

sDiv Newsletter

sDiv is the Synthesis Centre for Biodiversity Research of iDiv

Dear Colleagues,

Welcome to our third official newsletter to share the latest developments at sDiv. A very successful and exciting year has passed and we are even more looking forward to the next one. The sDiv board welcomes new members, Ulrich Brose (Biodiversity Theory), Jonathan Chase (Biodiversity Synthesis), Nina Farwig (Conservation Ecology) and Stanley Harpole (Physiological Diversity) – who are very keen to push sDiv forward. Most importantly, sDiv just opened its fourth call for working groups, postdocs and sabbaticals.

sDiv as part of the *Joint Synthesis Consortium* signed a letter of support for *Future Earth*, a global initiative ensuring that knowledge is generated in partnership with society and users of science. We hope that this will end in a fruitful future collaboration to help with some of the grand challenges and questions in science.

The *sDiv Coordinator Marten Winter* just came back from the final and very successful meeting of the six jointly with SESYNC and the UFZ funded working groups about “Biodiversity and Ecosystem Services”. Two years are already over and were hopefully just a start for possible further cross-continental collaborations among synthesis centres. We had a lot of fun and very fruitful exchanges so far! All groups were and still are very busy and already produced first very impressive results.



If you want to be up-to-date about the interesting events happening at sDiv and iDiv, you can follow us via Twitter with #sDiv or other project names (e.g. #sEpiDiv).

sDiv CALL for Working Groups,
Postdocs and Sabbaticals in 2016
is open!

SUBMISSION DEADLINE
15th February 2016

Please find all important information
and application documents here:

➔ www.idiv.de/sdiv/calls

sPlot 2.0

During the iDiv conference in December 2015, Helge Bruehlheide presented the forthcoming new release of sPlot, the global vegetation-plot database established within the framework of the first sDiv Workshop “sPlot – Plant trait-environment relationships across the world’s biomes”. With now 1.117 million vegetation plots, i.e. geo-referenced fine-grain co-occurrence information of plant communities, from 110 databases, 130 countries and all seven continents, this is a novel and unique source for ecological research. Together with the taxonomically matched version of the global plant trait database TRY 3.0, it will offer fantastic opportunities to analyse the relationships of functional composition and diversity of plant communities in a common framework across all biomes as well as along environmental gradients within these. Taken together, sPlot 2.0 and TRY 3.0 contain 90,696 standardised unique plant names from 665 families.

Beyond questions of functional diversity, sPlot 2.0 can also be used for multiple other macroecological studies, such as on alpha-, beta- and gamma diversity, phylogenetic diversity, or invasion patterns. sPlot 2.0 will be officially launched as a fixed version in the near future and then be available for the first set of papers planned by the sPlot Consortium. In parallel, the sPlot team is already planning the next version sPlot 3.0, to be published in 1–1.5 years from now. Offers of vegetation-plot data from underrepresented regions are thus welcome to the sPlot Coordinator.

➔ [sPlot Website](#)

➔ [sPlot Coordinator: Jürgen Dengler](#)

➔ [sPlot Chair: Helge Bruehlheide](#)

➔ [Taxonomic standardisation of sPlot and TRY: Oliver Porschke](#)

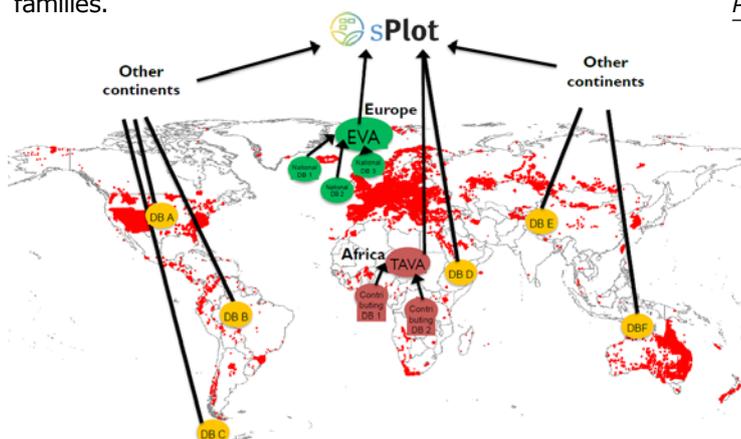


Figure: Spatial distribution of the 1.117 million plots in sPlot 2.0 and schema of data provision and aggregation.

DB A... - Examples for single databases; TAVA - Tropical African Vegetation Archive; EVA - European Vegetation Archive

sDiv in a Nutshell

37 working groups funded over 3 calls (48 meetings held to date)

850 participants attended meetings

Working group participants' opinion about sDiv: >90% highly relevant

74 Publications with support of sDiv

37 countries represented

4 children of working group participants in iDiv daycare

16 postdocs funded

6 sabbatical Visitors supported

Upcoming Working Group Meetings



STUNDRA working group

sToichNutNet – Linking ecological stoichiometry with environment diversity productivity relationships in grasslands

PIs: Elizabeth Borer, Anne Ebeling

date: 11. – 14.01.2016

sNiche – Expanding Neo-Chessonian coexistence theory towards a stochastic theory for species rich communities

PIs: Thorsten Wiegand, Stan Harpole

date: 18. – 20.01.2016

2nd date: 06. – 08.06.2016



iDiv child care

sPlat – Synthesis on Pollen Limitation and Terrestrial biodiversity

PIs: Tiffany Knight, Tia-Lynn Ashman, Janette Steets

date: 25. – 29.01.2016

sChange – Quantifying biodiversity change through time

PIs: Sarah Supp, Maria Dornelas

date: 22. – 26.02.2016

sCAFE – Community Assembly and the Functioning of Ecosystems in Open Systems

PIs: Morgan Ernest, Mathew Leibold

associated Postdoc: Katherine Bannar-Martin

date: 29.02. – 04.03.2016

2nd date: 13. – 17.06.2016



Great sDiv Papers

sDiv scientists and guests work very hard to move science forward. Here we want to present two recent studies from a former sDiv postdoc and a n sDiv working group. Take your time and if you want to know more, get in touch with them!

Biodiversity increases the resistance of ecosystem productivity to climate extremes

Forest Isbell, Dylan Craven, Nico Eisenhauer, and members of the sTABILITY group

The extent to which biodiversity buffers ecosystem responses to increasingly more frequent climate extremes is unclear. While biodiversity has been found to stabilize productivity in grasslands over time, it is not yet known whether it does so by providing resistance during climate events, resilience following climate events, or both. To address this, we compiled data from 46 grassland experiments across Europe and North America that manipulated plant diversity and measured aboveground productivity to test whether biodiversity provides resistance during and resilience after climate events. Here, we defined climate events in a globally consistent manner using a standardized drought index as those that occurred either once a decade or once every four years. We show that biodiversity increased resistance to a wide range of events, including wet or dry, moderate or extreme, and short or prolonged. In contrast, resilience was not dependent on biodiversity. Our results suggest that biodiversity mainly stabilizes productivity by increasing resistance to climate events. Anthropogenic environmental changes that drive biodiversity loss appears likely to decrease stability by reducing the resistance of productivity to climate events.

Biodiversity and ecosystem functioning decoupled: invariant ecosystem functioning despite non-random reductions in consumer diversity

Viktoriiia Radchuk, Frederik De Laender Paul J. Van den Brink & Volker Grimm

Most research that demonstrates enhancement and stabilization of ecosystem functioning due to biodiversity is based on experiments conducted at one trophic level, within which both the biodiversity is manipulated, and issuing changes in ecosystem functions are measured. However, it is less understood how modifications of biodiversity at one trophic level propagate vertically to affect those functions supplied by connected trophic levels or by the whole ecosystem. Here, we used data from a published ecotoxicological experiment in which an insecticide gradient was used to shape consumer diversity. We then assessed how consumer diversity affected gross primary production and respiration in species-rich multitrophic freshwater communities (total of 128 macroinvertebrate and 59 zooplankton species across treatments). The insecticide decreased and destabilized macroinvertebrate and, to a lesser extent, zooplankton diversity. However, these effects on biodiversity neither affected nor destabilized any of the two studied ecosystem functions. The main reason for this result was that species susceptible to environmental filtering were different from those most strongly contributing to ecosystem functioning. Our results indicate that biodiversity modifications within one trophic level induced by non-random species loss do not necessarily translate into changes in ecosystem functioning supported by other trophic levels or by the whole community.



sTABILITY working group

➔ www.idiv.de/stability

➔ <http://www.nature.com/nature/journal/v526/n7574/full/nature15374.html>

➔ <http://time.com/4070683/nature-climate-change/>

➔ www.idiv.de/sdiv/people/alumni.html

➔ <http://onlinelibrary.wiley.com/doi/10.1111/oik.02220/abstract>

Recent Publications

The *sTREEDIV* working group which held a meeting at sDiv in March 2014 published an interesting story in AmBio how the results of the global tree diversity experiments can help to inform science and other similar experimental settings as well sustainable forest management (see [here for the open access version](#)).

Also with the support of sDiv, the *sImpact* working group published its fourth article about the framework and guidelines for implementing the proposed IUCN Environmental Impact Classification for Alien Taxa (EICAT) (see [here for the open access version](#)).

By the way, sDiv strongly encourages to publish open access and thus already financially supported eight freely available open access publications.

For more iDiv and sDiv publications, please see [here](#).



All *SESYNC-UFZ-sDiv* working groups plenum @[SESYNC](#)

➔ www.idiv.de/publications.html

sDiv Scientists

There have been some changes within the sDiv crew lately: We heartily welcomed our three new postdocs [Petr Keil](#), [Juliano Sarmiento Cabral](#) and [Katherine Bannar-Martin](#) (working group postdoc for *sSAFE*). We already have to say goodbye to our sabbatical professor [Walter Jetz](#) (who plans to be back at iDiv next year) and [Tiffany M. Knight](#) who we want to congratulate again for winning Germany's highly endowed research award, the Alexander von Humboldt Professorship! sDiv also has two new secretaries: [Doreen Brückner](#) (having her roots in Leipzig, she left her position in the travel industry to join our team in August) and [Franziska Hübner](#) (stand-in for Carolin' parental leave).

Unfortunately some of our postdocs have left us but found great new working environments: Vincent Doublet (*sTRANSBEE*) is moving to the *University of Exeter*, Benjamin Yguel (*sCoMuCra*) is now at the *National Natural History Museum Paris*, [Anne Bjorkmann](#) (*sTUNDRA*) can be found at the School of GeoSciences at the University of Edinburgh, [Kelly S. Ramirez](#) (*sOILDIV*) now works at The Netherlands Institute of Ecology (NIOO), [Simon Bilodeau-Gauthier](#) (*sTREEDIV*) moved to the Centre for Forest Research (CFR, CEF) and [Viktorija Radchuk](#) works at the Leibniz Institute for Zoo and Wildlife Research (IZW).

Of course, all will remain in touch with us and working on sDiv-related scientific issues. To facilitate this, sDiv maintains an [alumni page](#) where you can contact former sDiv members.



Group of *sDiv* scientists

➔ www.idiv.de/sdiv/people.html

➔ www.idiv.de/sdiv/people/alumni.html

Since your feedback is always welcome, please do not hesitate to contact [sMarten Winter](#), the Scientific Coordinator, or the sDiv secretary [Franziska Hübner](#) at +49 341 9733130.

We wish you harmonious Christmas holidays!

With our best regards from Leipzig

sMarten Winter & team



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