The “Magnoliaceae” .csv file saves the data recorded for leaf size, and vein and areole measurements taken for nine Magnoliaceae species. The leaves were sampled at Nanjing Forestry University campus and Nanjing Botanical Garden, Chinese Academy of Sciences, Nanjing, China in 2019 and 2020.

The first column, “SpeciesCode”, provides the codes of the nine Magnoliaceae species:

1 represents *Magnolia amoena*;

2 represents *Magnolia denudate*;

3 represents *Magnolia soulangeana*;

4 represents *Magnolia tomentosa*;

5 represents *Michelia cavaleriei* var. *platypetala*;

6 represents *Michelia chapensis*;

7 represents *Michelia compressa*;

8 represents *Michelia figo*;

9 represents *Michelia maudiae*.

The second column, “L”, provides the leaf lamina length in cm, which represents the maximum distance between two points on the lamina’s boundary. It is approximately equal to the midrib length given the good bilateral symmetry of the leaf laminas reported for the family.

The third column, “W”, is the leaf lamina width in cm, which is defined as the maximum distance of any two points on the lamina’s boundary perpendicular to the straight line connecting the lamina apex and the attachment point of the petiole.

The fourth column, “A”, is the leaf lamina area in cm2.

The fifth column, “TVL”, is the total leaf vein length in cm, which is defined as the total length of different orders of leaf veins.

The sixth column, “TVA”, is the total leaf vein area in cm2.

The seventh column, “MAA”, is the mean areole area in cm2, which is defined as the mean of individual areole sizes per leaf.

The eighth column, “NumberAreoles”, is the number of areoles per leaf.

The total areole area (TAA) per leaf is defined as MAA×NumberAreoles; the areole density is defined as NumberAreoles/A.