Oribatid mites

Source of data

Used as example dataset in Borcard et al. (2011, 2018); the dataset was first used in Borcard et al. (1992), and details are in Borcard & Legendre (1994).

Description of the dataset

(from Borcard et al. 2011)



Oribatida (source: Wikipedia)

Oribatid mites (Acari: Oribatida) are a very diversified group of small (0.2–1.2 mm) soil-dwelling, mostly microphytophagous and detritivorous arthropods. A well aerated soil or a complex substrate like Sphagnum mosses present in bogs and wet forests can harbour up to several hundred thousand (10^5) individuals per square metre. Local assemblages are sometimes composed of over a hundred species, including many rare ones. This diversity makes oribatid mites an interesting target group to study community–environment relationships at very local scales.

The example data set is composed of 70 cores of mostly *Sphagnum* mosses collected on the territory of the Station de biologie des Laurentides of Université de Montréal, Québec, Canada in June 1989. The data set comprises three files that contain the abundances of 35 morphospecies, 5 substrate and micritopographic variables, and the x-y Cartesian coordinates of the 70 cores.

Locality

Station de biologie des Laurentides, Université de Montréal, Quebec, Canada.

Environmental variables

Code	Description of variable
SubsDens	Substrate density (dry matter) [g dm^{-3}]
WatrCont	Water content [g dm^{-3}]
Substrate	Substrate [7 unordered classes; 6 substrate types + interface category]

Code	Description of variable
Shrub	Shrubs [3 ordered classes]
Topo	Microtopography [Blanket - Hummock]

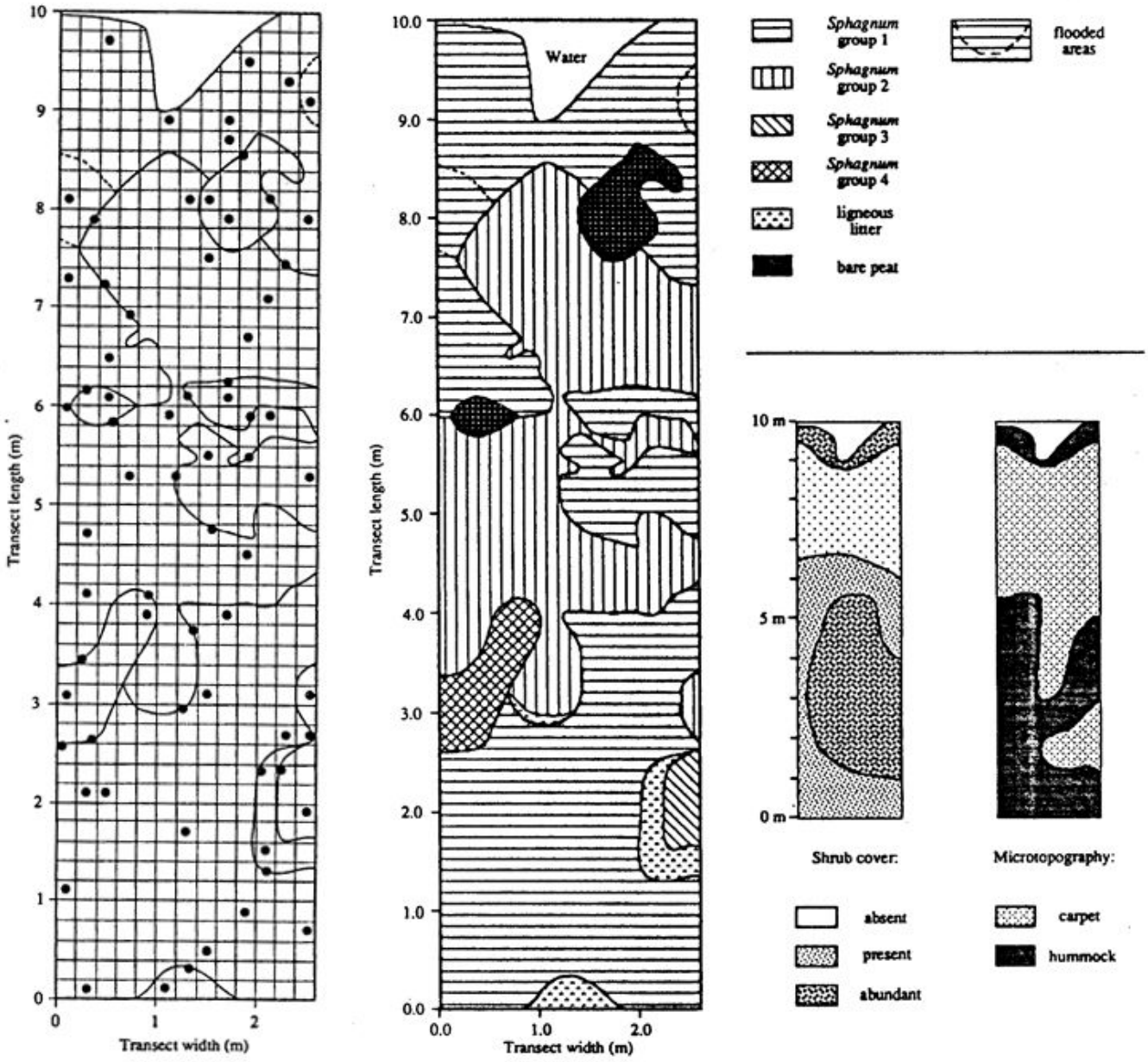


Figure 1: Map of the studied samples, distribution of substratum types, shrub cover and mircotopography (Figs. 1 and 2 from Borcard & Legendre 1994).

R script for direct import of data to R

```
mite <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/mite.txt')
mite.env <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/mite_env.txt')
mite.xy <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/mite_xy.txt')
```

or - data are in vegan or in ade4 packages:

```
# install.packages ('vegan')  # install vegan if not installed yet on your computer
library (vegan)
data (mite)
data (mite.env)

# install.packages ('ade4') # install ade4 if not installed yet on your computer
library (ade4)
data (oribatid)  # a list containing three components, check ?oribatid for details
```

References

- Borcard, D., Legendre, P. & Drapeau, P. (1992) Partialling out the spatial component of ecological variation. *Ecology* 73: 1045-1055.
- Borcard, D. & Legendre, P. (1994) Environmental control and spatial structure in ecological communities: an example using oribatid mites (Acari, Oribatei). *Environmental and Ecological Statistics* 1: 37-61.
- Borcard, D., Gillet, F. & Legendre, P. (2011) Numerical Ecology with R. Springer, UseR! Edition.

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