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Database of interconnected fish ponds in De Maten Nature Reserve, Belgium

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Keywords

interconnected fish ponds, zooplankton, phytoplankton, macro-invertebrates, environmental conditions

Short description of the dataset/summary

The De Maten pond dataset contains data on local pond conditions and taxonomic community composition of phytoplankton, zooplankton, macro-invertebrates and fish from 34 interconnected fish ponds in the "De Maten" nature reserve (Limburg, Belgium).

General information

dataset entry ID:	SF_11
name of the dataset:	
full name of the dataset:	De Maten fish ponds
dataset short name:	De Maten
type of dataset:	species (taxonomic group) per site database including environmental information
data type:	point data/observation data
science keywords according to GCMD:	
topic:	Biosphere, Biological Classification, Terrestrial Hydrosphere
ISO topic category according to ISO 19115:	Biota, Environment, Inland Waters
INSPIRE keywords according to GEMET:	Habitats and biotopes
own science keywords:	fish ponds, phytoplankton, zooplankton, macro-invertebrates, fish

funding: National Fund of Scientific Research, Flanders, grant G.0358.01

Technical and administrative specifications

data format: Excel
operating system: all Windows systems
data language: English
current access level: internal
currently available through GBIF: no
exchange planned: yes
data in data repository: no
Do you plan to publish the data on the Freshwater Biodiversity Data Portal:
already published through the Freshwater Biodiversity Data Portal
update level: completed
documentation:
type: scientific paper
language: English

contact details:
metadata contact person:
first, last name: Luc De Meester
email: luc.demeester@kuleuven.be
institution: KU Leuven
address: Ch. Deberiotstraat 32
postal code, city: 3000 Leuven
country Belgium
technical contact person:
first, last name: Luc De Meester
email: luc.demeester@kuleuven.be
scientific contact person:
first, last name: Luc De Meester
email: luc.demeester@kuleuven.be

Intellectual property rights and citation

dataset creator (data compiler):
contact name: Pieter Lemmens
contact email: pieter.lemmens@kuleuven.be
contact institution: KU Leuven
data contributors to/owners of this dataset:
multiple
number: 5
data contributor/owner 1:
contact name: Pieter Lemmens
contact email: pieter.lemmens@kuleuven.be
contact institute: KU Leuven
criteria for using this part of the dataset:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but dataset creator/data contributors must be informed

prior to publication. Data must be acknowledged and cited correctly.

data contributor/owner 2:

contact name: Karl Cottenie
contact email: cottenie@uoguelph.ca
contact institute: University of Guelph
criteria for using this part of the dataset:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but dataset creator/data contributors must be informed prior to publication. Data must be acknowledged and cited correctly.
comments: This person was working at KU Leuven, Laboratory of Aquatic Ecology, Evolution and Conservation at time of data collection.

data contributor/owner 3:

contact name: Frank Van de Meutter
contact email: frank.vandemeutter@inbo.be
contact institute: INBO
criteria for using this part of the dataset:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but dataset creator/data contributors must be informed prior to publication. Data must be acknowledged and cited correctly.
comments: This person was working at KU Leuven, Laboratory of Aquatic Ecology, Evolution and Conservation at time of data collection.

data contributor/owner 4:

contact name: Pieter Vanormelingen
contact email: pieter.vanormelingen@natuurpunt.be
contact institute: Natuurpunt
criteria for using this part of the dataset:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but dataset creator/data contributors must be informed prior to publication. Data must be acknowledged and cited correctly.
comments: This person was working at Ghent University, Protistology and Aquatic Ecology Evolution and Conservation at time of data collection.

data contributor/owner 5:

contact name: Luc De Meester
contact email: luc.demeester@kuleuven.be
contact institute: KU Leuven
criteria for using this part of the dataset:
The dataset is publicly available (data portal, data archive) and can be used without restrictions, but dataset creator/data contributors must be informed prior to publication. Data must be acknowledged and cited correctly.

citation of this dataset:

author(s): Lemmens, P., Cottenie, K., Van de Meutter, F., Vanormelingen, P. & De Meester, L.
title and journal (name, number, pages):
Biodiversity in interconnected fish ponds in "De Maten" nature reserve, Belgium
year: 2018
doi: https://doi.org/10.15468/tjbpz7

citation of the metadata:

author(s): Lemmens P., Cottenie K., Van de Meutter F., Vanormelingen P. & De Meester L.

title and journal (name, number, pages): Database of interconnected fish ponds in De Maten Nature Reserve, Belgium. Freshwater Metadata Journal 30: 1-8
year: 2018
doi: https://doi.org/10.15504/fmj.2018.30

dataset related references:

reference 1:
author(s): Cottenie, K., Michels, E., Nuytten, N. & De Meester, L.
title: Zooplankton metacommunity structure: regional vs. local processes in highly interconnected ponds. Ecology 84: 991-1000.
year: 2003

reference 2:
author(s): Van de Meutter, F., De Meester, L. & Stoks, R.
title: Metacommunity structure of pond macroinvertebrates: effects of dispersal mode and generation time. Ecology 88: 1687-1695.
year: 2007

reference 3:
author(s): Vanormelingen, P., Cottenie, K., Michels, E., Muylaert, K., Vyverman, W. & De Meester L.
title: The relative importance of dispersal and local processes in structuring phytoplankton communities in a set of highly interconnected ponds. Freshwater Biology 53: 2170-2183.
year: 2008

General data specifications

regional coverage of the dataset:
spatial extent of the dataset: regional
continents: Europe

spatial extent (bounding coordinates):
southernmost latitude [°]: 49.4969821
northernmost latitude [°]: 51.5516667
westernmost longitude [°]: 2.3889137
easternmost longitude [°]: 6.408097
countries: Europe: Belgium

world climatic regions according to Köppen: Group D: continental/microthermal climate

freshwater ecoregions of the world (FEOW) according to WWF: Europe: Central & Western Europe

European ecoregions according to Illies (WFD): Western Plains (ER13)

ecosystem type: lakes/ponds

covered timeframe: 1996 - 2003

Site specifications

coordinate system/grid data: latitude/longitude, format: DD
projected, UTM
datum (e.g. WGS84): WGS84

grid data available: no

ecosystem type classification:

lakes (classification mainly according to WFD):

depth typology based on mean depth

< 3 m

site coding:

site coding available: yes, numerical

number of digits: 2

example: 10

number of sites: <100

exact number of sites: 34

Climate and environmental data

climate related data: no climate data available

environmental data:

no environmental data per catchment available

available parameters per site: information on riparian vegetation (incl. information on modification)

data source: visual inspection

mean depth

data source: as determined during sampling

comments: Additionally: coverage with submerged aquatic vegeation.

physico-chemical data: total P, total N, oxygen content, pH, conductivity, chlorophyll, Secci disc depth

availability of physico-chemical data, if there is more than one sample per site:

mean values per site

stressors influencing the sites: no stressor data available

Biological data

biological data origin: from sampling,

PhD research

organism group addressed: fish, macro-invertebrates (Mollusca, Ephemeroptera, Odonata, Coleoptera, Trichoptera, Chironomidae), zooplankton, phytoplankton

Sample specifications/sample resolution

fish:

sample information:

covered timeframe: 1996 - 2002

historical data: no

palaeo data: no

season: summer

temporal resolution/frequency of sampling:

per year

time series data: no

taxonomic resolution:

level: species

percentage of species level data: 100

taxonomic coding:

taxalist according to: FishBase

reference(s): Froese, R. & Pauly, D. Editors. 2018. FishBase. World Wide Web electronic publication. www.fishbase.org, version (06/2018).

sample specifications:

type: quantitative (abundance data)

replicate samples: no

specification of method(s) used for sampling and sorting:

For details see Cottenie et al. (2003) and Van de Meutter et al. (2007).

reference(s): Cottenie, K., Michels, E., Nuytten, N. & De Meester, L., 2003. Zooplankton metacommunity structure: regional vs. local processes in highly interconnected ponds. Ecology 84: 991-1000.
Van de Meutter F., De Meester, L. & Stoks, R., 2007. Metacommunity structure of pond macroinvertebrates: effects of dispersal mode and generation time. Ecology 88: 1687-1695.

macro-invertebrates:

sample information:

covered timeframe: 2001 - 2003

historical data: no

palaeo data: no

season: spring, summer, autumn

temporal resolution/frequency of sampling:

per year

time series data: no

taxonomic resolution:

level: family, species

percentage of species level data: 90

taxonomic coding:

taxalist according to: De Pauw, N. & Vannevel, R. (1991)

reference(s): De Pauw, N. & Vannevel, R., 1991. Macro-invertebraten en waterkwaliteit. Antwerpen: Stichting Leefmilieu.

sample specifications:

type: quantitative (abundance data)

replicate samples: no

specification of method(s) used for sampling and sorting:

For details see Van de Meutter et al. (2007).

reference(s): Van de Meutter, F., De Meester, L. & Stoks, R., 2007. Metacommunity structure of pond macroinvertebrates: effects of dispersal mode and generation time. Ecology 88: 1687-1695.

zooplankton:

sample information:

covered timeframe: 1996 - 1998

historical data: no

palaeo data: no

season: summer

temporal resolution/frequency of sampling:

per year

time series data: no

taxonomic resolution:

level: species

percentage of species level data: 100

taxonomic coding:

taxalist according to: Flössner, D. (2000)

reference(s): Flössner, D., 2000. Die Haplopoda und Cladocera Mitteleuropas Leiden. Backhuys Publishers.

sample specifications:

type: quantitative (abundance data)

replicate samples: no

specification of method(s) used for sampling and sorting:

For details see Cottenie et al. (2003).

reference(s): Cottenie, K., Michels, E., Nuytten, N. & De Meester, L., 2003. Zooplankton metacommunity structure: regional vs. local processes in highly interconnected ponds. Ecology 84: 991-1000.

phytoplankton:

sample information:

covered timeframe: 1998 - 1998

historical data: no

season: summer

temporal resolution/frequency of sampling:

per year

time series data: no

taxonomic resolution:

level: genus

taxonomic coding:

taxalist according to: John et al. (2002)

reference(s): John, D.M., Whitton, B.A. & Brook, A.J., 2002. The freshwater algal flora of the British isles. Cambridge: Cambridge University Press.

sample specifications:

type: quantitative (abundance data)

replicate samples: no

specification of method(s) used for sampling and sorting:

For details see Vanormelingen et al. (2008).

reference(s): Vanormelingen, P., Cottenie, K., Michels, E., Muylaert, K., Vyverman, W. & De Meester, L., 2008. The relative importance of dispersal and local processes in structuring phytoplankton communities in a set of highly interconnected ponds. Freshwater Biology 53: 2170-2183.

Other specifications

GIS layers, shape files related to the dataset:

no data available

availability of photos: no

availability of maps: no

quality control procedures:

Were any quality control procedures applied to your dataset?

yes

quality control protocols and comments:

Species names were checked using the GBIF species list. In addition, the quality of data has been checked with the phwhip validator.

Acknowledgements

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References

Cottenie, K., Michels, E., Nuytten, N. & De Meester, L., 2003. Zooplankton metacommunity structure: regional vs. local processes in highly interconnected ponds. Ecology 84: 991-1000. https://doi.org/10.1890/0012-9658(2003)084[0991:ZMSRVL]2.0.CO;2

Van de Meutter, F., De Meester, L. & Stoks, R., 2007. Metacommunity structure of pond macroinvertebrates: effects of dispersal mode and generation time. Ecology 88: 1687-1695. https://doi.org/10.1890/06-0333.1

Vanormelingen, P., Cottenie, K., Michels, E., Muylaert, K., Vyverman, W. & De Meester, L., 2008. The relative importance of dispersal and local processes in structuring phytoplankton communities in a set of highly interconnected ponds. Freshwater Biology 53: 2170-2183. https://doi.org/10.1111/j.1365-2427.2008.02040.x