

January 2015

sOILDIV Follow-up: Establishing a global soil biodiversity information platform

In April 2014, the Global Soil Biodiversity Initiative led a workshop at sDIV – sOILDIV. The workshop was led by Dr. Kelly Ramirez, currently a postdoc at the Netherlands Institute of Ecology, and Prof. Diana Wall of Colorado State University. A full summary can be found here: <http://www.idiv-biodiversity.de/sdiv/workshops/workshops-2014/s-soil>

The participants have drafted a manuscript to be submitted to *Frontiers in Ecology and Evolution* in the next month. Additionally, Dr. Ramirez has continued to work on the project, with the support of her current supervisor (and sOILDIV participant) Prof. Wim van der Putten. In December 2014 a second workshop was organized and held in Dijon, prior to the first Global Soil Biodiversity Conference. This workshop was supported by EcoFINDERS (<http://ecofinders.dmu.dk/>).

Similarly, following the sOILDIV workshop Dr. Franciska De Vries (a sOILDIV participant) is organizing a “Joint Sequencing Metaanalysis Workshop” to take place in May 2015. This workshop will be supported by the BES Plant, Soils, Ecosystems group.

1. Dijon Workshop: Towards a global soil biodiversity data platform

Location: INRA Campus Dijon, France

Date: December 1-2, 2014

Participants: 20 from 12 countries

Budget: ~9900 Euros

(See agenda at end of document)

Overview: This was a two-day course with ~20 international scientists. The goal was to discuss options to establish a global synthesis of soil biodiversity data. The course was led by Kelly Ramirez, a postdoctoral fellow at the Netherlands Institute of Ecology (NIOO) and Tandra Fraser, executive director of the Global Soil Biodiversity Initiative. The overall goal of this course was to identify the first steps to achieve a synthesis of soil biodiversity data. Therefore a working group was established, and together we outlined a mission statement for the effort.

Outcomes:

- *Discoverability:* The group outlined where efforts should be focused and how. First, together with the GSBI we will ‘discover’ where soil biodiversity data is stored. A public survey was created and is now

being distributed to scientists throughout the discipline. (see <https://docs.google.com/forms/d/1bUVSC6ZMBTjEQsWNong0E3OZaZox8rt6Ez5O2b6O8uc/viewform?c=0&w=1>). This information will be compiled and then be made available on the GSBI website (Timeline: within a year).

- Additionally, a 'taxonomic list' will be compiled – a resource to list soil organisms, that can be shared with other biodiversity efforts (like the Global Biodiversity Information Facility). (Timeline: within a year)
 - *Standards*: Establishing clear standards to successfully synthesize past, present and future data will require long term effort. To best address the issue of standards a more intensive workshop must be held (to be led by David Russell, Germany)
 - *Global Platform*: Finally, a global platform will require the support of funds, long term involvement and likely support of an institution. Therefore, in the next year proposals will be submitted to search for more long-term funding and we will begin negotiations to find a host institution.
 - There are many other measures that can be taken to ensure this effort succeeds. The group will be developing these options with the GSBI over the coming months.
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2. Joint Sequencing Metaanalysis Workshop

Location: The University of Manchester, UK

Date: May 18-20, 2015

Participants: ~20 participants

Budget: ~9000 Euros

Overview: Following the sOILDIV workshop we recognized that there is a large knowledge gap in our understanding of belowground distribution patterns with regard to sequence data (short read only). Therefore we have organized a three day workshop to bring together people to work on metaanalysis of sequencing data (both publicly available and attendee's data), with the aim of exploring patterns in belowground biodiversity. The aim of this workshop is to bring together ecologists and bioinformaticians to do a meta-analysis of sequencing data of soil microbial communities. Both publicly available data and participants' data will be used, and the anticipated outcome is a publication in a peer-reviewed journal. The workshop will consist of lectures by our invited speakers to highlight recent advances, and participants will be expected to give a short presentation about their background and expertise. The majority of time will be spent identifying ecological questions to address with the data, analysing the data in novel ways, and drafting a manuscript.

Confirmed speakers/leaders of the workshop are:

- Dr Kelly Ramirez, Netherlands Institute of Ecology, the Netherlands and GSBI
- Dr Rob Griffiths, CEH Wallingford, UK
- Dr Jennifer Talbot, Boston University, USA
- Dr Hyun Soon Gweon, CEH Wallingford, UK
- Dr John Davison, University of Tartu, Estonia

URL: <https://besplantsoileco.wordpress.com/2015/03/24/sequencing-meta-analysis-workshop-manchester-18-20-may-2015/>

Program:**A global soil biodiversity data platform**

An exploration workshop organized by the Global Soil Biodiversity Initiative and EcoFinders

Agenda**December 1, 2014**

- 12:00 LUNCH
- 13:00 Welcome (**Kelly S Ramirez**, GSBI & NIOO)
- 13:10 Summary of sOILDIV (**Mark St. John**, Agriculture and Agri-Food Canada)
- 13:25 "MACROFAUNA a data base of macroinvertebrate data" (**Patrick Lavelle**, UPMC Paris)
- 13:40 "A proposed plan: towards a global soil biodiversity data platform" (**Kelly S Ramirez**)
- 14:00 Mini Presentations (no slides):
Global Soil Biodiversity Initiative (GSBI) – **Tandra Fraser**, Colorado State University
Edaphobase – **David Russell**, Senckenberg Museum of Natural History Görlitz
Earth Microbiome Project – **Dorota Porazinska**, University of Colorado, Boulder
Soortenregister – **Matty Berg**, University of Amsterdam
Eukaryotic phylogenetic database curation initiative – **Laura Wegener Parfrey**, UBC
BETSI – **Mickaël Hedde**, INRA/FRB/CESAB
- 14:30 Brief, roundtable presentations from **remaining participants**
Discussion: taxonomy and 'soil' parameters; Linking through the GBIF framework and other options (Led by - **David Russell**)
- 15:00 Coffee break
- 15:30 Establish breakout groups to focus on 3-4 specific challenges
- 16:00 Breakout groups to focus on specific challenges (*Ideas: Parameters list/Taxonomy-Names/Sequences/Standards/Environmental Data/Traits, etc/Dealing with DAK-Grey-Dark data/GBIF framework/Global Platform (authorship)*) Each group must come up with 1 pager- describing the challenge, proposed solutions, identify funding and other resources needed.
- 18:00 END

December 2, 2014

- 8:30 Resume breakout groups – Each group must come up with 1 pager- describing the challenge, proposed solutions, identify funding and other resources needed.
- 10:00 Coffee break
- 10:30 Presentation by each breakout group
- 11:30 Establish plan forward. Identify priorities for next workshop.
OUTCOMES:
1. Soil Parameters and Species List for GBIF
 2. Establish sequence working group leader
 3. Plan to release Dark and Grey data (to make it accessible)
 4. Working group to link data already 'available'
 5. Data storage
- 12:15 Kelly Concluding remarks
- 12:30 Lunch and End

Participants

1. Kelly Ramirez, Netherlands
2. Tandra Fraser, USA
3. David Russell, Germany
4. Mark St John, Canada
5. Dorota Porazinska
6. Chris Lauber, Switzerland
7. Maarja Opik, Estonia
8. Maria Tsiafouli, Greece
9. Michael Heede, France
10. Benjamin Pey, France
11. Paul-Henning Krough, Denmark
12. Matty Berg, Netherlands
13. Laura Wegener Parfrey, Canada
14. Patrick Lavelle, France
15. Yukio Minamiya, Japan
16. Toshiko Miura, Japan
17. Nobuhiro Kaneko, Japan
18. Tesfaye Wubet, Germany
19. Guillaume Lentendu, Germany
20. Pauline Mele, Australia
21. Nabil Youdjou, Belgium
22. *Diana Wall, USA
23. *Wim van der Putten, Netherlands

Group Photo

