# Forest plots along elevation gradient in Taiwan (MQU dataset)

## Source of data

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## Description of the dataset

In autumn 2014, we sampled woody species (DBH > 1 cm) in nine forest plots in the northern part of Taiwan, and also collected leaves from selected tree individuals and measured a set of basic leaf traits. The main purpose was to get familiar with the trait-based approach in the study of forest vegetation since we haven't had the experience with it before. The localities were selected to cover a wide elevation gradient of three vegetation zones. Apart to measured elevation, we also collected soil samples and measured soil pH. The working name of the dataset is MQU, composed of abbreviation of the three vegetation zones it covers: M = M*achilus-Castanopsis* zone, Q = Q*uercus* zone (lower cloud forest), U = *Chamaecyparis* zone (upper cloud forest).

## Locality

We have chosen nine localities with natural forest in the Northern part of Taiwan, at elevation between 800 and 2100 m asl.

## Environmental variables

| Name of variable | Description |
|---|---|
| Elevation | Elevation (m asl) |
| pH | Soil pH (measured in water solution) |

## Leaf traits

| Name of variable | Description |
|---|---|
| SLA | Specific leaf area |
| LDMC | Leaf dry matter content |
| LT | Leath thickness |
| LA | Leaf area (Fig. 3) |
| SSD | Specific stem density (wood density)(Fig. 1) |

## Description of localities

| Name of variable | Description |
|---|---|
| Locality code | M01-U03 (M for Machilus-Castanopsis zone, Q for Quercus zone, and U for upper cloud zone) |
| Locality name | Geographical name of the locality |
| Date of vegetation sampling | Date |

| Name of variable | Description |
|---|---|
| Latitude | Latitude (format DD.DDDDDD) |
| Longitude | Longitude (format DD.DDDDDD) |

## Data for download

| File name | File type | Description |
|---|---|---|
| MQU_woody_species_traits.xlsx | Excel file | Contains species × sample matrix (sheet *spe*), environmental variables (*env*), measured leaf traits (*traits*), description of localities (*loc*) and explanation |
| MQU_spe.txt | Tab-delimited txt format | Species composition data (89 species in columns, 9 samples in rows, importance value index for individual woody species (calculated from basal area and tree density in the plot). Only species for which traits were measured are included. |
| MQU_env.txt | Tab-delimited txt format | Environmental variables (two variables in columns, 9 samples in rows) |
| MQU_traits.txt | Tab-delimited txt format | Leaf traits of woody species (89 species in rows, 5 traits in columns; for each species at least tree leaves from one individual were collected and measured according to Peres-Harguindeguy et al. (2013) |
| MQU_loc.txt | Tab-delimited txt format | Description of localities |

## Script for direct import of data to R

```
mqu_spe <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/MQU_spe.txt',
row.names = 1)
mqu_env <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/MQU_env.txt',
row.names = 1)
mqu_traits <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/MQU_traits.txt
', row.names = 1)
mqu_loc <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/MQU_loc.txt')
```



Figure 1: Woody (Ching-Feng Li) collecting our first wood core within this project (September 17, 2014, photo: D. Zelený)



Figure 2: Woody collecting specimens in Tamanshan plot (U01; October 14, 2014; photo: D. Zelený)



Figure 3: David Zelený measuring traits of Fatsia polycarpa (this leaf was really a big one; October 17, 2014; photo: Ching-Feng Li)

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