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DATA PAPER

NEW PLANT TRAIT RECORDS OF THE HUNGARIAN FLORA

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Canopy height, leaf area (LA), specific leaf area (SLA) and leaf dry matter content (LDMC) data of 210 species of the Hungarian flora resulting from our field sampling are presented in this data paper.

Trait-based approach is a more and more widely used tool in ecological studies (Díaz *et al.* 2016, Götzenberger *et al*. 2012, McGill *et al*. 2006). Using traits instead of species identities can lead to a better understanding of the mechanisms underlying the observed patterns and processes of communities. Trait-based approach may also help in finding general rules that are valid for communities building from different species pools (Fortunel *et al.* 2014), and using this approach quantitative comparisons can be made between communities that have no species in common (Webb *et al.* 2010).

In a recent research project (Lhotsky *et al*. 2016) we collected plant trait data to explore the changes in the importance of community assembly rules along environmental gradients. Although large international efforts have been made to build more and more complete trait databases, and several databases and datasets are accessible (*e.g.* LEDA (Northwest European flora, Kleyer *et al*. 2008), TRY (global, Kattge *et al*. 2011), BiolFlor (German flora, Kühn *et al*. 2004), BROT (flora of the Mediterranean Basin, Paula *et al*. 2009), GLOPNET (global, Wright *et al*. 2004), The Ecological Flora of the British Isles (Fitter and Peat 1994)), several species of the Hungarian flora – especially endemic species and species with continental range – were missing from them. To collect trait data of these missing species we carried out field samplings in 2011–2015.

Here we present canopy height, leaf area (LA), specific leaf area (SLA) and leaf dry matter content (LDMC) data of 210 species of the Hungarian flora resulting from our field sampling. During the field and the laboratory measurements we followed the standard protocols of the LEDA database (Kleyer *et al*. 2008, Knevel *et al*. 2003) and the suggestions of Cornelissen *et al*. (2003). We measured the canopy height (i.e. the height of the foliage) of 25 or more randomly selected robust, well-grown individuals of the species in the field, then collected two mature and intact leaves from ten individuals for laboratory measurements. In case of leafless plants (*e.g. Ephedra distachya*) a younger shoot was collected. The fresh weight of the whole leaves (including petiole and rachis) was measured either shortly after field sampling or after a 12-hour-long rehydration. Then leaves were scanned at 300 DPI and their projected area was calculated from the raster image using Lafore analysing software (free software, Veiko Lehsten, University of Oldenburg). In case of rolled-up leaves (*e.g. Festuca vaginata*) or shoots (*e.g. Equisetum* species) we calculated the upper half of the circumference by multiplying the projected area by pi/2. After the scanning process, leaves were dried in oven at 60 °C for 72 hours, then their dry mass was measured. For calculating SLA the one-sided area of the fresh leaves (LA) was divided by their oven-dry mass, for calculating LDMC their dry mass was divided by their fresh weight. For more information and for the datasets see Appendix 1–6.

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ELECTRONIC SUPPLEMENTS

Appendix 1. ReadMe file describing the data files accompanying the above publication

Appendix 2. Canopy height data of the species

Appendix 3. Leaf area data of the species

Appendix 4. Specific leaf area of the species

Appendix 5. Leaf dry matter content data of the species

Appendix 6. Map of Hungary with the geographical subregions