– sPlot Letter No. 2 –

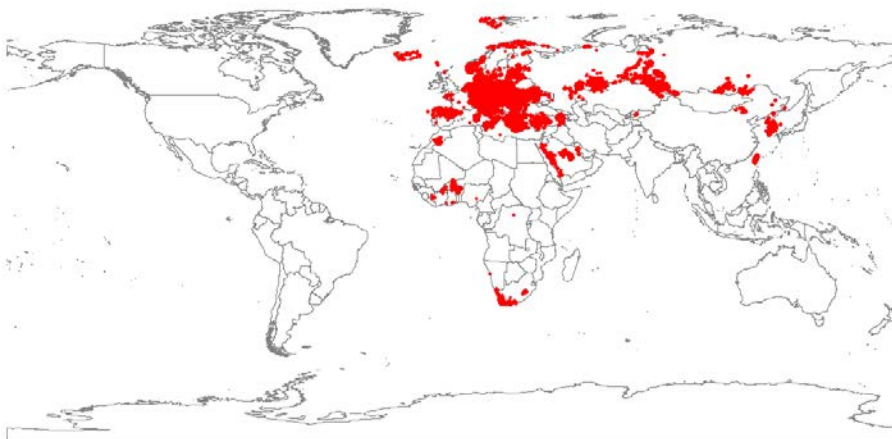Dear members of the sPlot Consortium,

We are happy to inform you that the **sPlot project** developed dynamically and very positively since we distributed the first sPlot Letter in January this year:

sPlot developments from January – November 2014

- The numbers of **sPlot Consortium** members has steadily grown, mainly in terms of custodians of contributing databases, but also some data managers and specialists for complex analyses have been co-opted. We cordially welcome the new members, whether they directly joined with their database, indirectly through EVA or they became co-opted as database managers and data analysts.

- As you can see in the head of this letter, the sPlot project has now a nice **logo**, which evolved from intensive discussions of the sPlot Steering Committee with a graphic designer. It combines different elements that signify the globe, the plants and three matrices, reflecting data in general and the "fourth-corner problem" in particular. The logo is available in four different versions to meet different needs.

- The **sPlot homepage** (http://www.idiv.de/sdiv/workshops/workshops-2013/splot) is regularly updated and provides important background information as well as presentations and other documents for download.

- Our decision to establish the sPlot Database together with **Stephan Hennekens** (Alterra, Wageningen, The Netherlands) on his **prototype software Turboveg 3** that is able to combine multiple Turboveg 2 databases as datasets within one combined "hyper-database", proved to be very fruitful. Turboveg 3 is able to handle multiple taxonomies coming from different source databases as well as the rights management for individual plots. Since the **European Vegetation Archive** (EVA; http://euroveg.org/eva-database) as the largest data contributor to sPlot also uses Turboveg 3, data transfer from EVA has been very convenient.

- During a small workshop in April 2014, Stephan Hennekens, Helge Bruelheide, Ute Jandt, Jürgen Dengler, Florian Jansen and Marco Schmidt prepared the first few extra-European plot databases to be joined with a big fraction of the EVA databases to form the sPlot Database. With that, the **sPlot Database became live**. Since then we prepared and added step by step additional extra-European databases whose custodians had agreed with the sPlot Rules. As staff and money for data preparation and import have been limited, we had

to set priorities and included first those databases that were either particularly big or covered continents and biomes otherwise not well represented. We apologize to those database custodians who already agreed with data provision and whose data have yet to be imported.

- By end of August 2014, the sPlot Database already contained **approx. 565,000 relevés from 52 countries and 56 source databases.** For the original and core topic of the sPlot Workshop, it is also important to note that combining these plot data with **trait data from the TRY database** (www.try-db.org/) yielded better overlaps than expected, which is very promising for the forthcoming analyses (for more details, see http://www.idiv.de/sdiv/workshops/workshops-2013/splot/materials/content_56450/sPlot_2014-09-02_Perth_corrected.pdf).

Fig. 1: Geographic distribution of vegetation plots from Europe, Asia and Africa that were contained in the sPlot Database on 21 August 2014.

- Recently, we were able to achieve formal agreements with **three big supranational to continental databases, whose data will soon become available** in sPlot, which then will be a truly global database with plots from all biomes and all continents: **BIEN3** (the Americas), **BIOTA-South** (South Africa and Namibia, later possibly further countries in Southern Africa) and **AEKOS** (Australia).

- Jürgen Dengler presented sPlot with **talks at two international conferences**: (i) at the 13th Workshop Vegetation Databases, 24–26 February 2014, in Koblenz, Germany; (ii) at the 57th Annual Symposium of the International Association for Vegetation Science (IAVS), 1–5 September 2014, in Perth, Australia. Furthermore, Oliver Purschke will present sPlot as a poster, in combination with a lightning talk, at the International Biogeography Society (IBS) biennial meeting, 8–12 January 2015 in Bayreuth, Germany.

2nd sPlot Workshop, 2–6 December 2014 in Leipzig

In two weeks, the **2nd sPlot Workshop** will be held at the German Centre for Integrative Biodiversity Research (iDiv) in Leizpig, Germany, from 2–6 December, with a pre-workshop meeting for the sPlot Steering Committee and some other colleagues on 1 December. Through the project funding of the German Research Foundation (DFG), we were able to invite a total of 28 participants, mainly data analysts and representatives of a few major databases, from all around the world. Please accept our apologies if you are not among the invited colleagues: our resources in terms of money and space simply did not allow for more; we are already one of the largest of all sDiv workshops. However, being not invited to this first data exploration

workshop, does, of course, not exclude you from becoming invited to future workshops. We hope for your understanding.

The major aims of this workshop will be to prepare the plot data from sPlot for analyses, combine them with the information on the most common plant traits in TRY and then start first plot-based trait analyses along environmental gradients across the world's biomes. Prior to the workshop, Stephan Hennekens, Helge Bruelheide, Jürgen Dengler, Oliver Purschke and Jens Kattge will be busy to ensure that as many trait, plot and environmental data as possible will be available during the workshop and are already pre-processed to allow for efficient analyses. The workshop will mainly consist of break-out groups in which smaller teams will work hands-on with the data and draft the first three sPlot manuscripts.

The workshop will focus on the following points:

1. Establish/deepen collaborations and "data pipelines" with the related projects EVA, BIEN3 and TRY
2. Identify problems and gaps with the sPlot and TRY data and their intersection and develop solutions for that
3. Work on three major publications for international journals
4. Discuss the future expansion of sPlot

Proposed outputs of the workshop are (preliminary):

1. Paper describing the data available in sPlot, their properties and their utility as well as their intersection with TRY data
2. "Idea and Perspectives" paper that elaborates the conceptual framework on which the sPlot research is based, i.e. that presents hypotheses how trait-environment relationships change across biomes, productivity and disturbance gradients.
3. Paper that quantifies the extent to which plot-scale environment-trait (e.g. means, range, variability) relationships change across major climatic and biogeographic gradients using the data of (1) and testing the hypotheses of (2).

After the workshop and future of the sPlot project

From iDiv side, there is the perspective that the contracts of both Jürgen Dengler as 25% coordinator and Stephan Hennekens as database manager are prolonged after the December workshop, so that further development of the sPlot database and project in 2015 are secured. Ideas and details of the sPlot future in 2015 and perspectives for the time beyond will be a major topic at the workshop in Leipzig (see above).

During the months after the workshop, the finalisation of manuscripts started in Leipzig will be the main topic of the sPlot team. Following the Governance and Data Property Rules of the sPlot Working Group (http://www.idiv.de/sdiv/workshops/workshops-2013/splot/materials/content_56450/sPlot-Rules_approved.pdf), all custodians of databases that have contributed data by the time of paper preparation will become co-authors of the paper #1 described above (opt-out paper) and invited to contribute. All other sPlot papers (including #2 and #3 from above) will be formally announced to sPlot Consortium members (including the custodians), and they then can commit themselves to become active co-authors (opt-in papers). Finally, from the workshop onwards, the sPlot data are also available for additional paper projects proposed by sPlot Consortium members (but speed of data provision depends on available resources).

Information for owners and custodians of vegetation-plot databases

If your **database is already in sPlot**, please ensure that we always have up-to-date metadata about you and your database. Most importantly, we need names and functioning e-mail addresses of one custodian and one deputy-custodian per database in order to be able to contact you (e.g. for information about data use, co-authorship offers, future sPlot Letters etc.). As you might know, sPlot closely cooperates with GIVD (www.givd.info) to manage the metadata of the contained databases. Therefore, please try to keep information in GIVD ± up-to-date or, if you are not yet registered in GIVD, please do so. This will not only help us, but also increase the visibility of your database in general. Whenever you have major updates of your database (improved data quality or significantly more data), you can contact us to arrange a re-import.

If you want to **contribute an additional database** to sPlot, please contact juergen.dengler@uni-bayreuth.de to discuss details. Information on required data properties are listed in http://www.idiv.de/sdiv/workshops/workshops-2013/splot/splot-database/content_item_265395/sPlot_Description_of_data_properties_v.04.pdf. We will add such additional databases step by step as our human and financial resources allow. Thereby we will give prevalence to integrated supranational and national databases, but exceptionally also accept regional ones if they represent biomes or continents so far underrepresented. Please note that databases from Europe cannot be contributed directly to sPlot, but should come through our European partner EVA (http://euroveg.org/eva-database). Starting with the date of data import to sPlot, your database will become member of the sPlot Consortium offering you all the rights of the sPlot Rules, including the options of co-authorship and of proposing papers using the sPlot data yourself.

With kind regards,

Jürgen Dengler (sPlot Coordinator), ***Oliver Purschke*** (sPlot Co-Initiator), ***Helge Bruelheide*** (sPlot Co-Initiator and Chair of the sPlot Steering Committee)

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