaerts, R. & Dransfield, J. *World checklist of palms*. (Royal Botanic Gardens Kew, 2005).

4 Onstein, R. E. *et al.* Frugivory-related traits promote speciation of tropical palms. *Nature Ecology & Evolution* **1**, 1903–1911, doi:10.1038/s41559-017-0348-7 (2017).