

European Vegetation Databases

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About me

- Field botanist & vegetation ecologist
- Professor of Botany at Masaryk University, Brno, Czech Republic
- Secretary of the IAVS Working Group European Vegetation Survey
- Custodian of the *European Vegetation Archive* (EVA)
- President of the Czech Botanical Society



Vegetation survey

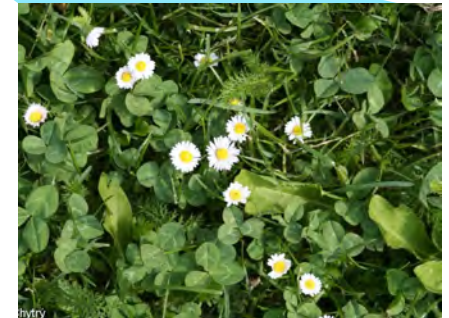
Standardized methodology in Europe since the 1920s



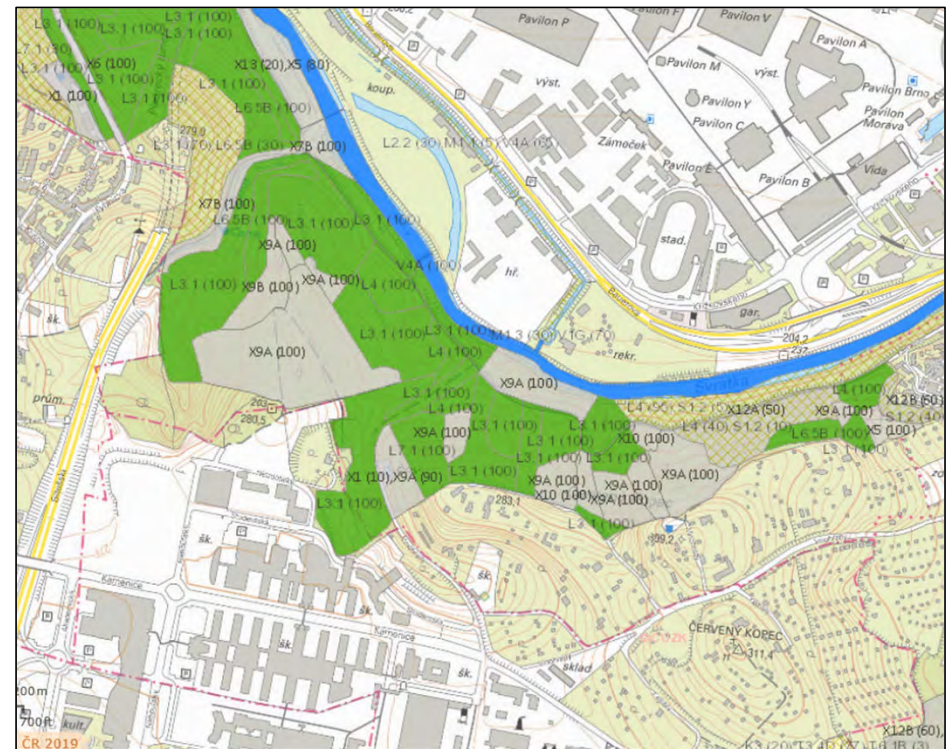
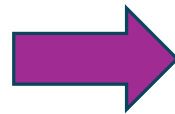
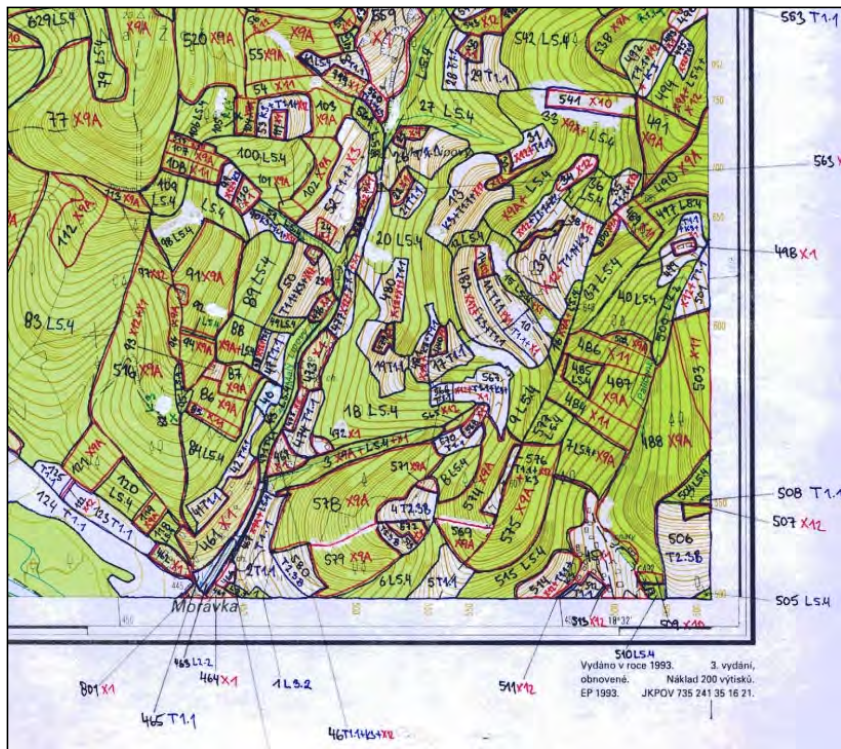
Vegetation survey

JUICE - (c:\users\milan\documents\papers\halofy\juice files\2021-01-20_halofy_klasifikace.wct)

File Edit Species Relevés Table Head Sorting Separators Synoptic Table Indicator Values Analysis Table Simulation Help



Vegetation survey



webgis.nature.cz/mapomat/

1992: IAVS Working Group European Vegetation Survey

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MARTIVS
MCMXCII



euroveg.org



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European Vegetation Survey

European Vegetation Survey (EVS) is a Working Group of the International Association for Vegetation Science (IAVS), uniting plant ecologists interested in vegetation survey and classification in Europe and beyond.

The purposes of EVS are:

- to encourage international research collaborations in vegetation survey;
- to develop common data standards in the provision of phytosociological information about vegetation;
- to encourage national programmes of vegetation survey across Europe and beyond;
- to develop software and an electronic network for vegetation data sharing;
- to maintain a database of European vegetation plots (European Vegetation Archive; <http://euroveg.org/eva-database>);
- to maintain the overview of European vegetation (EuroVegChecklist; <https://www.synbiosys.alterra.nl/evc/>) through the activities of the European Vegetation Classification Committee (<http://euroveg.org/evc-committee>);
- to support nature conservation, especially on the international level, by providing scientific

Content of this talk: four vegetation databases

Vegetation
types



FloraVeg.EU database



European Vegetation Archive (EVA)

Vegetation
plots



sPlot – Global Vegetation Database



ReSurveyEurope

Database 1



Database of European vegetation, habitats and flora



EuroVegChecklist

(Mucina et al. 2016)



Applied Vegetation Science **19** (Suppl. 1) (2016) 3–264

SYNTHESIS

Vegetation of Europe: hierarchical floristic classification system of vascular plant, bryophyte, lichen, and algal communities

Ladislav Mucina, Helga Bültmann, Klaus Dierßen, Jean-Paul Theurillat, Thomas Raus, Andraž Čarni, Kateřina Šumberová, Wolfgang Willner, Jürgen Dengler, Rosario Gavilán García, Milan Chytrý, Michal Hájek, Romeo Di Pietro, Dmytro Yakushenko, Jens Pallas, Fred J.A. Daniëls, Erwin Bergmeier, Arnaldo Santos Guerra, Nikolai Ermakov, Milan Valachovič, Joop H.J. Schaminée, Tatiana Lysenko, Yakiv P. Didukh, Sandro Pignatti, John S. Rodwell, Jorge Capelo, Heinrich E. Weber, Ayzik Solomeshch, Panayotis Dimopoulos, Carlos Aguiar, Stephan M. Hennekens & Lubomír Tichý



Ladislav Mucina

All units

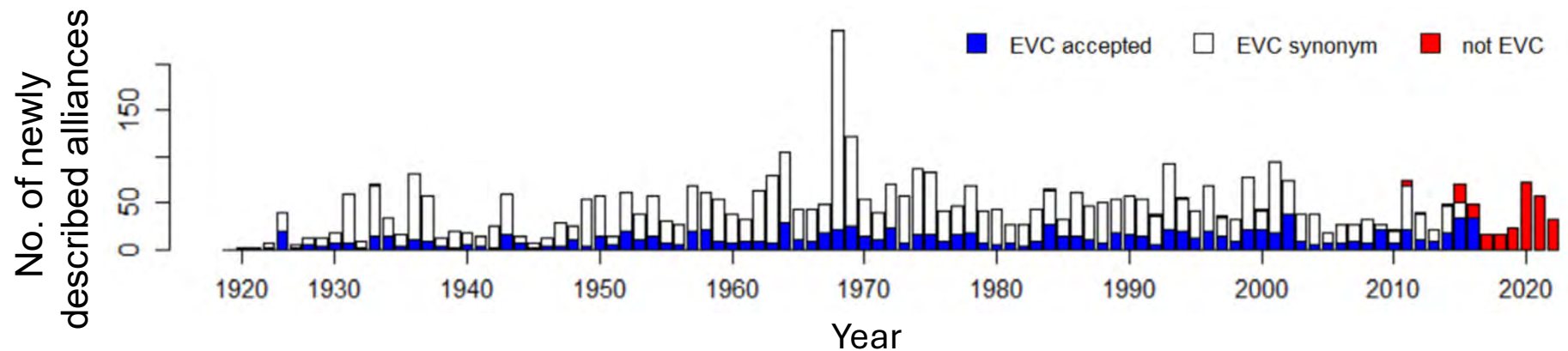
- 149 classes
- 377 orders
- 1296 alliances

Dominated by vascular plants

- 109 classes
- 300 orders
- 1106 alliances

EuroVegChecklist

More than 300 new alliances have been published in Europe since the publication of the EuroVegChecklist



Revisions of the EuroVegChecklist classification

European Vegetation Classification Committee

euroveg.org/evc-committee



European
Vegetation
Survey



EVC Committee

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European Vegetation Classification Committee (EVCC)

The European Vegetation Classification Committee has been established by the IAVS Working Group European Vegetation Survey to maintain and update the standard phytosociological classification of European vegetation, taking the '[EuroVegChecklist](#)' (Mucina et al. 2016, [Applied Vegetation Science 19, Suppl. 1: 3–264](#)) as a baseline. The EVCC work is defined by the document [Procedures for Updating the Standard European Vegetation Classification](#).

Proposals for changes of specific parts of EuroVegChecklist can be submitted to the acting EVCC Secretary Wolfgang Willner (wolfgang.willner@vinca.at) or Deputy Secretary Idoia Biurrun (idoia.biurrun@ehu.eus).

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News

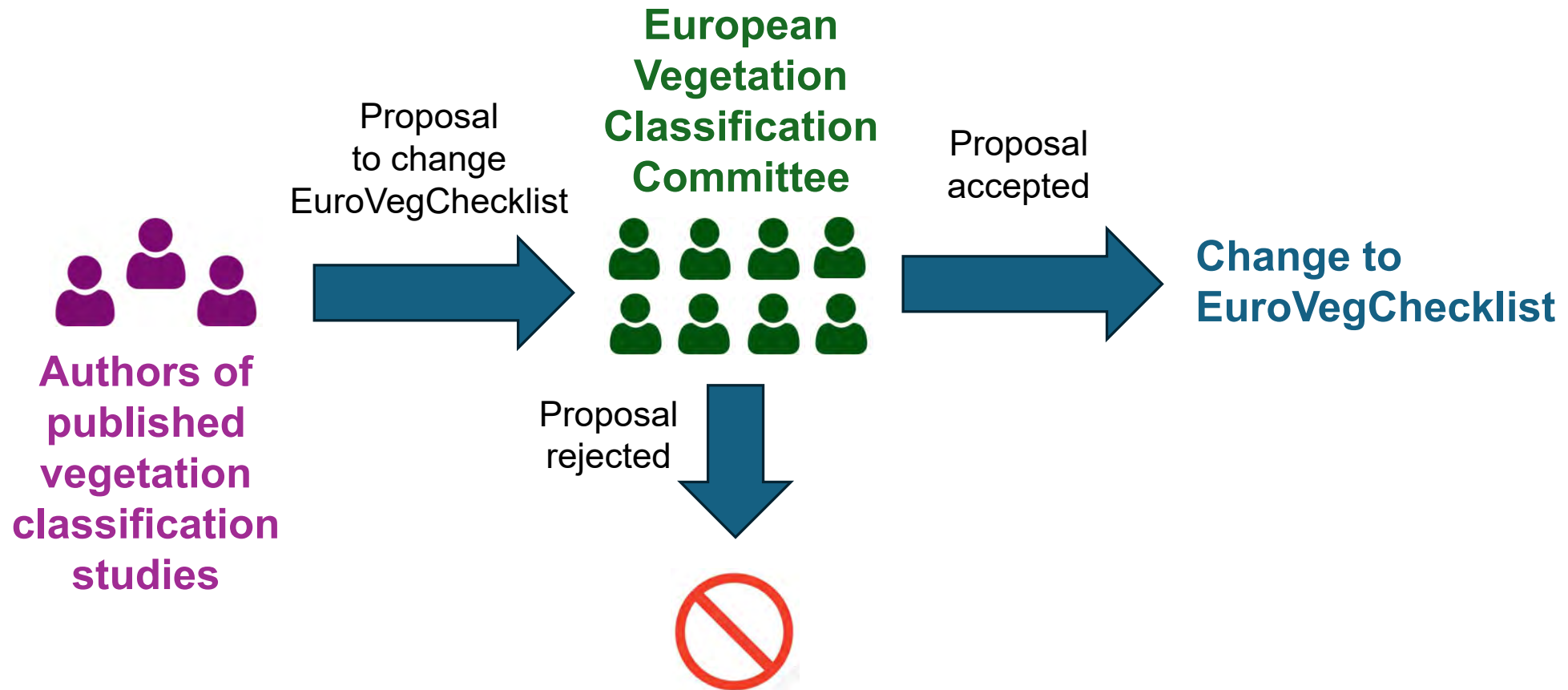
2024-05-25 19th Eurasian Grassland Conference Bolzano, Italy, 26 Aug – 1 Sep 2024 [See more >](#)

2024-01-24 32nd EVS Conference, Madeira, 16-20 Sep 2024 - website open [See more >](#)

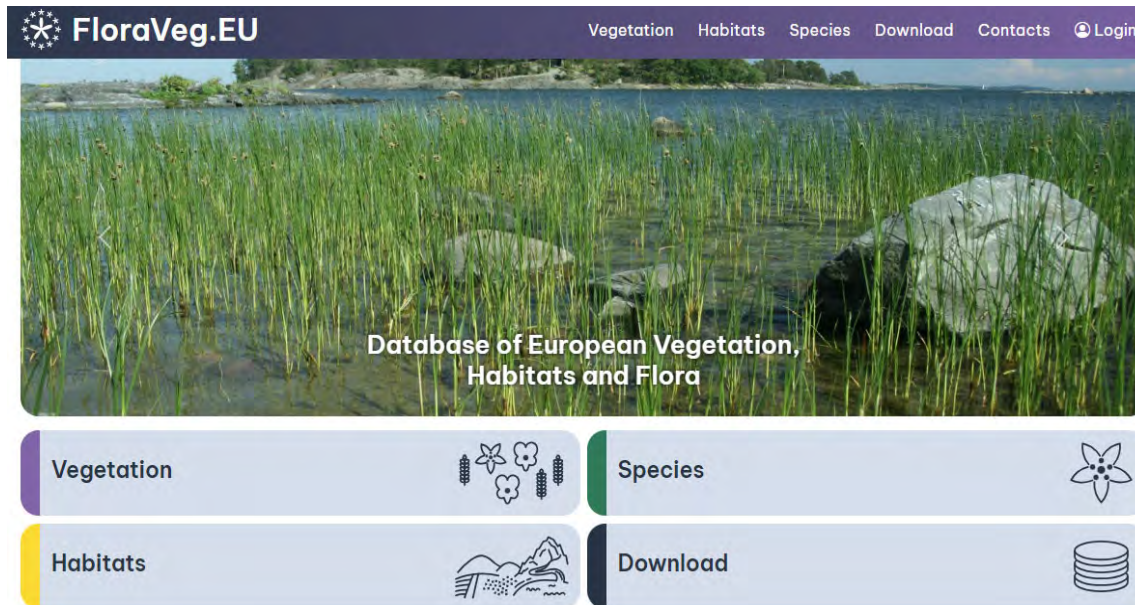
Members of the European Vegetation Classification Committee

- Emiliano Agrillo, IT
- Iva Apostolova, BG
- Olivier Argagnon, FR
- Fabio Attorre, IT
- Christian Berg, AT/DE
- Erwin Bergmeier, DE
- Edoardo Biondi, IT
- Frédéric Bioret, FR
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- Monika Janišová, SK
- Jan Jansen, NL
- John Janssen, NL
- Borja Jiménez-Alfaro, ES
- Zygmunt Kački, PL
- Anna Kuzemko, UA
- Flavia Landucci, CZ/IT
- Attila Lengyel, HU
- Javier Loidi, ES

Revisions of the EuroVegChecklist classification



FloraVeg.EU database launched in 2022



MUNI



Received: 19 February 2024 | Revised: 16 June 2024 | Accepted: 12 July 2024
DOI: 10.1111/avsc.12798

Applied Vegetation Science

REPORT

FloraVeg.EU – An online database of European vegetation, habitats and flora

Milan Chytrý¹ | Marcela Řezníčková¹ | Petr Novotný² | Dana Holubová¹ | Zdenka Preislerová¹ | Fabio Attorre³ | Idoia Biurrun⁴ | Petr Blažek⁵ | Gianmaria Bonari⁶ | Dariia Borovyk^{1,7} | Natálie Čeplová⁸ | Jiří Danihelka^{1,9} | Denys Davydov⁷ | Pavel Dřevojan¹ | Nina Fahs¹ | Riccardo Guarino¹⁰ | Behlül Güler^{1,11} | Stephan M. Hennekens¹² | Richard Hrivnák¹³ | Veronika Kalníková¹⁴ | Veronika Kalusová¹ | Tomáš Keibert⁵ | Ilona Knollová¹ | Kateřina Knotková¹ | Dragan Koljanin¹⁵ | Anna Kuzemko^{1,7} | Javier Loidi⁴ | Zdeňka Lososová¹ | Corrado Marcenò¹⁶ | Gabriele Midolo¹⁷ | Djordjije Milanović¹⁵ | Ladislav Mucina¹⁸ | Pavel Novák¹ | Eckhard von Raab-Straube¹⁹ | Kamila Reczyńska²⁰ | Joop H. J. Schaminée¹² | Petra Štěpánková¹ | Krzysztof Świerkosz²¹ | Jakub Těšitel¹ | Tamara Těšitelová¹ | Lubomír Tichý¹ | Denys Vynokurov^{4,7} | Wolfgang Willner^{22,23} | Irena Axmanová¹

Chytrý et al. 2024, *Applied Vegetation Science*

FloraVeg.EU database



Vegetation



Habitats



Species



FloraVeg.EU database: Vegetation

Information about vegetation

EuroVegChecklist version 2024-09-22 ([version export](#))

Search

Syntaxon

Phanerogamic communities

Zonal and intrazonal vegetation

A - Vegetation of the arctic zone

AA (PAP) *Drabo corymbosae*-*Papaveretea dahliani*

[detail](#)

AB (KOB) *Carici rupestris*-*Kobresietea bellardii*

[detail](#)

AC (LOI) *Loiseleurio procumbentis*-*Vaccinietea*

[detail](#)

AD (SAX) *Saxifrago tricuspidatae*-*Calamagrostietea purpurascens*

[detail](#)

AE (COC) *Saxifrago cernuae*-*Cochlearietea groenlandicae*

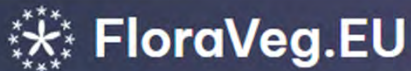
[detail](#)

B - Vegetation of the boreal zone

BA (PIC) *Vaccinio*-*Piceetea*

[detail](#)

FloraVeg.EU database: Vegetation

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Alliance JD02B (AMM-02B)

Diantho attenuati-Scrophularion caninae Baudière et Simonneau 1974 nom. corr. et mut. Marcenò et al. 2024

[new search](#)

Sandy grasslands and dwarf scrub on base-rich stabilised grey hind dunes of the shores of the Gulf of Lions (Languedoc and Northern Catalonia)

Vegetation → *Ammophiletea arundinaceae* → *Crucianelletalia maritimae* → *Diantho attenuati-Scrophularion caninae*

[Overview](#)[Nomenclature](#)[Distribution](#)[Habitats](#)

Accepted name

Diantho attenuati-Scrophularion caninae Baudière et Simonneau 1974 nom. corr. et mut. Marcenò et al. 2024

EuroVegChecklist name (Mucina et al. 2016)

Diantho catalaunici-Scrophularion humifusae Baudière et Simonneau 1974

Synonyms

- *Diantho catalaunici-Scrophularion humifusae* Baudière et Simonneau 1974 (orig. name)



FloraVeg.EU database: Vegetation

Maps of European vegetation alliances

Preislerová et al. 2022, *Applied Vegetation Science*

Zdenka Preislerová

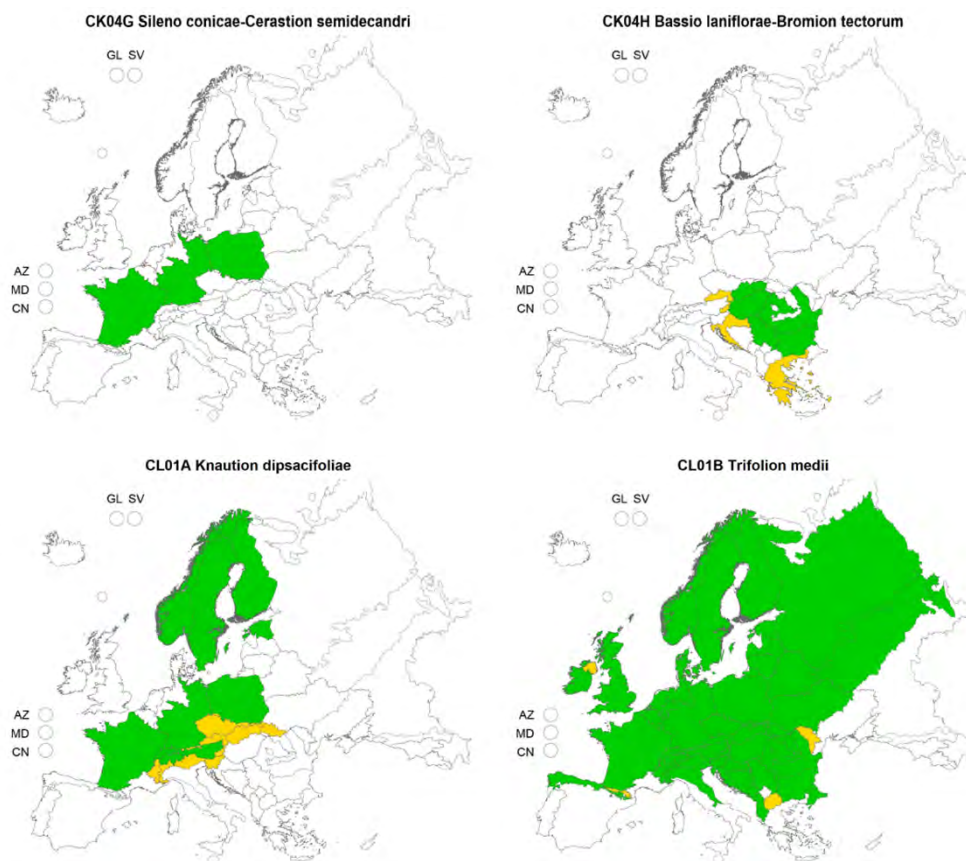
Received: 10 July 2021 | Revised: 19 January 2022 | Accepted: 20 January 2022
DOI: 10.1111/avsc.12642

VEGETATION SURVEY

Applied Vegetation Science

Distribution maps of vegetation alliances in Europe

Zdenka Preislerová¹ | Borja Jiménez-Alfaro² | Ladislav Mucina^{3,4} | Christian Berg⁵ | Gianmaria Bonari⁶ | Anna Kuzemko^{1,7} | Flavia Landucci¹ | Corrado Marcelli¹ | Tiago Monteiro-Henriques^{8,9} | Pavel Novák¹ | Denys Vynokurov^{1,7} | Erwin Bergmeier¹⁰ | Jürgen Dengler^{11,12,13} | Iva Apostolova¹⁴ | Frederic Bioret¹⁵ | Idoia Biurrun¹⁶ | Juan Antonio Campos¹⁶ | Jorge Capelo¹⁷ | Andraž Čarni^{18,19} | Süleyman Çoban²⁰ | János Csiky²¹ | Mirjana Čuk²² | Renata Čušterevska²³ | Fred J.A. Daniëls²⁴ | Michele De Sanctis²⁵ | Yakiv Didukh⁷ | Daniel Dítě²⁶ | Giuliano Fanelli²⁵ | Yaroslav Golovanov²⁷ | Valentin Golub²⁸ | Riccardo Guarino²⁹ | Michal Hájek¹ | Dmytro Iakushenko³⁰ | Adrian Indreica³¹ | Florian Jansen³² | Anni Jašková¹ | Martin Jiroušek^{1,33} | Veronika Kalníková^{1,34} | Ali Kavğacı³⁵ | Ilya Kucherov³⁶ | Filip Kůzmič¹⁸ | Maria Lebedeva²⁷ | Javier Loidi¹⁶ | Zdeňka Lososová¹ | Tatiana Lysenko^{20,36} | Đorđije Milanović³⁷ | Viktor Onyshchenko⁷ | Gwenael Perrin¹⁵ | Tomáš Peterka¹ | Valerijus Rašomavičius³⁸ | María Pilar Rodríguez-Rojas³⁹ | John S. Rodwell⁴⁰ | Solvita Rūšina⁴¹ | Daniel Sánchez-Mata⁴² | Joop H.J. Schaminée⁴³ | Yuri Semenishchenko⁴⁴ | Nikolay Shevchenko⁴⁵ | Jozef Šibík²⁶ | Željko Škvorc⁴⁶ | Viktor Smagin³⁶ | Danijela Stešević⁴⁷ | Vladimir Stupar³⁷ | Kateřina Šumberová⁴⁸ | Jean-Paul Theurillat^{49,50} | Elena Tikhonova⁴⁵ | Rossen Tzonev⁵¹ | Milan Valachovič²⁶ | Kiril Vassilev¹⁴ | Wolfgang Willner⁵² | Sergey Yamalov²⁷ | Martin Večeřa¹ | Milan Chytrý¹





Zdenka Preislerová

FloraVeg.EU database: Vegetation Maps of European vegetation alliances

Preislerová et al. 2022, *Applied Vegetation Science*

Received: 10 July 2021 | Revised: 19 January 2022 | Accepted: 20 January 2022
DOI: 10.1111/aver.12642

VEGETATION SURVEY

Applied Vegetation Science

Distribution maps of vegetation alliances in Europe

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Published June 12, 2024 | Version 2.0

Dataset Open

Distribution maps of vegetation alliances in Europe

Preislerová, Zdenka¹ | Jiménez-Alfaro, Borja² | Mucina, Ladislav³ | Berg, Christian⁴ | Bonari, Gianmaria⁵ | Kuzemko, Anna⁶ | Landucci, Flavia⁷ | Marcenò, Corrado⁸ | Monteiro-Henriques, Tiago⁹ | Novák, Pavel¹⁰ | Vynokurov, Denys¹¹ | Bergmeier, Erwin¹² | Dengler, Jürgen¹³ | Apostolova, Iva¹⁴ | Bioret, Frederic¹⁵ | Biurrun, Idoia¹⁶ | Campos, Juan Antonio¹⁷ | Capelo, Jorge¹⁸ | Čarni, Andraž¹⁹ | Çoban, Süleyman²⁰ | Csiky, János²¹ | Čuk, Mirjana²² | Čušterevska, Renata²³ | Daniëls, Fred J.A.²⁴ | De Sanctis, Michele²⁵ | Didukh, Yakiv²⁶ | Dítě, Daniel²⁷ | Fanelli, Giuliano²⁸ | Golovanov, Yaroslav²⁹ | Golub, Valentin³⁰ | Guarino, Riccardo³¹ | Hájek, Michal³² | Iakushenko, Dmytro³³ | Indreica, Adrian³⁴ | Jansen, Florian³⁵ | Jašková, Anni³⁶ | Jiroušek, Martin³⁷ | Kalníková, Veronika³⁸ | Kavğacı, Ali³⁹ | Kucherov, Ilya⁴⁰ | Kůzmič, Filip⁴¹ | Lebedeva, Maria⁴² | Loidi, Javier⁴³ | Lososová, Zdeňka⁴⁴ | Lysenko, Tatiana⁴⁵ | Milanović, Đorđije⁴⁶ | Onyshchenko, Viktor⁴⁷ | Perrin, Gwenhael⁴⁸ | Peterka, Tomáš⁴⁹ | Rašomavičius, Valerijus⁵⁰ | Rodríguez-Rojo, María Pilar⁵¹ | Rodwell, John S.⁵² | Rūsiņa, Solvita⁵³ | Sánchez-Mata, Daniel⁵⁴ | Schaminée, Joop H.J.⁵⁵ | Semenishchenkov, Yuri⁵⁶ | Shevchenko, Nikolay⁵⁷ | Šibík, Jozef⁵⁸ | Škvorc, Željko⁵⁹ | Smagin, Viktor⁶⁰ | Stešević, Danijela⁶¹ | Stupar, Vladimir⁶² | Šumberová, Kateřina⁶³ | Theurillat, Jean-Paul⁶⁴ | Tikhonova, Elena⁶⁵ | Tzonev, Rossen⁶⁶ | Valachovič, Milan⁶⁷ | Vassilev, Kiril⁶⁸ | Willner, Wolfgang⁶⁹ | Yamalov, Sergey⁷⁰ | Chytrý, Milan⁷¹

Show affiliations

This dataset contains information on the occurrence of phytosociological alliances in European territorial units. The first version, including a description of the methods, was published by Preislerová et al. (2022).

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Versions

Version 2.0 Jun 12, 2024
10.5281/zenodo.11580949

Version 1.0 Jan 28, 2022
10.5281/zenodo.5879676

View all 2 versions

Cite all versions? You can cite all versions by using the DOI 10.5281/zenodo.5879676. This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

External resources

Indexed in

OpenAIRE

FloraVeg.EU database: Vegetation

Alliance C101B (NAR-01B)

***Violion caninae* Schwickerath 1944**

Meso-subxerophytic oligotrophic pastures in the lowland to submontane belts of Western and Central Europe

[new search](#)

Vegetation → *Nardetea strictae* → *Nardetalia strictae* → *Violion caninae*

[Overview](#)[Nomenclature](#)[Distribution](#)[Habitats](#)[Pictures](#)

Dominant life form: **Perennial graminoids**

Phenological optimum: **Summer**

Substrate humidity: **Mesic**

Substrate reaction: **Acidic**

Salinity: **Non-saline**

Nutrient status: **Oligotrophic**

Soil organic matter: **Mineral soil**

Vegetation zone: **Hemiboreal, Nemoral,
Submediterranean**

Elevational vegetation belt: **Colline, Submontane,
Montane**

Azonality: **Steep slope, Alpine, snow-protected,
Zonal habitats**

Successional status: **Mid-successional**

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[See distribution...](#)

FloraVeg.EU database

Photo submission portal: floraveg.eu/vegetation/contribution


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Contributing vegetation photographs to FloraVeg.EU

Do you have photos of vegetation, especially of missing alliances, that you would like to provide to FloraVeg.EU? You can upload them here:

Contribute photos

- The photos must be assigned to alliances according to the concepts and syntaxonomical nomenclature of FloraVeg.EU.
- The photos should have been taken in Europe, including the Caucasus countries, the European part of Russia, Greenland, Iceland, Svalbard, the Azores, Madeira, the Canary Islands, and Cyprus. If there are no or very few photos of a particular syntaxon from Europe, we also accept photos from the Asian part of Turkey or Western Siberia.
- The photo's resolution should be as high as possible, but at least 2400 x 1800 px (width/height).
- The image format must be *.jpg or *.jpeg.
- Do not add any text to the photo. The author's copyright information will be automatically added in the format „© first_name surname“.
- The locality format should start (i) with the nearest town/village followed by detailed information about the location or (ii) from a broader to narrower area (e.g. region, district, village; mountains, village).

An overview of the photographic database

- **Red** is used for syntaxa that have no photo in the database. The acquisition of photos of these syntaxa is the priority.
- **Black** is used for syntaxa that have at least one photo in the database. However, we are happy to receive more photos of the same vegetation type. You can also provide us with photos of better quality than the photos currently displayed in FloraVeg.EU.

Alliances

AA01A (PAP-01A) <i>Papaverion dahliaei</i>	0 
AB01A (KOB-01A) <i>Kobresio-Dryadion</i>	0 
AB01B (KOB-01B) <i>Dryado octopetalae-Caricion arctisibiricae</i>	0 
AB01C (KOB-01C) <i>Dryadion integrifoliae</i>	1 
AB02A (KOB-02A) <i>Oxytropido-Elynon myosuroidis</i>	1 
AB02B (KOB-02B) <i>Leontopodio nivalis-Elynon myosuroidis</i>	1 
AB02C (KOB-02C) <i>Festucion versicoloris</i>	3 

Contributors

Author	Images	Alliances
Krzysztof Świerkosz	1122	122
Milan Chytrý	898	166
Kamila Reczyńska	333	32
Zdenka Preislerová	318	124
Gianmaria Bonari	271	33
Richard Hrivnák	201	66

FloraVeg.EU database



Vegetation



Habitats



Species



FloraVeg.EU database: EUNIS classification

R22 Low and medium altitude hay meadow

Q new search

Habitats → Grasslands and lands dominated by forbs, mosses or lichens → Mesic grasslands → Low and medium altitude hay meadow

Overview

Nomenclature

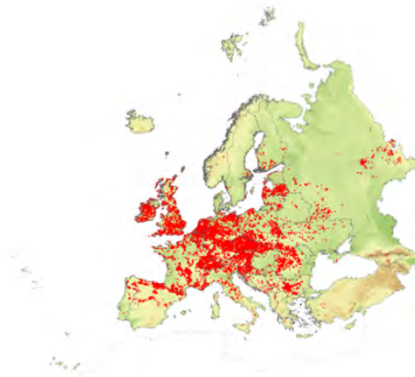
Species

Distribution

Alliances

Pictures

The most common and widespread kind of traditionally managed meadow in deeper, well-drained mesic soils throughout the lowlands and foothills of temperate Europe, with many local types differing according to regional climate, terrain and mowing traditions. Typically dominated by mixtures of productive grasses and herbs, it can be very species-rich with distinctive scarce and rare plants where traditional regimes of mowing, grazing and manuring are maintained. Often once part of wider agricultural landscapes with associated pastures, it is now widely transformed by shifts to silage production and transitions to intensive silage grasslands are commonplace.



See distribution...



See all pictures...

Chytrý M., Tichý L., Hennekens S.M., Knolová I., Janssen J.A.M., Rodwell J.S. ... Schaminée J.H.J. (2020) EUNIS Habitat Classification: expert system, characteristic species combinations and distribution maps of European habitats. *Applied Vegetation Science* 23: 648–675. <https://doi.org/10.1111/avsc.12519>

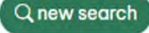
Version 2025-10-03, <https://doi.org/10.5281/zenodo.16895007>.

For the official presentation of the EUNIS Habitat Classification from the European Environment Agency, please see: [EUNIS Terrestrial Habitat Classification 2021](#). The FloraVeg.EU presentation may show modifications and partial updates to the habitat classification.

FloraVeg.EU database: EUNIS classification

 **FloraVeg.EU**

Vegetation **Habitats** Species Download Contacts  Login

R22 *Low and medium altitude hay meadow* 

Habitats → Grasslands and lands dominated by forbs, mosses or lichens → Mesic grasslands → Low and medium altitude hay meadow

Overview **Nomenclature** Species Distribution **Alliances** Pictures

- Gypsophilo glomeratae-Cephalarion coriaceae
- Arrhenatherion elatioris
- Cynosurion cristati
- Brachypodio-Centaureion nemoralis
- Salvia pratensis-Dactylidion glomeratae
- Rumicion thyrsoflori
- Trifolio pratensis-Brizion elatioris
- Agrostion vinealis
- Trifolion montani

Legend

- < the habitat type is defined as a part of the alliance
- > the habitat type is broader than and completely including the alliance
- <> the habitat type and the alliance have a large part that overlaps but also parts that do not overlap
- = the habitat type is equal to the alliance
- × no relation

Crosswalks habitats – vegetation types

Chytrý M., Tichý L., Hennekens S.M., Knollová I., Janssen J.A.M., Rodwell J.S. ... Schaminée J.H.J. (2020) EUNIS Habitat Classification: expert system, characteristic species combinations and distribution maps of European habitats. *Applied Vegetation Science* 23: 648–675. <https://doi.org/10.1111/avsc.12519>

Version 2025-10-03, <https://doi.org/10.5281/zenodo.16895007>.

For the official presentation of the EUNIS Habitat Classification from the European Environment Agency, please see: [EUNIS Terrestrial Habitat Classification 2021](#). The FloraVeg.EU presentation may show modifications and partial updates to the habitat classification.

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FloraVeg.EU database: EUNIS classification

R22 Low and medium altitude hay meadow

 new search

Habitats → Grasslands and lands dominated by forbs, mosses or lichens → Mesic grasslands → Low and medium altitude hay meadow

Overview Nomenclature **Species** Distribution Alliances Pictures

Diagnostic taxa

Achillea millefolium aggr., *Agrostis capillaris*, *Alopecurus pratensis*, *Anthoxanthum odoratum* aggr., *Anthriscus sylvestris*, *Arrhenatherum elatius*, *Avenula pubescens*, *Bellis perennis*, *Campanula patula* aggr., *Carum carvi*, *Centaurea jacea* aggr., *Cerastium fontanum* subsp. *vulgare*, *Crepis biennis*, *Cynosurus cristatus*, *Dactylis glomerata*, *Festuca rubra* aggr., *Galium mollugo* aggr., *Heracleum sphondylium*, *Holcus lanatus*, *Knautia arvensis*, *Lathyrus pratensis*, *Leontodon hispidus*, *Leucanthemum vulgare* aggr., *Lotus corniculatus*, *Phleum pratense*, *Pimpinella major*, *Plantago lanceolata*, *Poa pratensis* aggr., *Poa trivialis*, *Ranunculus acris* aggr., *Rhinanthus minor*, *Rumex acetosa*, *Schedonorus pratensis*, *Stellaria graminea*, *Taraxacum* sect. *Taraxacum*, *Tragopogon pratensis*, *Trifolium dubium*, *Trifolium pratense*, *Trifolium repens*, *Trisetum flavescens*, *Veronica chamaedrys* aggr., *Vicia cracca*

Constant taxa

Achillea millefolium aggr., *Agrostis capillaris*, *Ajuga reptans*, *Alopecurus pratensis*, *Anthoxanthum odoratum* aggr., *Anthriscus sylvestris*, *Arrhenatherum elatius*, *Avenula pubescens*, *Bellis perennis*, *Briza media*, *Bromus hordeaceus*, *Campanula patula* aggr., *Cardamine pratensis* aggr., *Centaurea jacea* aggr., *Cerastium fontanum* subsp. *vulgare*, *Cirsium arvense*, *Crepis biennis*, *Cynosurus cristatus*, *Dactylis glomerata*, *Daucus carota*, *Deschampsia cespitosa* aggr., *Elytrigia repens* aggr., *Equisetum arvense*, *Festuca rubra* aggr., *Galium mollugo* aggr., *Galium verum*, *Glechoma hederacea*, *Heracleum sphondylium*, *Holcus lanatus*, *Hypericum perforatum*, *Hypochaeris radicata*, *Knautia arvensis*, *Lathyrus pratensis*, *Leontodon hispidus*, *Leucanthemum vulgare* aggr., *Lolium perenne*, *Lotus corniculatus*, *Luzula campestris* aggr., *Medicago lupulina*, *Phleum pratense*, *Pimpinella saxifraga*, *Plantago lanceolata*, *Plantago media*, *Poa pratensis* aggr., *Poa trivialis*, *Potentilla erecta*, *Prunella vulgaris*, *Ranunculus acris* aggr., *Ranunculus bulbosus*, *Ranunculus repens*, *Rhinanthus minor*, *Rumex acetosa*, *Schedonorus pratensis*, *Scorzoneroideis autumnalis*, *Silene flos-cuculi*, *Stellaria graminea*, *Taraxacum* sect. *Taraxacum*, *Tragopogon pratensis*, *Trifolium dubium*, *Trifolium pratense*, *Trifolium repens*, *Trisetum flavescens*, *Veronica chamaedrys* aggr., *Vicia cracca*, *Vicia sepium*

Dominant taxa

Agrostis capillaris, *Arrhenatherum elatius*, *Festuca rubra* aggr., *Holcus lanatus*

Chytrý M., Tichý L., Hennekens S.M., Knollová I., Janssen J.A.M., Rodwell J.S. ... Schaminée J.H.J. (2020) EUNIS Habitat Classification: expert system, characteristic species combinations and distribution maps of European habitats. *Applied Vegetation Science* 23: 648–675. <https://doi.org/10.1111/avsc.12519>

Version 2025-10-03, <https://doi.org/10.5281/zenodo.16895007>.

For the official presentation of the EUNIS Habitat Classification from the European Environment Agency, please see: [EUNIS Terrestrial Habitat Classification 2021](#). The FloraVeg.EU presentation may show modifications and partial updates to the habitat classification.

FloraVeg.EU database



Vegetation



Habitats



Species



FloraVeg.EU database: Species data

**FloraVeg.EU**

Vegetation Habitats **Species** Download Contacts  Login

Allium ursinum  new search

Species → Tracheophyta → Spermatophytina → Magnoliopsida → Liliaceae → Asparagales → Amaryllidaceae → Allium → *Allium ursinum*

Data  download factsheet **Pictures**

All Habitus and growth type Leaf Flower Fruit, seed and dispersal Taxon origin Ecology
Habitat and sociology Distribution

Habitus and growth type
Plant height [m]: 0.3 ?
Life span: Perennial ?
Life form: Geophyte ?

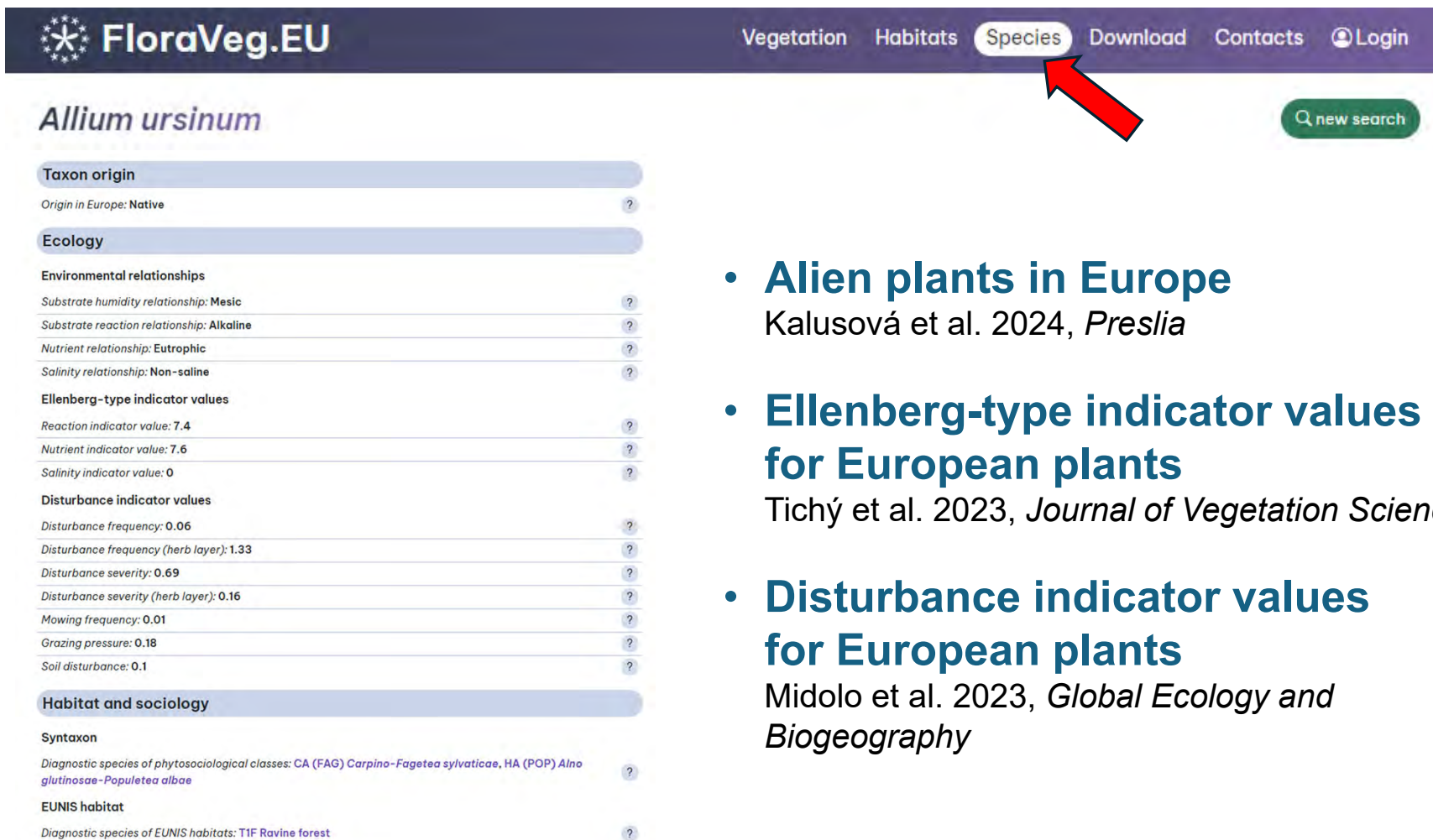
Leaf
Specific leaf area [mm²/mg]: 37.25 ?

Flower
Flowering period: April-June ?

Fruit, seed and dispersal
Seed mass [mg]: 6.04 ?



FloraVeg.EU database: Species data



FloraVeg.EU

Vegetation Habitats **Species** Download Contacts Login

Allium ursinum [new search](#)

Taxon origin

Origin in Europe: Native ?

Ecology

Environmental relationships

Substrate humidity relationship: Mesic ?

Substrate reaction relationship: Alkaline ?

Nutrient relationship: Eutrophic ?

Salinity relationship: Non-saline ?

Ellenberg-type indicator values

Reaction indicator value: 7.4 ?

Nutrient indicator value: 7.6 ?

Salinity indicator value: 0 ?

Disturbance indicator values

Disturbance frequency: 0.06 ?

Disturbance frequency (herb layer): 1.33 ?

Disturbance severity: 0.69 ?

Disturbance severity (herb layer): 0.16 ?

Mowing frequency: 0.01 ?

Grazing pressure: 0.18 ?

Soil disturbance: 0.1 ?

Habitat and sociology

Syntaxon

Diagnostic species of phytosociological classes: CA (FAG) *Carpino-Fagetetea sylvaticae*, HA (POP) *Alno glutinosae-Populetea albae* ?

EUNIS habitat

Diagnostic species of EUNIS habitats: T1F Ravine forest ?

- **Alien plants in Europe**
Kalusová et al. 2024, *Preslia*
- **Ellenberg-type indicator values for European plants**
Tichý et al. 2023, *Journal of Vegetation Science*
- **Disturbance indicator values for European plants**
Midolo et al. 2023, *Global Ecology and Biogeography*

Database 2

European Vegetation Archive (EVA)



European Vegetation Archive (EVA)



- Initiated in 2012
- IAVS Working Group
European Vegetation Survey
- Data Property and
Governance Rules
- Coordinating Board and
Council

euroveg.org/eva-database

EVA Database

European Vegetation Archive (EVA)

The European Vegetation Archive (EVA) is an initiative of European Vegetation Survey aimed at establishing and maintenance of a single data repository of vegetation-plot observations (i.e. records of plant taxon co-occurrence at particular sites, also called phytosociological relevés) from Europe and adjacent areas and to facilitate the use of these data for non-commercial purposes, mainly academic research and applications in nature conservation and ecological restoration. The initiative follows the [EVA Data Property and Governance Rules](#). It closely cooperates with the Global Index of Vegetation-Plot Databases ([GIVD](#)), the Global Vegetation Database ([sPlot](#)), the Plant Trait Database ([TRY](#)) and the Euro+Med PlantBase ([Euro+Med](#)).



- [Who Are We?](#)
- [Participating Databases](#)
- [EVA Projects](#)
- [EVA Publications](#)
- [EVA Reports](#)
- [How To Obtain Data](#)
- [ReSurveyEurope](#)

European Vegetation Archive (EVA)



Turboveg 3

Management tool for vegetation plot data



Stephan Hennekens



Borja Jiménez-Alfaro

European Vegetation Archive (EVA)



- 2012–2014: Technical preparation
- Coordination at Masaryk University (CZ) and Wageningen Environmental Research (NL)
- First databases joined
- 2014: First data released for projects
- 2016: Report article



Applied Vegetation Science **19** (2016) 173–180

REPORT

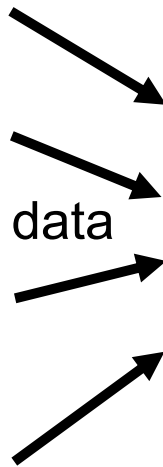
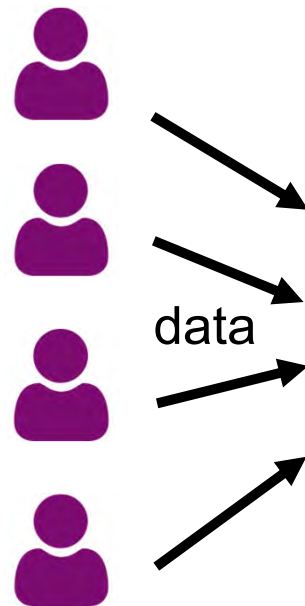
European Vegetation Archive (EVA): an integrated database of European vegetation plots

Milan Chytrý, Stephan M. Hennekens, Borja Jiménez-Alfaro, Ilona Knollová, Jürgen Dengler, Florian Jansen, Flavia Landucci, Joop H.J. Schaminée, Svetlana Ačić, Emiliano Agrillo, Didem Ambarlı, Pierangela Angelini, Iva Apostolova, Fabio Attorre, Christian Berg, Erwin Bergmeier, Idoia Biurrun, Zoltán Botta-Dukát, Henry Brisse, Juan Antonio Campos, Luis Carlón, Andraž Čarni, Laura Casella, János Csiky, Renata Čušterevska, Zora Dajić Stevanović, Jiří Danihelka, Els De Bie, Patrice de Ruffray, Michele De Sanctis, W. Bernhard Dickoré, Panayotis Dimopoulos, Dmytro Dubyna, Tetiana Dziuba, Rasmus Ejrnæs, Nikolai Ermakov, Jörg Ewald, Giuliano Fanelli, Federico Fernández-González, Úna FitzPatrick, Xavier Font, Itziar García-Mijangos, Rosario G. Gavilán, Valentin Golub, Riccardo Guarino, Rense Haveman, Adrian Indreica, Deniz Işık Gürsoy, Ute Jandt, John A.M. Janssen, Martin Jiroušek, Zygmunt Kącki, Ali Kavgacı, Martin Kleikamp, Vitaliy Kolomiychuk, Mirjana Krstivojević Čuk, Daniel Krstonošić, Anna Kuzemko, Jonathan Lenoir, Tatiana Lysenko, Corrado Marcenò, Vassiliy Martynenko, Dana Michalcová, Jesper Erenskjold Moeslund, Viktor Onyshchenko, Hristo Pedashenko, Aaron Pérez-Haase, Tomáš Peterka, Vadim Prokhorov, Valerijus Rašomavičius, Maria Pilar Rodríguez-Rojo, John S. Rodwell, Tatiana Rogova, Eszter Ruprecht, Solvita Rūsiņa, Gunnar Seidler, Jozef Šibík, Urban Šilc, Željko Škvorc, Desislava Sopotlieva, Zvezdana Stančić, Jens-Christian Svenning, Grzegorz Swacha, Ioannis Tsiripidis, Pavel Dan Turtureanu, Emin Uğurlu, Domas Uogintas, Milan Valachovič, Yulia Vashenyak, Kiril Vassilev, Roberto Venanzoni, Risto Virtanen, Lynda Weekes, Wolfgang Willner, Thomas Wohlgemuth & Sergey Yamalov

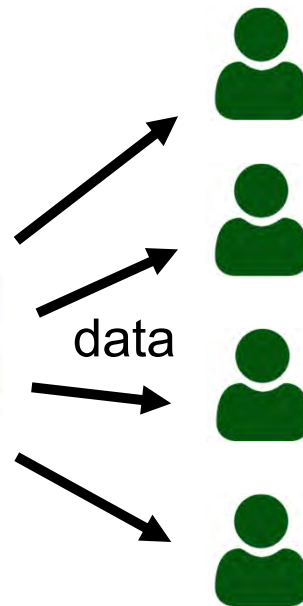
European Vegetation Archive (EVA)



Data
providers



Project
leaders

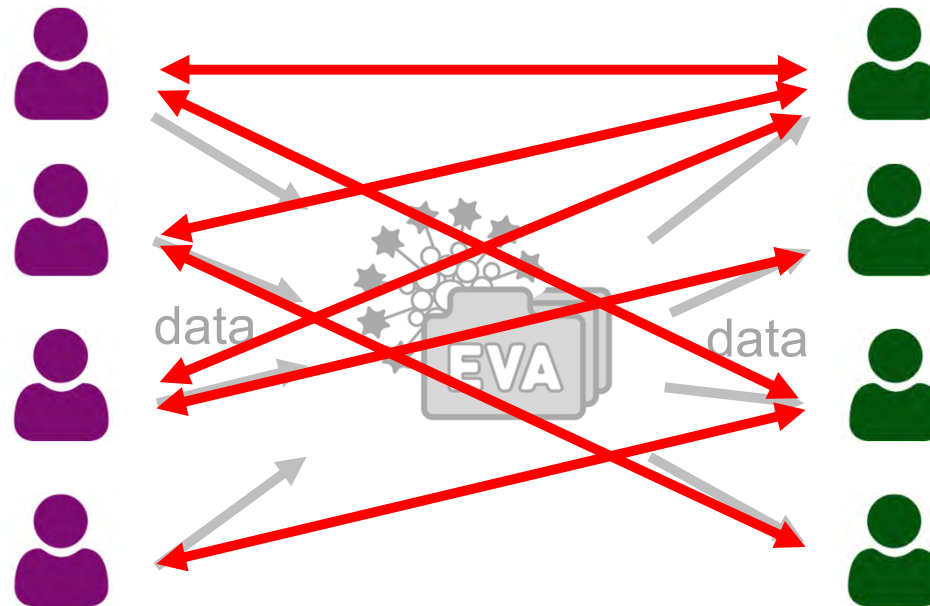


European Vegetation Archive (EVA)



Data
providers

Project
leaders



European Vegetation Archive (EVA)



European Vegetation Archive Data Request Form



To obtain data from the European Vegetation Archive (EVA), including the ReSurveyEurope Database, please first enquire the EVA database administrator Ilona Knollová (ikuzel@sci.muni.cz) whether the data that meet your needs are available. If they are, please fill in the form below and submit it to Ilona or another member of the EVA Coordinating Board (or ReSurveyEurope Board if you ask for data from the ReSurveyEurope Database).

- Applicant's name:

- Applicant's institutional address:

- Applicant's e-mail:

European Vegetation Archive (EVA)





European
Vegetation
Survey



IAVS

EVA Database » EVA Projects

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EVA Projects



- 262 – 2025-10-24 PI@ntAgroEco – PEPR AgroEcologie et Numérique - G. Martellucci [\[PDF\]](#)
- 261 ReSurveyEurope – 2025-10-24 GRACE – GRASSland Communities Experiment - E.S. Mendez [\[PDF\]](#)
- 260 – 2025-09-27 Stipo pulcherrimae-Festucetalia pallentis vegetation in Central and Eastern Europe - I. Vasheniak [\[PDF\]](#)
- 259 – 2025-09-25 Assessment of the relationship between habitat quality and protected areas in the Alps - F. Candini - EXTENSION OF # 248 [\[PDF\]](#)
- 258 – 2025-09-18 Master Thesis about Tilio-Acerion forests - L. Neuerburg [\[PDF\]](#)
- 257 – 2025-08-27 Greylag geese assisting plants to keep pace with climate change - I. Jiménez Martín [\[PDF\]](#) [data selections details: [2025-09-25](#)]
- 256 – 2025-07-08 Factors involved in the invasion of alien woody plants of Europe - K.Ø. Busk [\[PDF\]](#) [data selections details: [2025-08-18](#)]
- 255 – 2025-06-26 Species on the move: Distributional shift of the diagnostic species of dry and alpine grassland habitats under future climates - L. Doni [\[PDF\]](#) [data selections details: [2025-08-01](#)]

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News

2025-09-11 Seminar for Sandro Pignatti, Rome, 21 October 2025 [See more »](#)

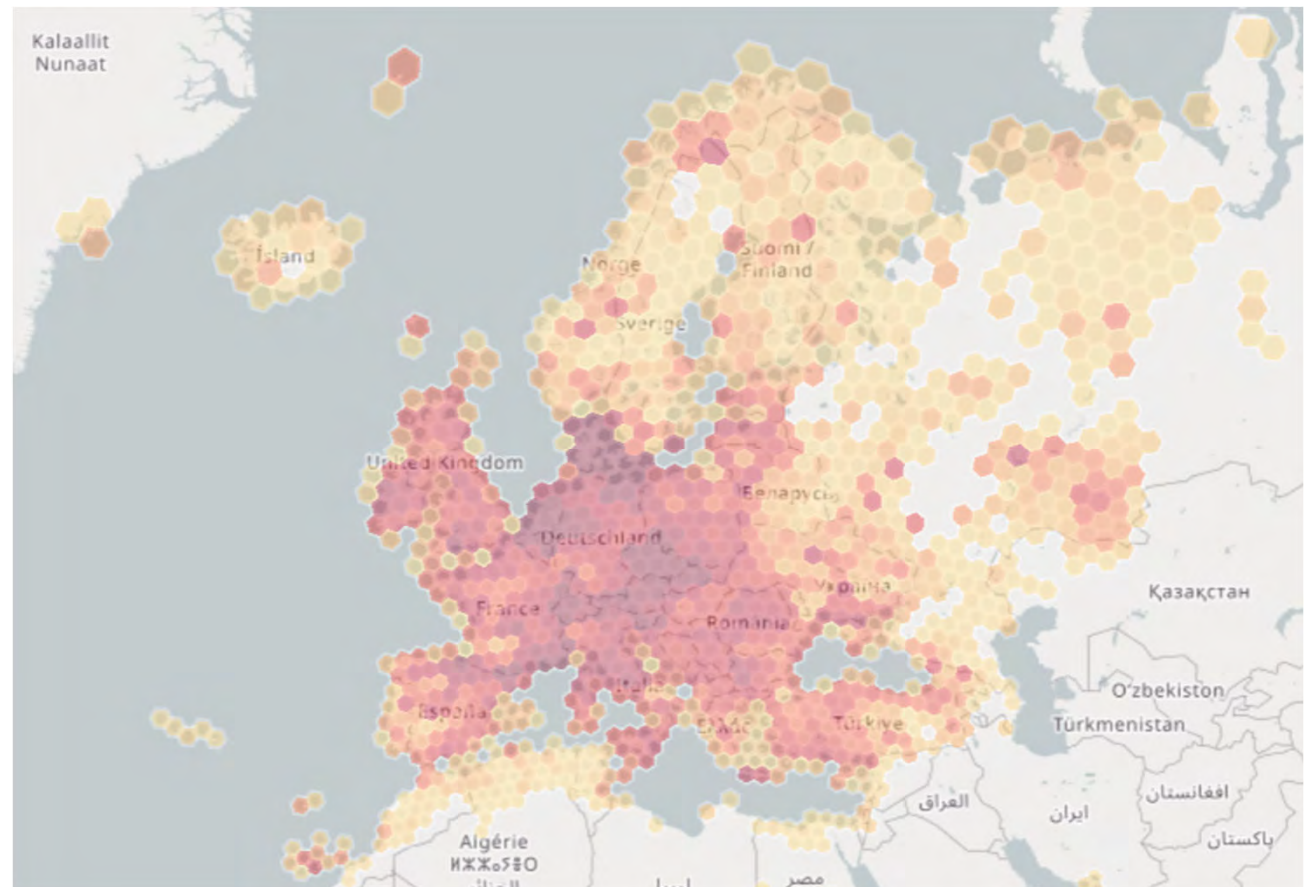
2025-08-18 21st Eurasian Grassland Conference, Sofia, Bulgaria, 20-24 July 2026 [See](#)

European Vegetation Archive (EVA)



Current state

- 108 vegetation-plot databases
- 2.1 mil. vegetation plots
- 262 projects
- 81 research articles



Revisions of European vegetation classification based on EVA



Revisions of EuroVegChecklist classification

Fens



Applied Vegetation Science **20** (2017) 124–142

Formalized classification of European fen vegetation at the alliance level

Tomáš Peterka, Michal Hájek, Martin Jiroušek, Borja Jiménez-Alfaro, Liene Aunina, Ariel Bergamini, Daniel Dítě, Ljuba Felbaba-Klushyna, Ulrich Graf, Petra Hájková, Eva Hettenbergerová, Tatiana G. Ivchenko, Florian Jansen, Natalia E. Koroleva, Elena D. Lapshina, Predrag M. Lazarević, Asbjørn Moen, Maxim G. Napreenko, Paweł Pawlikowski, Zuzana Plesková, Lucia Sekulová, Viktor A. Smagin, Teemu Tahvanainen, Annett Thiele, Claudia Biță-Nicolae, Idoia Biurrun, Henry Brisse, Renata Čušterevska, Els De Bie, Jörg Ewald, Úna FitzPatrick, Xavier Font, Ute Jandt, Zygmunt Kącki, Anna Kuzemko, Flavia Landucci, Jesper E. Moeslund, Aaron Pérez-Haase, Valerijus Rašomavičius, John S. Rodwell, Joop H.J. Schaminée, Urban Šilc, Zvezdana Stančić & Milan Chytrý



Tomáš Peterka

- Peterka et al. 2017
- 13 alliances



Revisions of EuroVegChecklist classification

Beech forests



Applied Vegetation Science **20** (2017) 494–512

Classification of European beech forests: a Gordian Knot?

Wolfgang Willner, Borja Jiménez-Alfaro, Emiliano Agrillo, Idoia Biurrun, Juan Antonio Campos, Andraž Čarni, Laura Casella, János Csiky, Renata Čušterevska, Yakiv P. Didukh, Jörg Ewald, Ute Jandt, Florian Jansen, Zygmunt Kącki, Ali Kavgacı, Jonathan Lenoir, Aleksander Marinšek, Viktor Onyshchenko, John S. Rodwell, Joop H.J. Schaminée, Jozef Šibík, Željko Škvorc, Jens-Christian Svenning, Ioannis Tsiripidis, Pavel Dan Turtureanu, Rossen Tzonev, Kiril Vassilev, Roberto Venanzoni, Thomas Wohlgemuth & Milan Chytrý



Wolfgang Willner

- Willner et al. 2017
- 6 alliances



Revisions of EuroVegChecklist classification

Coastal dunes



Received: 26 April 2016 | Accepted: 17 March 2018

DOI: 10.1111/avsc.12379

VEGETATION SURVEY

Applied Vegetation Science



Classification of European and Mediterranean coastal dune vegetation

Corrado Marcenò^{1,2} | Riccardo Guarino³ | Javier Loidi² | Mercedes Herrera² |
Maïke Isermann⁴ | Ilona Knollová¹ | Lubomír Tichý¹ | Rossen T. Tzonev⁵ |
Alicia Teresa Rosario Acosta⁶ | Úna FitzPatrick⁷ | Dmytro Iakushenko⁸ |
John A. M. Janssen⁹ | Borja Jiménez-Alfaro^{1,14} | Zygmunt Kaćki¹⁰ | Iva Keizer-Sedláková⁹ |
Vitaliy Kolomiychuk¹¹ | John S. Rodwell¹² | Joop H. J. Schaminée⁹ | Urban Šilc¹³ |
Milan Chytrý¹



Corrado Marcenò

- Marcenò et al. 2018
- 16 alliances



Revisions of EuroVegChecklist classification

Mediterranean *Lygeum spartum* grasslands



Received: 25 April 2019 | Revised: 29 July 2019 | Accepted: 12 August 2019

DOI: 10.1111/avsc.12456

VEGETATION SURVEY

Applied Vegetation Science



A formal classification of the *Lygeum spartum* vegetation of the Mediterranean Region

Corrado Marcenò¹  | Riccardo Guarino²  | Ladislav Mucina^{3,4}  | Idoia Biurrun¹  |
Ulrich Deil⁵ | Kamal Shaltout⁶ | Manfred Finckh⁷  | Xavier Font⁸  | Javier Loidi¹ 



Corrado Marcenò

- Marcenò et al. 2019
- 8 alliances



Revisions of EuroVegChecklist classification

Marshes



Received: 27 September 2019 | Revised: 9 December 2019 | Accepted: 16 January 2020

DOI: 10.1111/avsc.12484

RESEARCH ARTICLE

Applied Vegetation Science



Classification of the European marsh vegetation (*Phragmito-Magnocaricetea*) to the association level

Flavia Landucci¹  | Kateřina Šumberová²  | Lubomír Tichý¹  | Stephan Hennekens³  |
Liene Aunina⁴  | Claudia Biță-Nicolae⁵  | Lyubov Borsukevych⁶  | Alexander Bobrov⁷  |
Andraž Čarni⁸  | Els De Bie⁹  | Valentin Golub¹⁰  | Richard Hrivnák¹¹  |
Svitlana Iemelianova¹²  | Ute Jandt¹³  | Florian Jansen¹⁴  | Zygmunt Kački¹⁵  |
Konrád Lájer¹⁶ | Eva Papastergiadou¹⁷  | Urban Šilc⁸  | Zofija Sinkevičienė¹⁸  |
Zvezdana Stančić¹⁹  | Jazep Stepanovič²⁰ | Boris Teteryuk²¹  | Rossen Tzonev²² |
Roberto Venanzoni²³  | Igor Zelnik²⁴  | Milan Chytrý¹ 



Flavia Landucci

- Landucci et al. 2020
- 11 alliances



Revisions of EuroVegChecklist classification

Mediterranean pine forests



Received: 10 December 2019 | Revised: 15 October 2020 | Accepted: 20 October 2020

DOI: 10.1111/avsc.12544

VEGETATION SURVEY

Applied Vegetation Science 

Classification of the Mediterranean lowland to submontane pine forest vegetation

Gianmaria Bonari^{1,2}  | Federico Fernández-González³  | Süleyman Çoban⁴  |
Tiago Monteiro-Henriques^{5,6}  | Erwin Bergmeier⁷  | Yakiv P. Didukh⁸  |
Fotios Xystrakis⁹  | Claudia Angiolini¹⁰  | Kryštof Chytrý¹  | Alicia T.R. Acosta¹¹  |
Emiliano Agrillo¹²  | José C. Costa¹³  | Jiří Danihelka¹  | Stephan M. Hennekens¹⁴  |
Ali Kavgacı¹⁵  | Ilona Knollová¹  | Carlos S. Neto¹⁶  | Coşkun Sağlam¹⁷  |
Željko Škvorc¹⁸  | Lubomír Tichý¹  | Milan Chytrý¹ 

- Bonari et al. 2021
- 10 alliances



Gianmaria Bonari



Revisions of EuroVegChecklist classification

River gravel-bar vegetation



Received: 5 June 2020 | Revised: 7 September 2020 | Accepted: 5 October 2020

DOI: 10.1111/avsc.12542

VEGETATION SURVEY

Applied Vegetation Science



Vegetation of the European mountain river gravel bars: A formalized classification

Veronika Kalníková^{1,2}  | Kryštof Chytrý¹  | Claudia Bița-Nicolae³  |
Francesco Bracco⁴  | Xavier Font⁵  | Dmytro Iakushenko⁶  | Zygmunt Kącki⁷  |
Helmut Kudrnovsky⁸  | Flavia Landucci¹  | Pavel Lustyk²  | Đorđije Milanović⁹  |
Jozef Šibík¹⁰  | Urban Šilc¹¹  | Aldona K. Uziębło¹²  | Mariacristina Villani¹³  |
Milan Chytrý¹ 



Veronika Kalníková

- Kalníková et al. 2021
- 4 alliances



Revisions of EuroVegChecklist classification

Bogs



Martin Jiroušek

- Jiroušek et al. 2022
- 7 alliances



Revisions of EuroVegChecklist classification

Spring vegetation



Preslia 95: 347–383, 2023

doi: 10.23855/preslia.2023.347

Preslia

Formalized classification of the class *Montio-Cardaminetea* in Europe: towards a consistent typology of spring vegetation

Tomáš Peterka^{1*}, Petra Hájková^{1,2}, Martin Jiroušek^{1,3}, Dirk Hinterlang⁴, Milan Chytrý¹, Liene Aunina⁵, Judit Deme⁶, Melinda Lyons⁷, Hallie Seiler⁸, Harald Zechmeister⁹, Iva Apostolova¹⁰, Carl Beierkuhnlein¹¹, Melanie Bischof⁸, Claudia Biță-Nicolae¹², Lisa Brancaloni¹³, Renata Čušterevska¹⁴, Jürgen Dengler^{8,15}, Yakiv Didukh¹⁶, Daniel Dítě¹⁷, Lyubov Felbaba-Klushyna¹⁸, Emmanuel Garbolino¹⁹, Renato Gerdol¹³, Svitlana Iemelianova^{1,16}, Florian Jansen²⁰, Riikka Juutinen²¹, Jasmina Kamberović²², Jutta Kapfer²³, Barbora Klímová¹, Ilona Knollová¹, Tiina H. M. Kolari²⁴, Predrag Lazarević²⁵, Ringa Luostarinen²⁶, Eva Mikulášková¹, Đorđije Milanović²⁷, Luca Miserere²⁸, Jesper Erenskjold Moeslund²⁹, José A. Molina³⁰, Aaron Pérez-Haase³¹, Alessandro Petraglia³², Marta Puglisi³³, Eszter Ruprecht³⁴, Eva Šmerdová¹, Daniel Spitale³⁵, Marcello Tomaselli³², Kiril Vassilev¹⁰ & Michal Hájek¹



Tomáš Peterka

- Peterka et al. 2023
- 10 alliances



Revisions of EuroVegChecklist classification

Mesic deciduous forests



Received: 20 July 2022 | Revised: 9 January 2023 | Accepted: 16 January 2023

DOI: 10.1111/avsc.12712

Applied Vegetation Science



VEGETATION SURVEY

Classification of European oak–hornbeam forests and related vegetation types

Pavel Novák¹ | Wolfgang Willner² | Idoia Biurrun³ | Hamid Gholizadeh⁴ |
Thilo Heinken⁵ | Ute Jandt^{6,7} | Jozef Kollár⁸ | Maria Kozhevnikova⁹ |
Alireza Naqinezhad⁴ | Viktor Onyshchenko¹⁰ | Remigiusz Pielech¹¹ |
Valerijus Rašomavičius¹² | Pavel Shirokikh¹³ | Kiril Vassilev¹⁴ |
Thomas Wohlgemuth¹⁵ | Martin Večeřa¹ | Milan Chytrý¹



Pavel Novák

- Novák et al. 2023
- 8 alliances



Revisions of EuroVegChecklist classification

Annual vegetation of saline wetlands



Applied Vegetation Science

Applied Vegetation Science



VEGETATION SURVEY **OPEN ACCESS**

Annual Vegetation of Saline Seasonal Wetlands (*Crypsietea aculeatae*) in Europe

Svitlana Iemelianova^{1,2} | Daniel Dítě³ | Zuzana Dítě³ | Wolfgang Willner^{4,5} | Erwin Bergmeier⁶ | Aaron Pérez-Haase^{7,8} | Tetiana Dziuba² | Svetlana Aćić⁹ | Mirjana Čuk^{1,10} | Renata Čušterevska¹¹ | Dmytro Dubyna² | Kiril Vassilev¹² | Milan Chytrý¹



Svitlana Iemelianova

- Iemelianova et al. 2025
- 3 alliances becoming 1



EUNIS Habitat classification



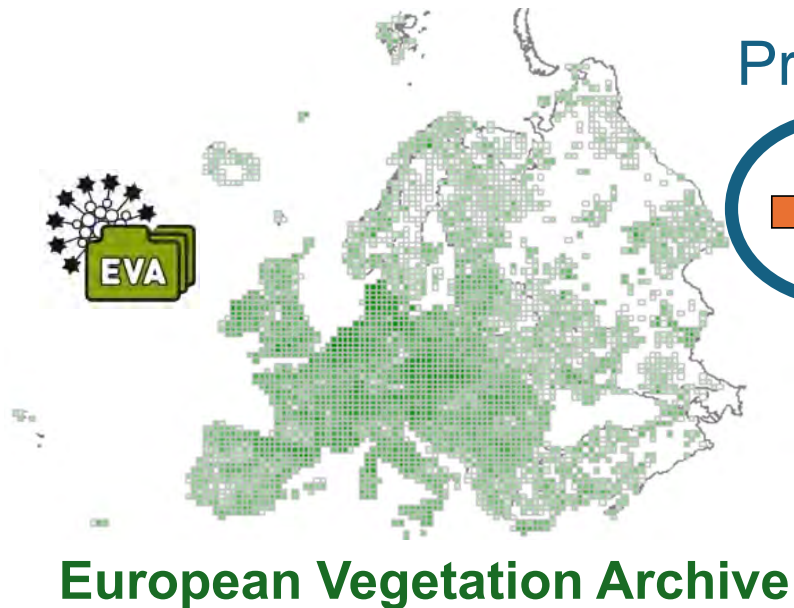
European Environment Agency



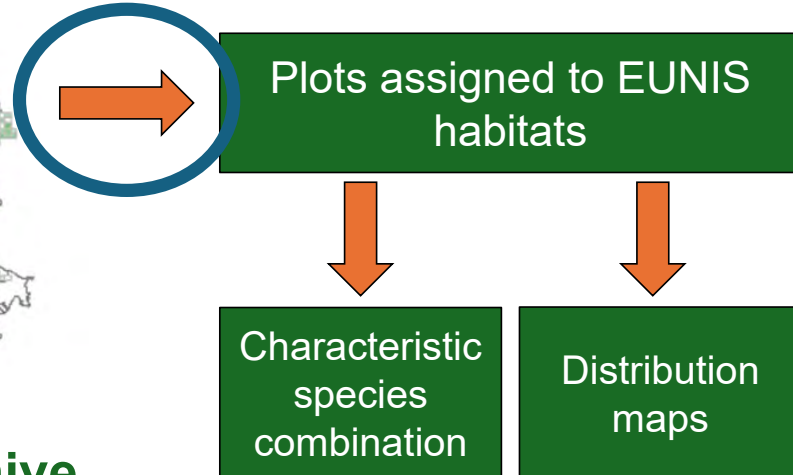
EUNIS revision and parameterization



EUNIS – list of habitat names with no background information



Problem



EUNIS-ESy: an expert system for habitat classification

Solution:
Expert system for habitat identification
(ESy language)



Lubomír Tichý

SECTION 3: Group definitions

5 S55 Thermo-Mediterranean scrub

```
(<#TC Thermomediterranean-maquis-shrubs GR 25>  
AND <#TC Thermomediterranean-maquis-shrubs GR #TC Shrubs EXCEPT #TC  
Thermomediterranean-maquis-shrubs>) NOT <#TC Trees GR 10>
```

2 R1A Semi-dry perennial calcareous grassland (meadow steppe)

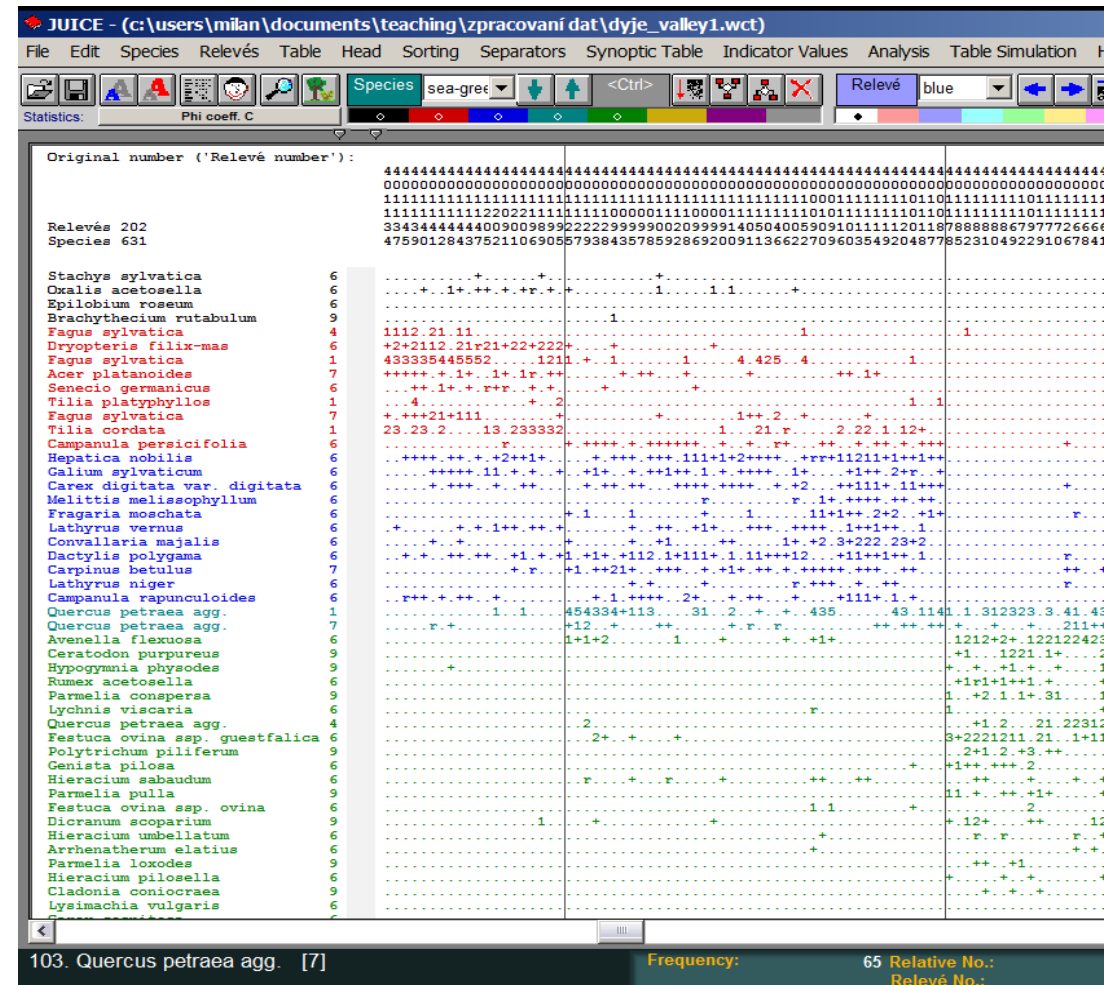
```
((<##Q +04 R1A-Semi-dry-perennial-calcareous-grassland> AND <#03 +04 R1A-Semi-dry-  
perennial-calcareous-grassland>) AND <#T$ GR 30>) NOT <#TC Trees|#TC Shrubs GR 15>
```

3 T Forest

```
(<#TC Native-trees GR 25> OR <#TC Native-light-canopy-trees GR 15>) NOT <#TC Non-  
native-trees GR 15>
```

EUNIS-ESy outputs

- classification of vegetation plots by an expert system in the JUICE program
- coordinates of classified plots exported to Google Earth and GIS



EUNIS-ESy outputs

R1M – Lowland to montane, dry to mesic grassland usually dominated by *Nardus stricta*

Characteristic species combination

Diagnostic species (phi coefficient * 100)

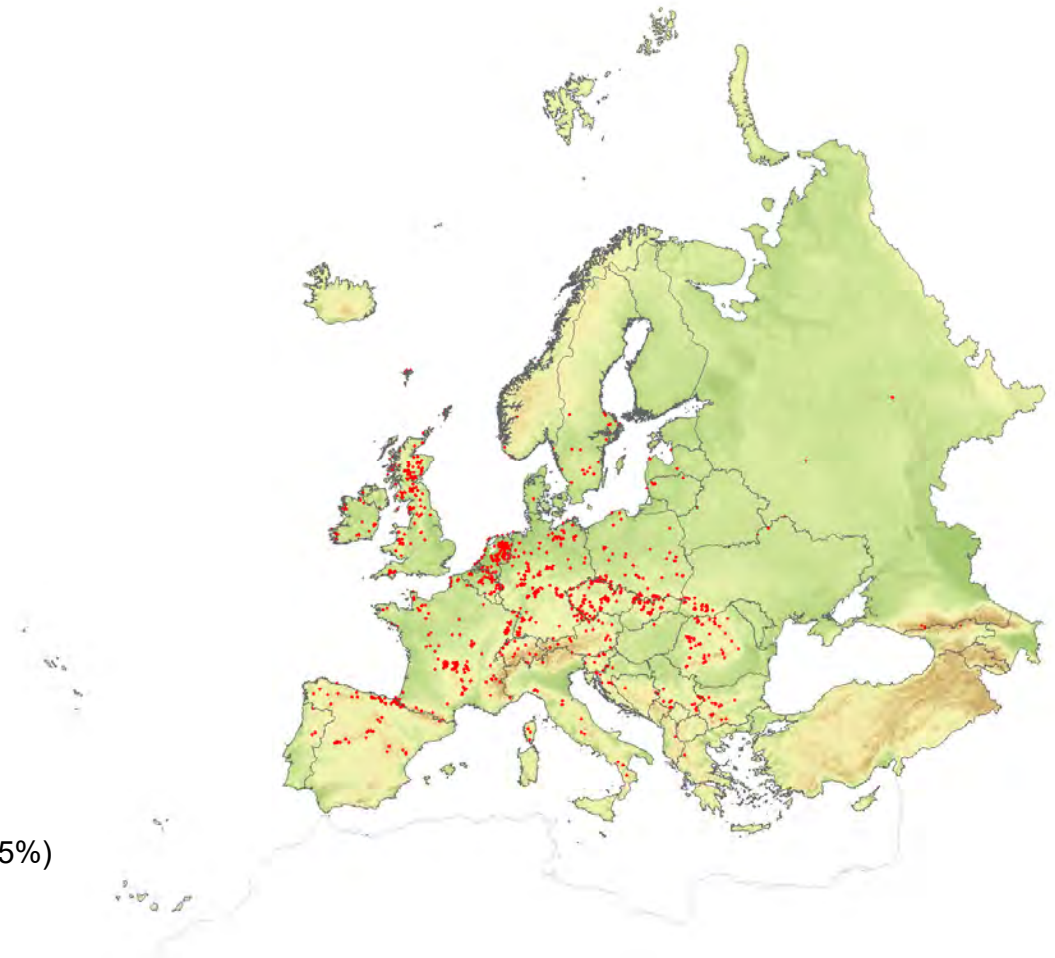
<i>Nardus stricta</i>	27
<i>Galium saxatile</i>	26
<i>Danthonia decumbens</i>	26
<i>Carex pilulifera</i>	25
<i>Luzula campestris</i> aggr.	20
<i>Potentilla erecta</i>	19
<i>Agrostis capillaris</i>	16
<i>Festuca filiformis</i>	15

Constant species (percentage frequencies)

<i>Potentilla erecta</i>	75
<i>Nardus stricta</i>	75
<i>Agrostis capillaris</i>	59
<i>Luzula campestris</i> aggr.	56
<i>Danthonia decumbens</i>	48
<i>Carex pilulifera</i>	44
<i>Galium saxatile</i>	43
<i>Calluna vulgaris</i>	42
<i>Avenella flexuosa</i>	41

Dominant species (% frequencies of occurrences with cover > 25%)

<i>Nardus stricta</i>	50
-----------------------	----



EUNIS-ESy outputs

Received: 14 December 2019 | Revised: 10 June 2020 | Accepted: 17 July 2020
DOI: 10.1111/avsc.12519

VEGETATION SURVEY

Applied Vegetation Science



EUNIS Habitat Classification: Expert system, characteristic species combinations and distribution maps of European habitats

Milan Chytrý¹ | Lubomír Tichý¹ | Stephan M. Hennekens² | Ilona Knollová¹ | John A. M. Janssen² | John S. Rodwell³ | Tomáš Peterka¹ | Corrado Marcenò¹ | Flavia Landucci¹ | Jiří Danihelka¹ | Michal Hájek¹ | Jürgen Dengler^{4,5,6} | Pavel Novák¹ | Dominik Zúkal¹ | Borja Jiménez-Alfaro⁷ | Ladislav Mucina^{8,9} | Sylvain Abdulhak¹⁰ | Svetlana Ačič¹¹ | Emiliano Agrillo¹² | Fabio Attorre¹³ | Erwin Bergmeier¹⁴ | Idoia Biurrun¹⁵ | Steffen Boch¹⁶ | János Bőllő¹⁷ | Gianmaria Bonari^{1,18} | Tatiana Braslavskaya¹⁹ | Helge Bruehlheide^{20,6} | Juan Antonio Campos¹⁵ | Andraž Čarni^{21,22} | Laura Casella¹² | Mirjana Čuk²³ | Renata Čušterevska²⁴ | Els De Bie²⁵ | Pauline Delbos²⁶ | Olga Demina²⁷ | Yakiv Didukh²⁸ | Daniel Dítě²⁹ | Tetiana Dziuba²⁸ | Jörg Ewald³⁰ | Rosario G. Gavilán³¹ | Jean-Claude Gégout³² | Gian Pietro Giusso del Galdo³³ | Valentin Golub³⁴ | Nadezhda Goncharova³⁵ | Friedemann Gorai¹⁴ | Ulrich Graf¹⁶ | Adrian Indreica³⁶ | Maike Isermann³⁷ | Ute Jandt^{20,6} | Florian Jansen³⁸ | Jan Jansen³⁹ | Anni Jašková¹ | Martin Jiroušek^{1,40} | Zygmunt Kącki⁴¹ | Veronika Kalníková¹ | Ali Kavğacı⁴² | Larisa Khanina⁴³ | Andrey Yu. Korolyuk⁴⁴ | Mariya Kozhevnikova⁴⁵ | Anna Kuzemko^{1,28} | Filip Kůzmič²¹ | Oleg L. Kuznetsov⁴⁶ | Māris Laiviņš⁴⁷ | Igor Lavrinenko⁴⁸ | Olga Lavrinenko⁴⁸ | Maria Lebedeva⁴⁹ | Zdeňka Lososová¹ | Tatiana Lysenko^{34,48} | Lise Maciejewski^{32,50} | Constantin Mardari⁵¹ | Aleksander Marinšek⁵² | Maxim G. Napreenko⁵³ | Viktor Onyshchenko²⁸ | Aaron Pérez-Haase^{54,55} | Remigiusz Pielech⁵⁶ | Vadim Prokhorov⁴⁵ | Valerijus Rašomavičius⁵⁷ | Maria Pilar Rodríguez Rojo⁵⁸ | Solvita Rūsiņa⁵⁹ | Joachim Schrautzer⁶⁰ | Jozef Šibík²⁹ | Urban Šilc²¹ | Željko Škvorc⁶¹ | Viktor A. Smagin⁴⁸ | Zvezdana Stančić⁶² | Angela Stanisci⁶³ | Elena Tikhonova¹⁹ | Tiina Tonteri⁶⁴ | Domas Uogintas⁵⁷ | Milan Valachovič²⁹ | Kiril Vassilev⁶⁵ | Denys Vynokurov^{1,28} | Wolfgang Willner⁶⁶ | Sergey Yamalov⁴⁹ | Douglas Evans⁶⁷ | Mette Palitzsch Lund⁶⁸ | Rania Spyropoulou⁶⁸ | Eleni Tryfon⁶⁸ | Joop H. J. Schaminée²

Chytrý et al. 2020, *Appl. Veg. Sci.*

Applying EUNIS-ESy to your data

EUNIS-ESy expert system and outputs in the Zenodo repository

zenodo

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Published October 3, 2025 | Version v2025-10-03

Dataset

Open

EUNIS-ESy: Expert system for automatic classification of European vegetation plots to EUNIS habitats

Chytrý, Milan¹ ; Tichý, Lubomír¹ ; Hennekens, Stephan M.² ; Knollová, Ilona¹ ; Janssen, John A. M.³ ; Rodwell, John S.⁴ ; Peterka, Tomáš¹ ; Marcenò, Corrado¹ ; Landucci, Flavia¹ ; Danihelka, Jiří¹ ; Hájek, Michal¹ ; Dengler, Jürgen⁵ ; Novák, Pavel¹ ; Zúkal, Dominik¹ ; Jiménez-Alfaro, Borja⁶ ; Mucina, Ladislav⁷ ; Večeřa, Martin¹ ; Abdulkhak, Sylvain⁸ ; Abramova, Larisa⁹ ; Aćić, Svetlana¹⁰ ; Agrillo, Emiliano¹¹ ; Argagnon, Olivier¹² ; Attorre, Fabio¹³ ; Bergmeier, Erwin¹⁴ ; Biurrun, Idoia¹⁵ ; Boch, Steffen¹⁶ ; Bölöni, János¹⁷ ; Bonari, Gianmaria¹⁸ ; Braslavskaya, Tatiana¹⁹ ;

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Version v2025-10-03
10.5281/zenodo.16895007

Oct 3, 2025

1. Expert system and related files necessary to run it

1.1. EUNIS-ESy-2025-10-03.txt – a file containing the script for the classification of vegetation plots by EUNIS-ESy. This version contains tested definitions for the revised EUNIS classification of vegetated Marine (MA), Coastal (N), Wetland (Q), Grassland (R), Shrubland (S), Forest (T), Inland sparsely vegetated (U) and Man-made (V). It also contains tested definitions of Aquatic plant communities (P3) and Springs (P2N). This file is different from the analogous file in the previous versions.

1.2. Nomenclature-translation-from-Turboveg-2-databases.zip – an archive containing the scripts for automatic translation of taxon concepts and names used in individual European Turboveg 2 databases (Hennekens & Schaminée 2001; <https://www.synbiosys.alterra.nl/turboveg/>) to the nomenclature that can be used as an input for EUNIS-ESy. This file is the same as in the previous versions.

1.3. EUNIS-ESy-User-Guide.pdf – a brief user guide to the classification of vegetation plots by EUNIS-ESy using the JUICE program. Please read this guide carefully before running the expert system to avoid misclassifications. This file is the same as in the previous versions.

Classifying habitats by AI

nature plants

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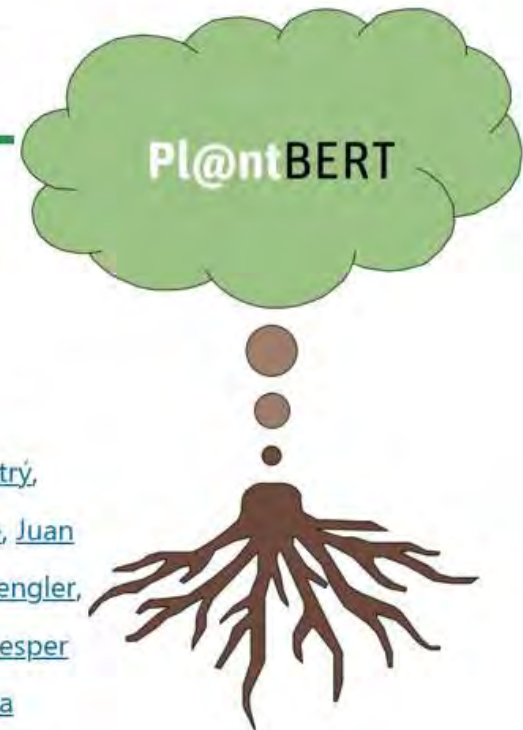
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Article | [Open access](#) | Published: 13 October 2025

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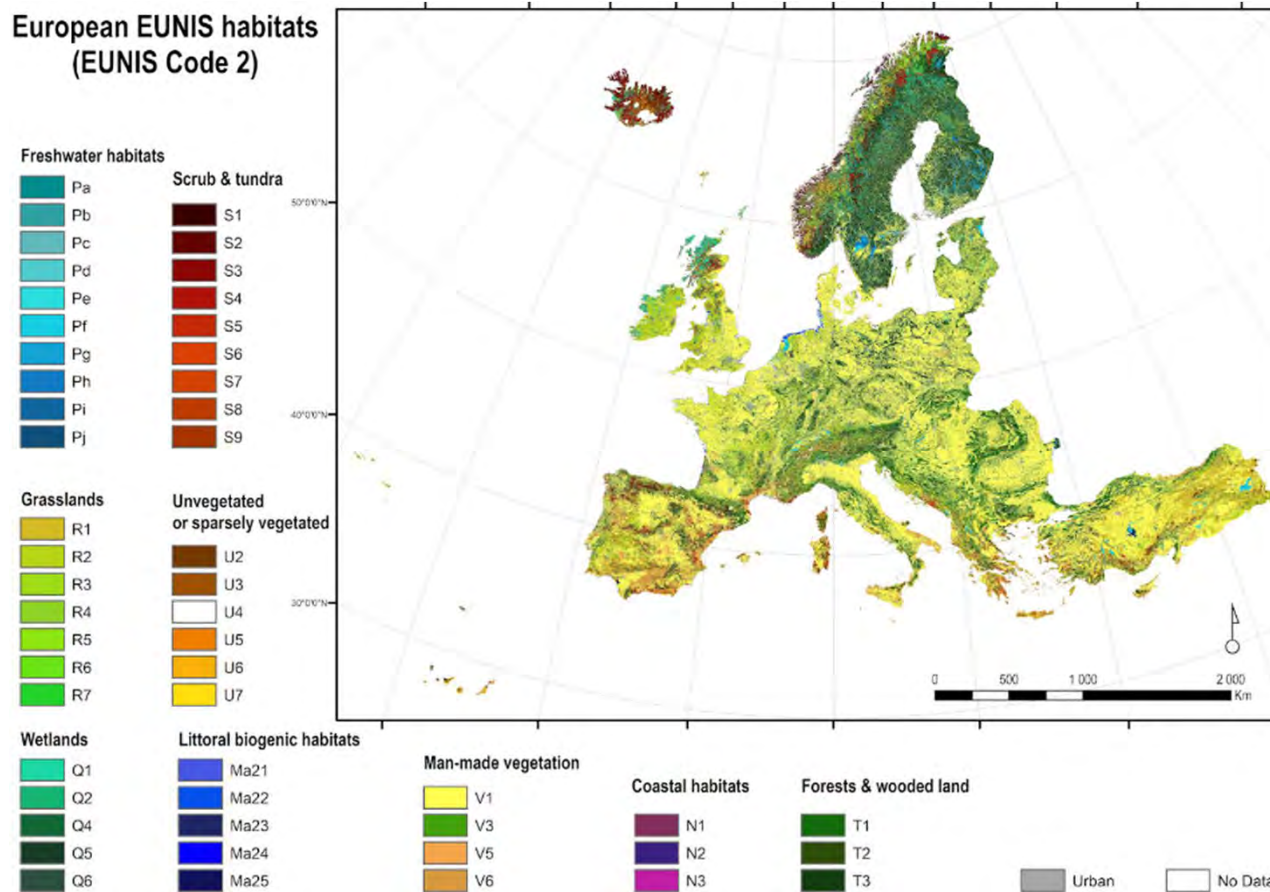
[Nature Plants](#) (2025) | [Cite this article](#)



Leblanc et al. 2025, *Nature Plants*

EUNIS habitat mapping

EVA data + satellite data + environmental layers + machine learning



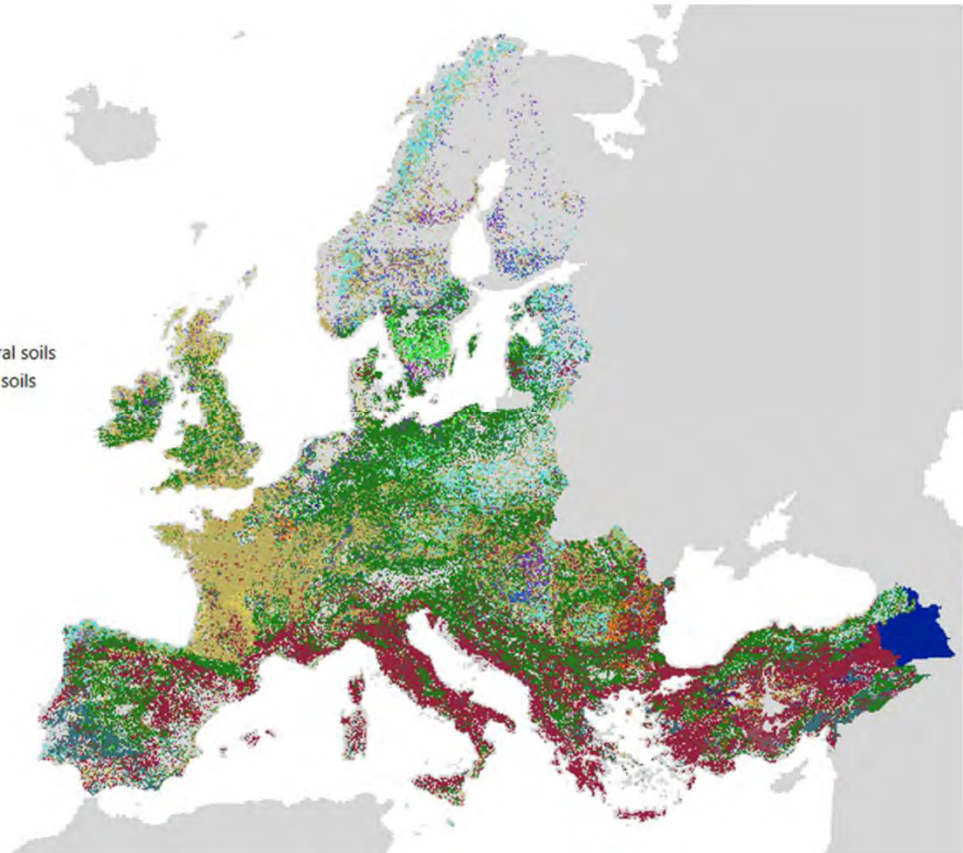
Si-Moussi et al. 2025, *arXiv*

EUNIS habitat mapping

EVA data + satellite data + environmental layers + machine learning

Broadleaved deciduous forests

- T11 - Temperate Salix and Populus riparian forest
- T12 - Alnus glutinosa-Alnus incana forest on riparian and mineral soils
- T13 - Temperate hardwood riparian forest
- T14 - Mediterranean and Macaronesian riparian forest
- T15 - Broadleaved swamp forest on non-acid peat
- T16 - Broadleaved mire forest on acid peat
- T17 - Fagus forest on non-acid soils
- T18 - Fagus forest on acid soils
- T19 - Temperate and submediterranean thermophilous deciduous forest
- T1A - Mediterranean thermophilous deciduous forest
- T1B - Acidophilous Quercus forest
- T1C - Temperate and boreal mountain Betula and Populus tremula forest on mineral soils
- T1D - Southern European mountain Betula and Populus tremula forest on mineral soils
- T1E - Carpinus and Quercus mesic deciduous forest
- T1F - Ravine forest
- T1G - Alnus cordata forest
- T1H - Broadleaved deciduous plantation of non site-native trees



Si-Moussi et al. 2025, *arXiv*

Macroecology of European vegetation

Case studies based on EVA data





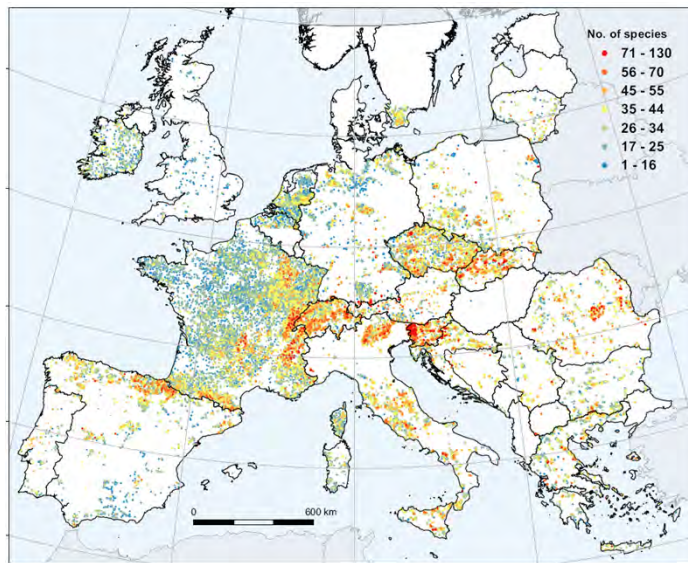
Martin Večeřa

Fine-scale plant species richness

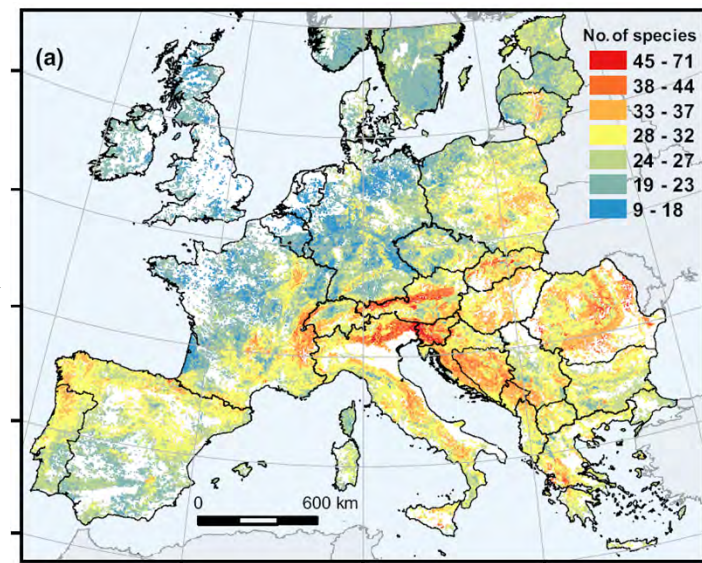
European forests: species numbers in 400 m²



Plots species richness:
data



Plots species richness:
model (random forest)

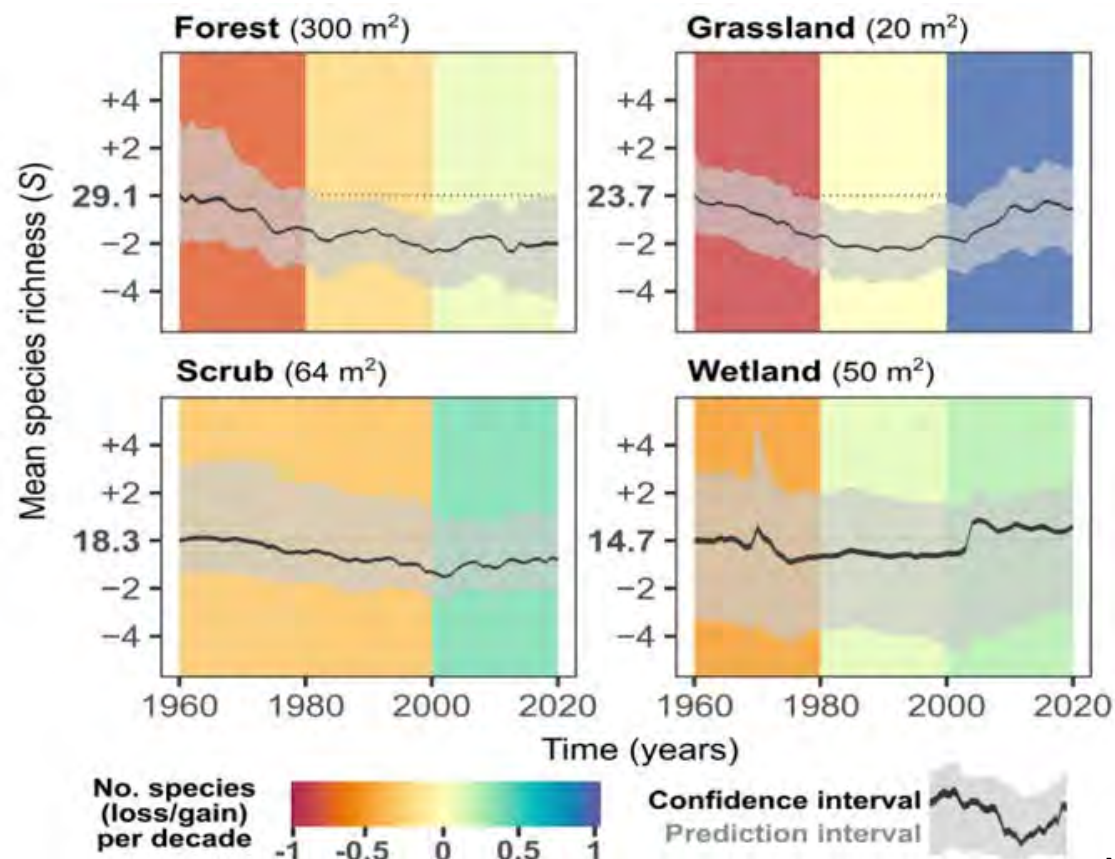




Gabriele Midolo

Fine-scale plant species richness

Change in species numbers over time



Midolo et al. 2025, *Ecology Letters*

Functional diversity

Life forms in European flora

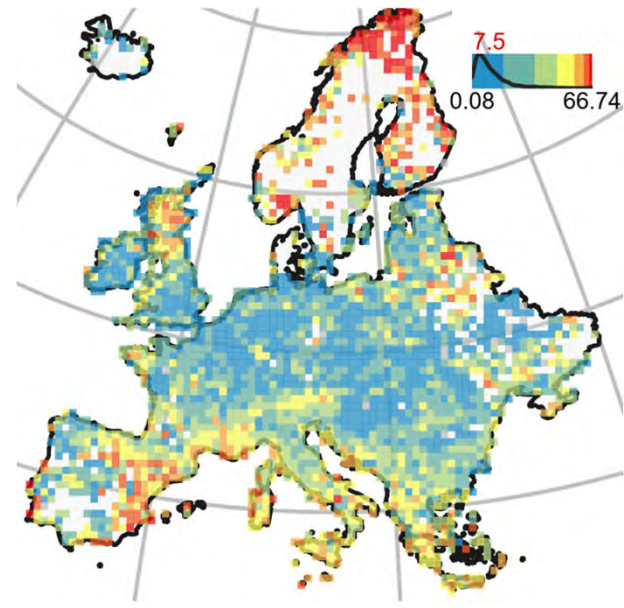
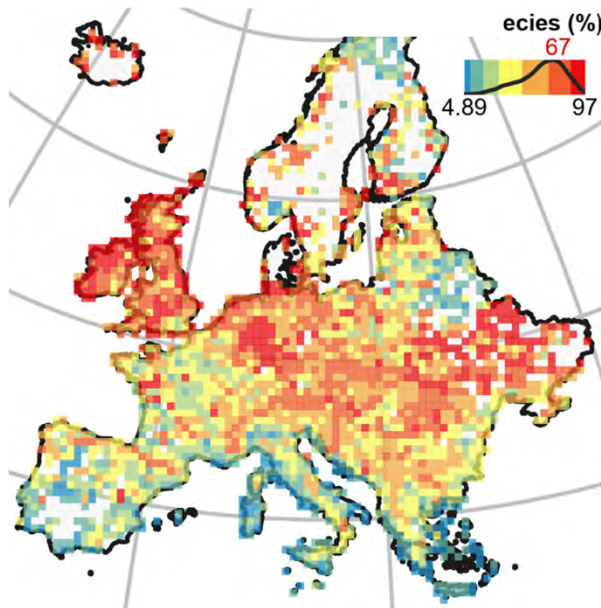
Proportion of life forms per plot



Perennial herbs



Dwarf shrubs



Gabriele Midolo

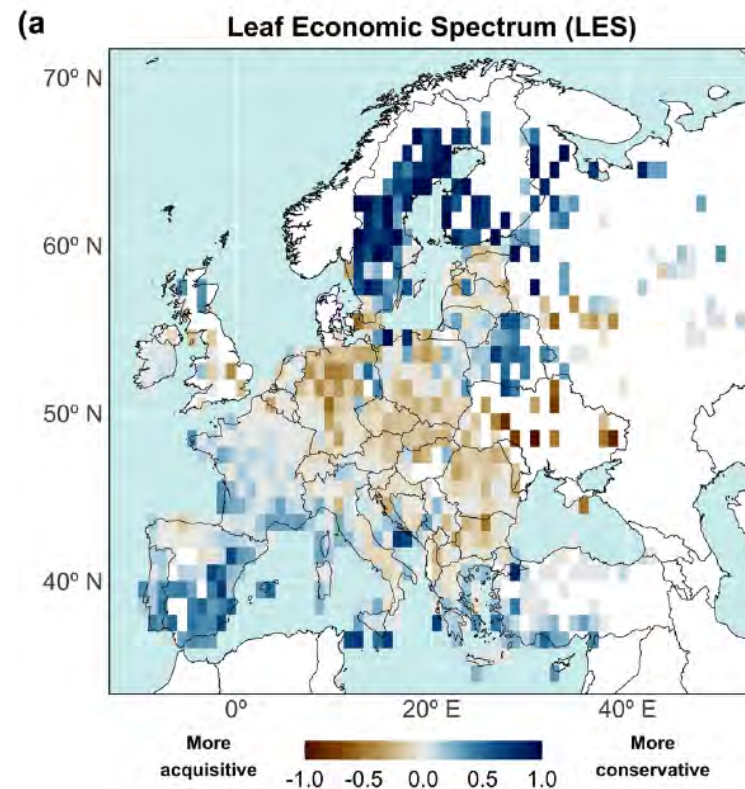
Midolo et al. 2024, *Journal of Vegetation Science*



Josep Padullés Cubino

Functional diversity

European forest understories



- Conservative leaf economy (low SLA)
- Acquisitive leaf economy (high SLA)



Padullés Cubino et al. 2021, *Ecography*



Josep Padullés Cubino

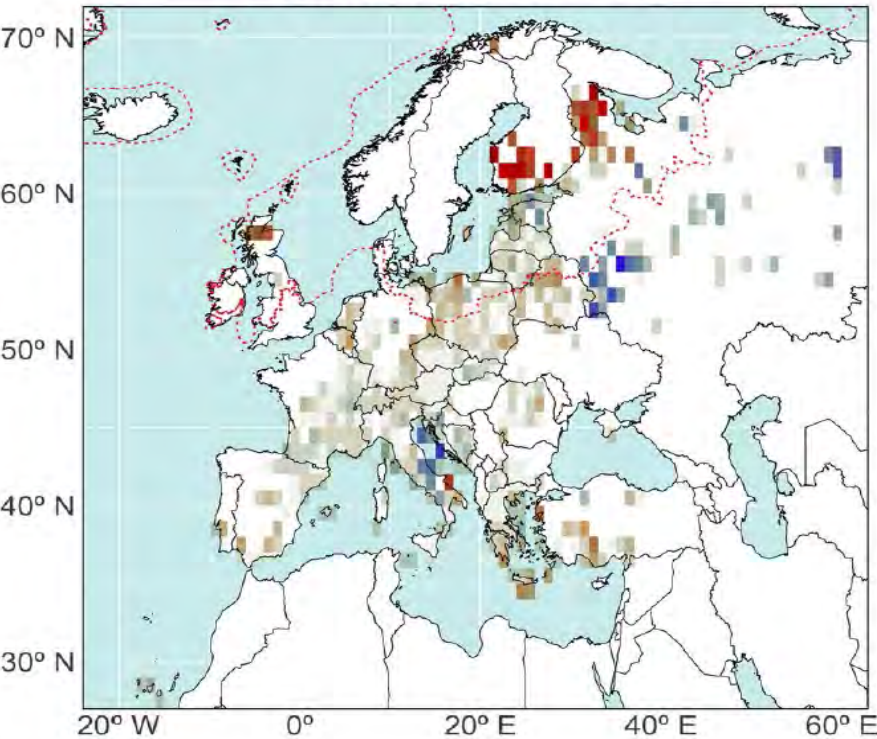
Phylogenetic diversity

Angiosperm plants in European forests



Coniferous forests

- Overdispersed
- Clustered





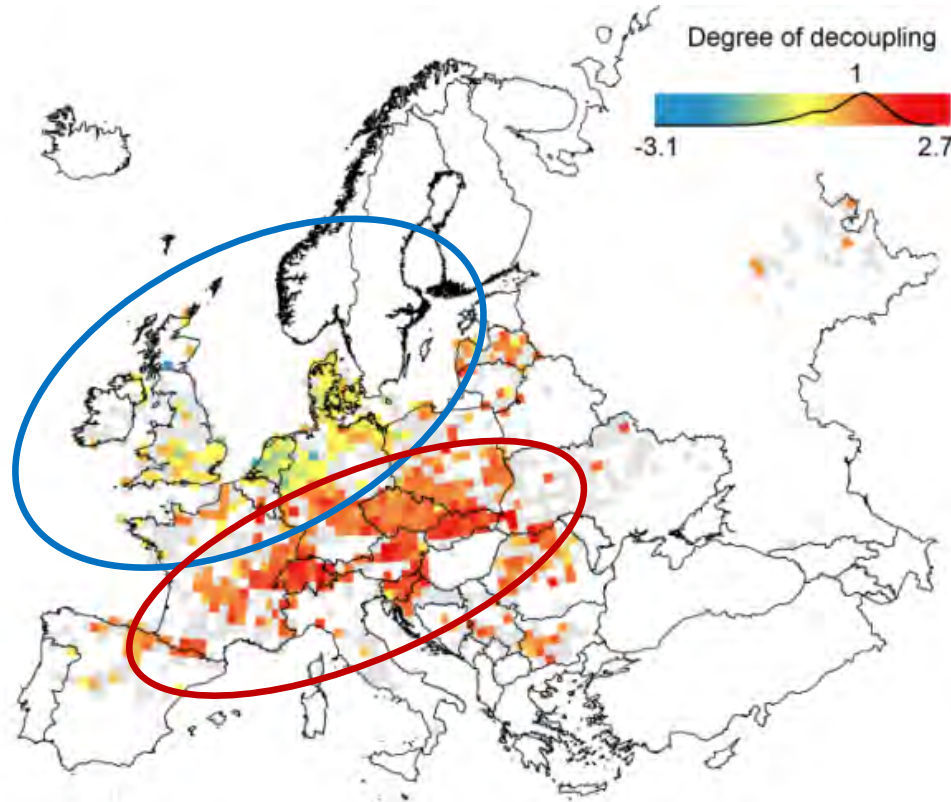
Martin Večeřa



Phylogenetic diversity

European mesic grasslands

low phylogenetic diversity
high functional diversity



high phylogenetic diversity
low functional diversity

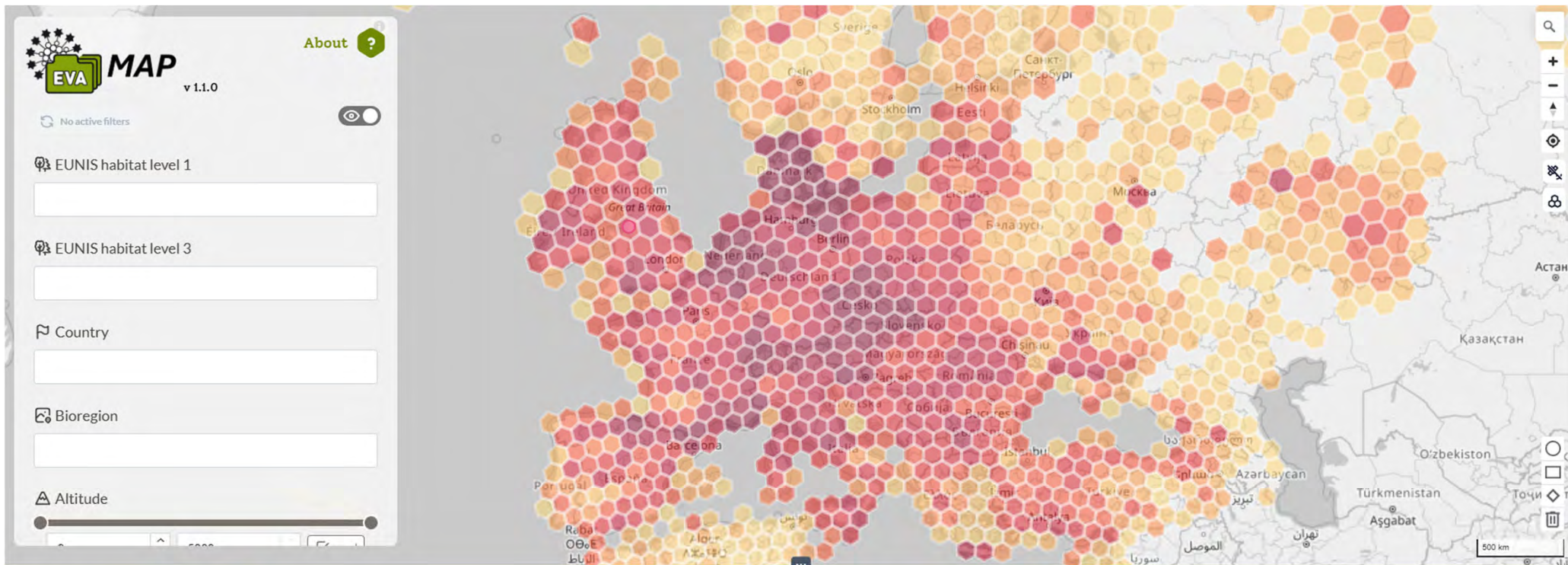
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www.evamap.eu



EVA-MAP: an online platform for EVA

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To show repeated observations click on the site ID in the table

#	ID	Country	Bioregion	Altitude	ReSurveyEurope project	Dataset	Year range	Time range	No		Year	EUNIS habitat		Area		Auth
-	UK_0004-AIN...	United Kingdom	Atlantic	unknown	Ainsdale Dunes	UK_AinsdaleDune...	2010-2019	9	2		2019	no habitats		0	0	no auth
2	UK_0004-AIN...	United Kingdom	Atlantic	unknown	Ainsdale Dunes	UK_AinsdaleDune...	2010-2019	9	2		2019	no habitats		0	0	no auth
3	UK_0004-AIN...	United Kingdom	Atlantic	unknown	Ainsdale Dunes	UK_AinsdaleDune...	2010-2019	9	2		2019	no habitats		0	0	no auth

EVA-MAP: an online platform for EVA

Filtering panel



 **MAP** v 1.1.0 [About](#) 

 Clear 3 filters 

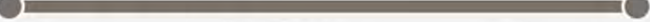
 **Altitude**


1500  5000  ☒ empty

 **Year of sampling**


2000  2025  ☒ empty

 **Time range (years)**


0  115 

 **Area (m2)**


10  100  ☒ empty

 **MAP** v 1.1.0 [About](#) 

 No active filters 

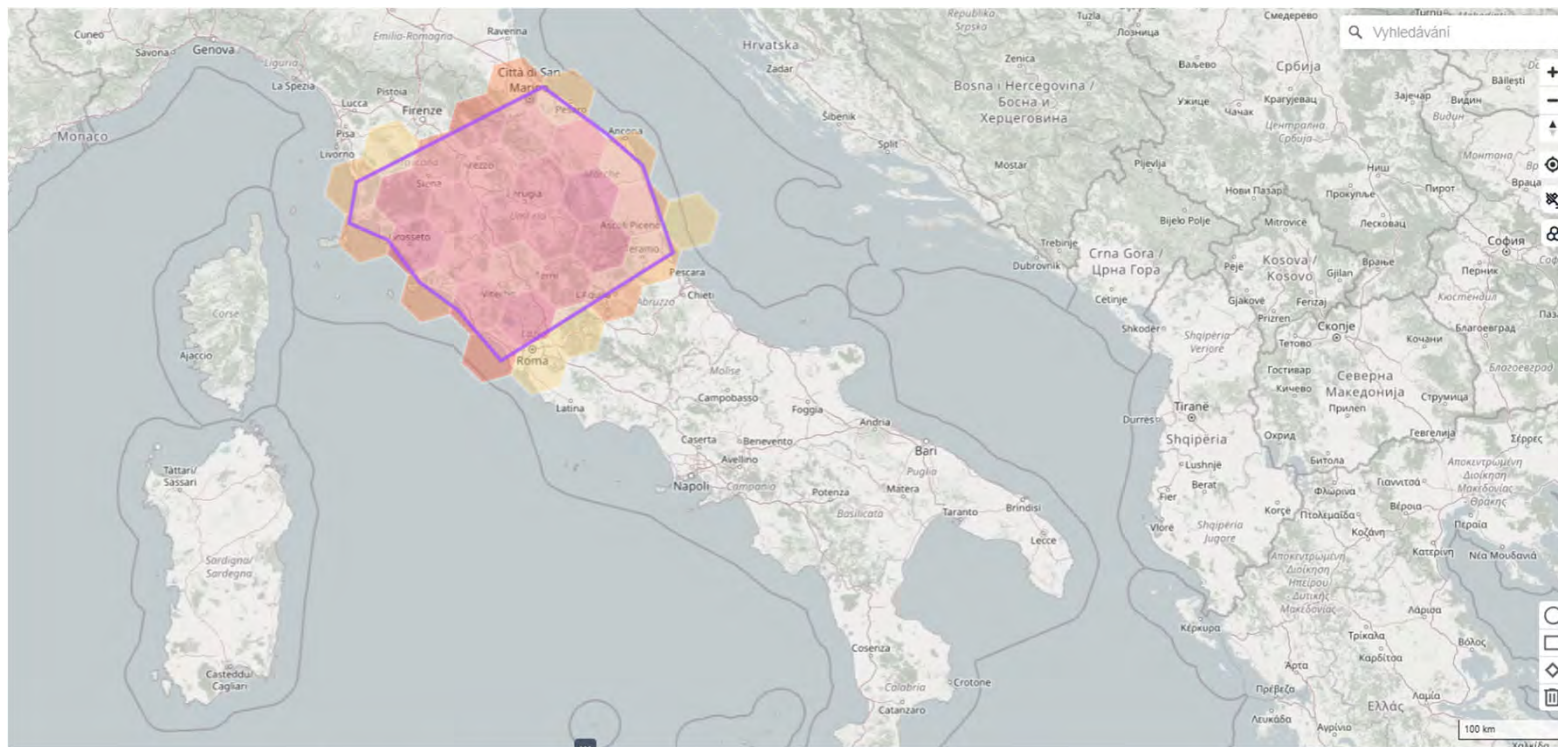
 EUNIS habitat level 1

 EUNIS habitat level 3

- Q42 Extremely rich moss-sedge fen 
- Q43 Tall-sedge base-rich fen 
- Q44 Calcareous quaking mire
- Q45 Arctic-alpine rich fen
- Q46 Carpathian travertine fen with halophytes 

EVA-MAP: an online platform for EVA

Selection from the map



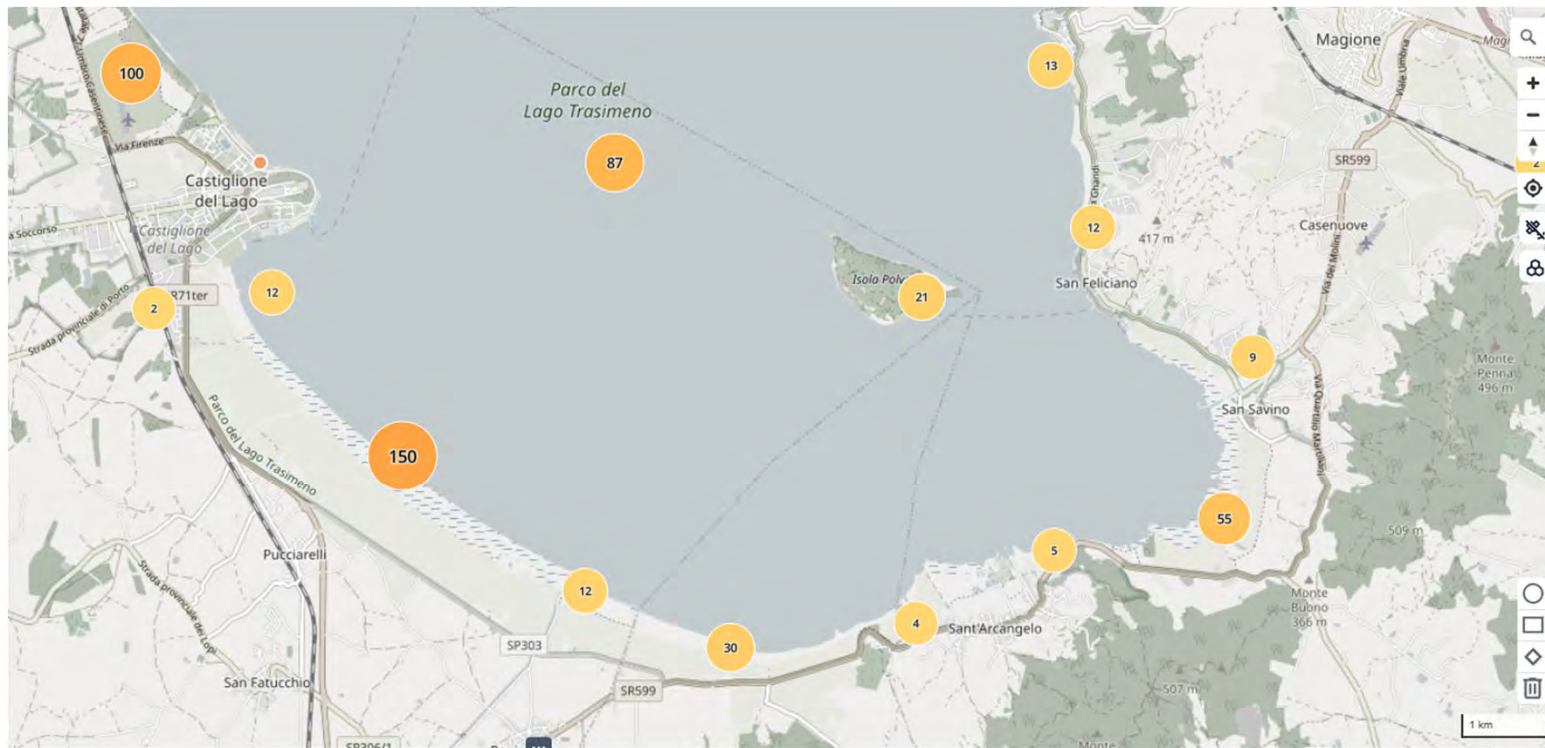
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Altitude ↑↓	Project ↑↓	Dataset ↑↓	Year range	Time range ↑↓	No. ↑↓	↑↓	Year ↑↓	EUNIS habitat ↑↓	↑↓	Area (m2) ↑↓	↑↓	Author ↑↓
160	CircumMed database resurve...	CircumMed DB Resurvey	2015-2018	3	4	↑↓	2018	no habitats	↑↓	706	10	Salerni E.
160	CircumMed database resurve...	CircumMed DB Resurvey	2015-2018	3	4	↑↓	2018	no habitats	↑↓	706	10	Salerni E.
160	CircumMed database resurve...	CircumMed DB Resurvey	2015-2018	3	4	↑↓	2018	no habitats	↑↓	706	10	Salerni E.

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Selection from the map



Displaying sites within map view

To show repeated observations click on the site ID in the table

Altitude ↓↑	ReSurveyEurope project ↓↑	Dataset ↓↑	Year range	Time range ↓↑	No ↓↑	✂ ↓↑	Year ↓↑	EUNIS habitat ↓↑	🌿 ↓↑	Area ↓↑	🌀 ↓↑	Auth
253	no project	AMS-VegBank - Al...	2009	0	1	✂	2009	Q32 Small-helophyte bed	🌿	100	5	Chiarucc
unknown	no project	European Weed V...	unknown	-	1	✂		no habitats	🌿	75000		no autha
unknown	no project	European Weed V...	unknown	-	1	✂		no habitats	🌿	75000		no autha

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Selection from the map



Displaying sites within map view ☒

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Altitude ↑↓	ReSurveyEurope project ↑↓	Dataset ↑↓	Year range	Time range ↑↓	Nº ↑↓	Icons ↑↓	Year ↑↓	EUNIS habitat ↑↓	Area ↑↓	Auth	
253	no project	AMS-VegBank - Al...	2009	0	1		2009	Q52 Small-helophyte bed	100	5	Chiarucc
unknown	no project	European Weed V...	unknown	-	1			no habitats		75000	no autho
unknown	no project	European Weed V...	unknown	-	1			no habitats		75000	no autho

EVA-MAP: an online platform for EVA

List of selected plots




v 1.1.0

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EUNIS habitat level 1



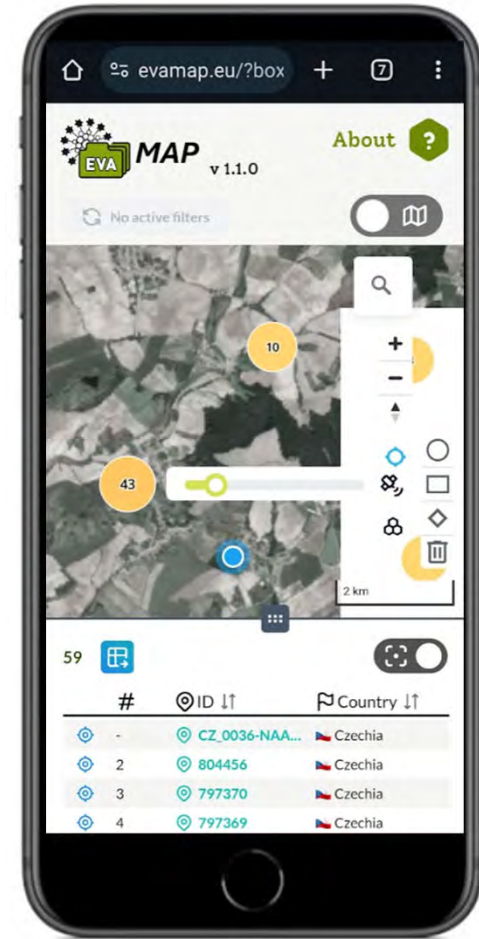
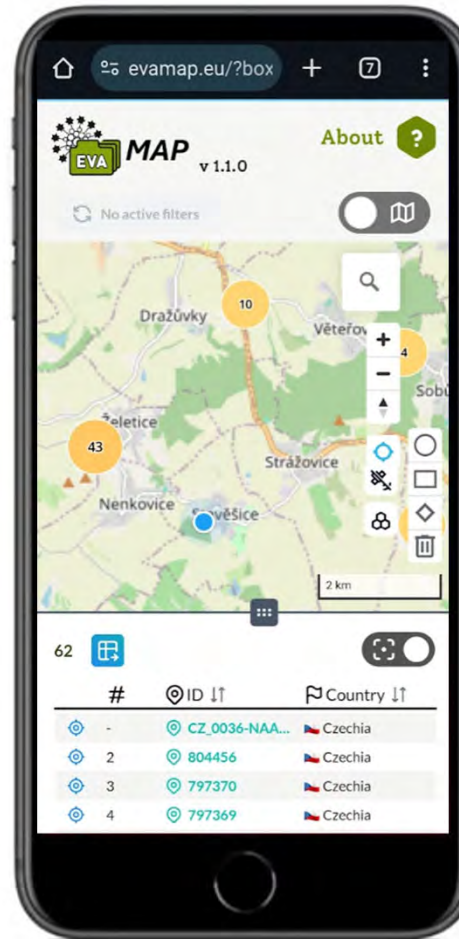
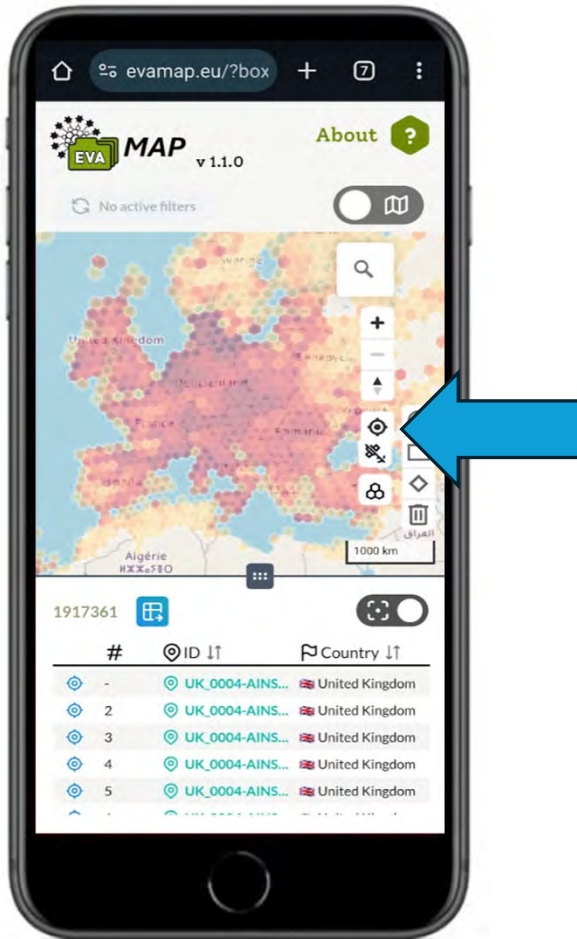
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#	ID	Country	Bioregion	Altitude	ReSurveyEurope project	Dataset	Year range	Time range	No	Icons	Year	EUNIS habitat	Area	Altitude	Auth
-	SI_0002B-SNE...	SI Slovenia	Alpine	765	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	R57 Herbaceous forest clearin...	12	1	no autho
2	SI_0002B-SNE...	SI Slovenia	Alpine	765	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	R57 Herbaceous forest clearin...	12	1	no autho
3	SI_0002B-SNE...	SI Slovenia		765	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	T17 Fagus forest on non-acid s...	12	1	no autho
4	SI_0002B-SNE...	SI Slovenia		765	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
5	SI_0002B-SNE...	SI Slovenia	Alpine	765	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
6	SI_0002B-SNE...	SI Slovenia	Alpine	751	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	R Grasslands	12	1	no autho
7	SI_0002B-SNE...	SI Slovenia	Alpine			SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
8	SI_0002B-SNE...	SI Slovenia	Alpine			SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
9	SI_0002B-SNE...	SI Slovenia	Alpine			SI_ManFor	2012-2014	2	2	Icons	2014	T Forest	12	1	no autho
10	SI_0002B-SNE...	SI Slovenia	Alpine			SI_ManFor	2012-2014	2	2	Icons	2014	R Grasslands	12	1	no autho
11	SI_0002B-SNE...	SI Slovenia	Alpine	771	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
12	SI_0002B-SNE...	SI Slovenia	Alpine	771	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
13	SI_0002B-SNE...	SI Slovenia	Alpine	771	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	~ Not defined	12	1	no autho
14	SI_0002B-SNE...	SI Slovenia	Alpine	771	ManFor2	SI_ManFor	2012-2014	2	2	Icons	2014	T Forest	12	1	no autho

EVA-MAP: an online platform for EVA



Towards open science

FAIR principles



Findable



Accessible



Interoperable



Reusable

Towards open science





European
Vegetation
Survey



IAVS

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EVA project # 225
ReSurveyEurope – 2024-11-15
Can we trust resurvey studies? -
K. Chytrý, K. Klinkovská, M.
Chytrý, S. Dullinger, A.T. Clark, J.
Těšitel | SELECTION 2024-12-12



The EVA data are available on request using procedure described at [How to obtain data](#).

Description of the project and metadata

- Project proposal: [PDE](#)
- Data selection date: 2024-12-12
- DOI of the EVA data selection for this project: <https://doi.org/10.58060/4yva-1x13>
- Source EVA version: 2024-09-19
- DOI of the source EVA version: <https://doi.org/10.58060/hgrb-sw46>
- No. of plots: 17 166
- No. of core EVA: 0
- No. of ReSurveyEurope plot observations: 17 166
- List of selected vegetation plots: [XLS](#)

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News

2025-06-13 Professor Sandro Pignatti (28 Sep 1930 - 13 Jun

DOI specific data
selection

DOI source EVA version

Towards open science

Data availability regimes in EVA



- Restricted-access data** (currently 15% of plots)
Explicit consent of the data provider is needed in each specific case
- Semi-restricted access** (currently 82% of plots)
Silent consent is needed
- Free-access data** (currently 3% of plots)
Data in the public domain, available to anybody, no consent needed

Towards open science

EVA data availability regimes



Free-access data



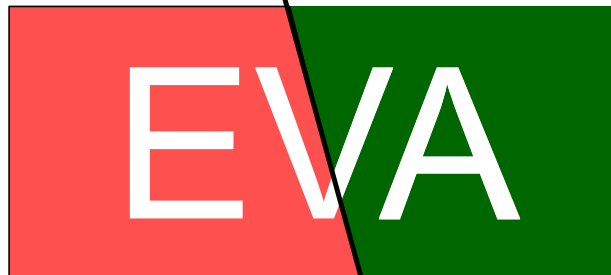
Restricted-access data

Towards open science

EVA data availability regimes



Free-access data



Restricted-access data

Towards open science

EVA data availability regimes



Free-access data



Restricted-access
data

Towards open science

EU OSCARS project EVA-FAIR (2025–2026)



- Releasing open versions of individual databases (the Czech database first)
- Releasing an open stratified version of EVA
- Public scripts for data stratification
- Open data repositories

European
Open
Science
Cloud

zenodo



Towards open science

EU OSCARS project EVA-FAIR (2025–2026)



Czech Vegetation Database

English ▾

Clear all filters

Plot properties ▾

Time ▾

Environment ▾

Vegetation characteristics ▾

Species ▾

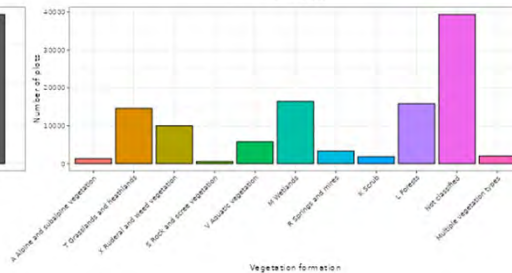
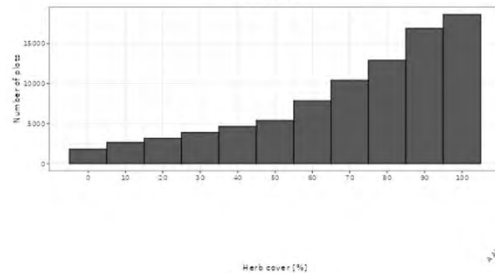
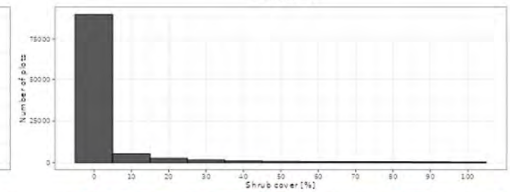
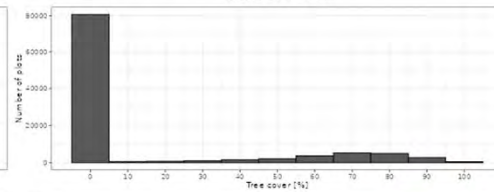
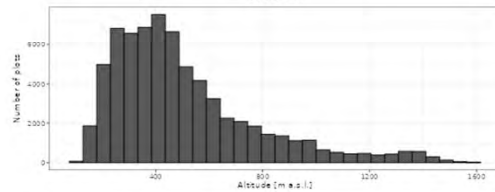
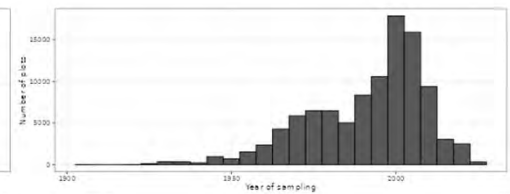
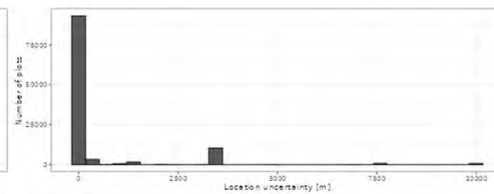
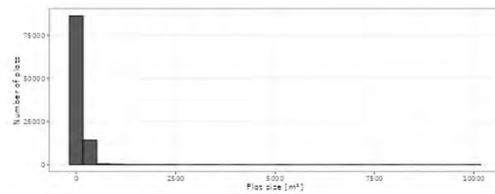
To display characteristics of selected plots, click on the Select button:

Select

Download

Map Summary characteristics

Number of selected plots: 110839



Database 3

sPlot – Global Vegetation Database



sPlot – Global Vegetation Database



Helge Bruelheide



The first sPlot workshop, iDiv, Leipzig, 2013

sPlot – Global Vegetation Database

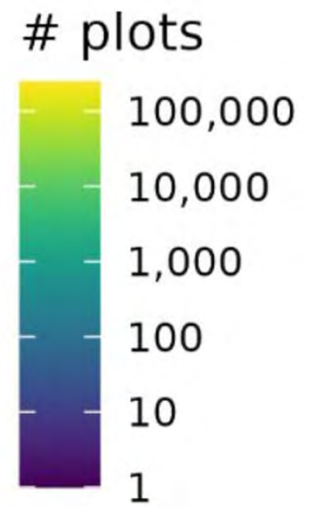
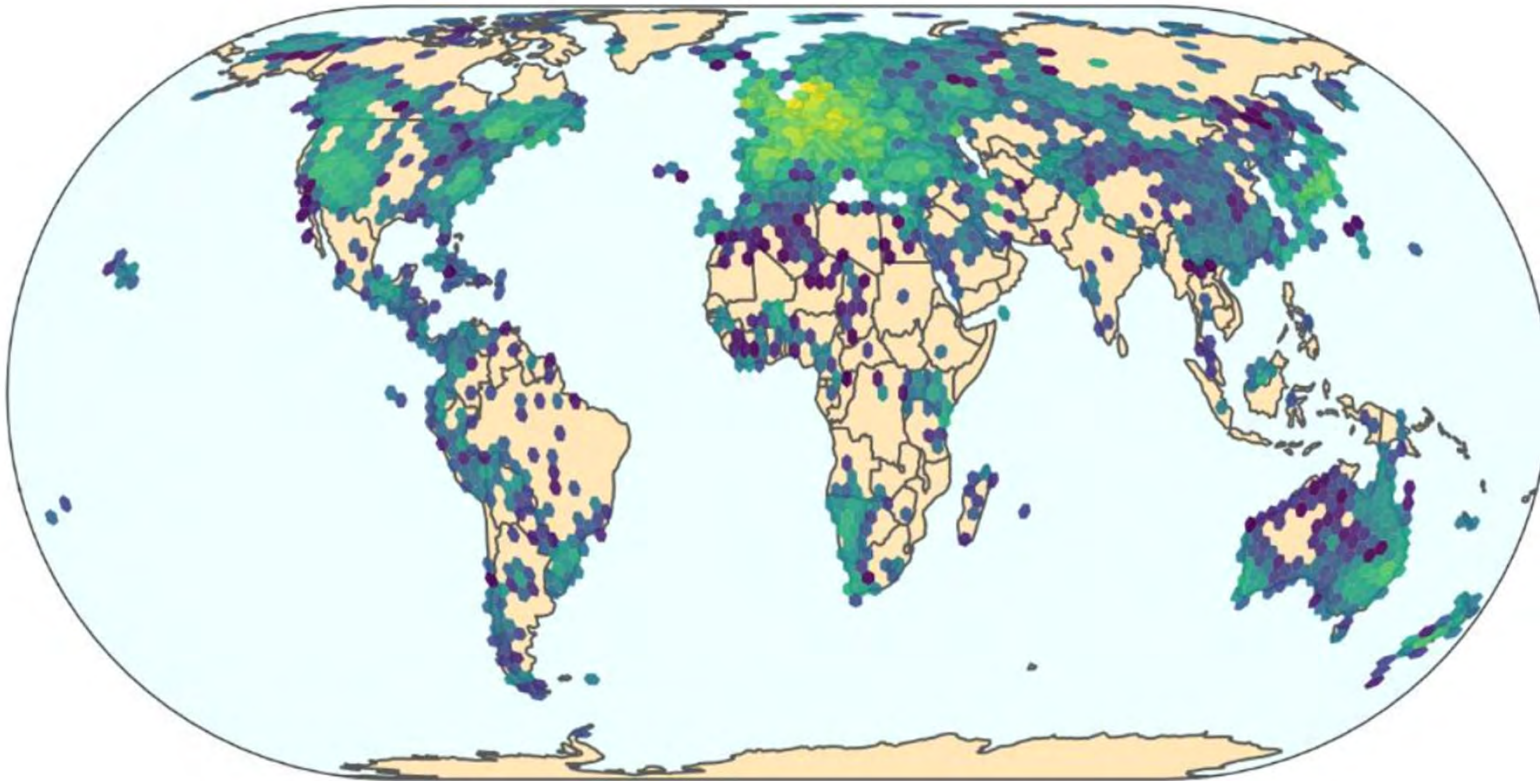


idiv-biodiversity.de/de/splot.html

A screenshot of the sPlot website. The header includes the iDiv logo and the text "Deutsches Zentrum für integrative Biodiversitätsforschung (iDiv) Halle-Jena-Leipzig". A search bar and language options (DE | EN) are on the right. A navigation menu on the left lists various project components. The main content area features a world map with regional images and the sPlot logo. Below this is a section titled "sPlot – The Global Vegetation Database" with a descriptive paragraph, a "Research focus" list, and a "Key data" list. Two small images are included: a global map of SLA patterns and a photo of researchers in a field.

- 2.5 mil. vegetation plots
- 59 projects
- Open stratified version sPlotOpen (2021)

sPlot – Global Vegetation Database



sPlot 4.0



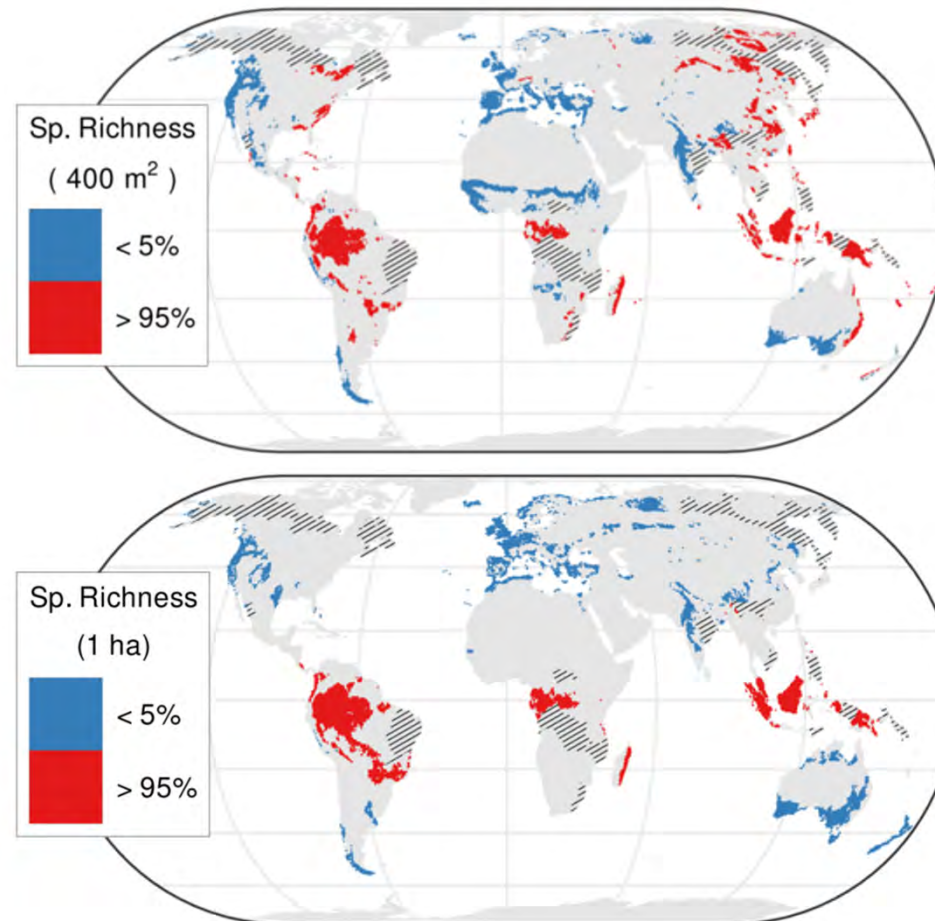
Francesco Sabatini

sPlot – Global Vegetation Database



Case study: Plant species richness

Forests



Sabatini et al. 2022,
Nature Communications

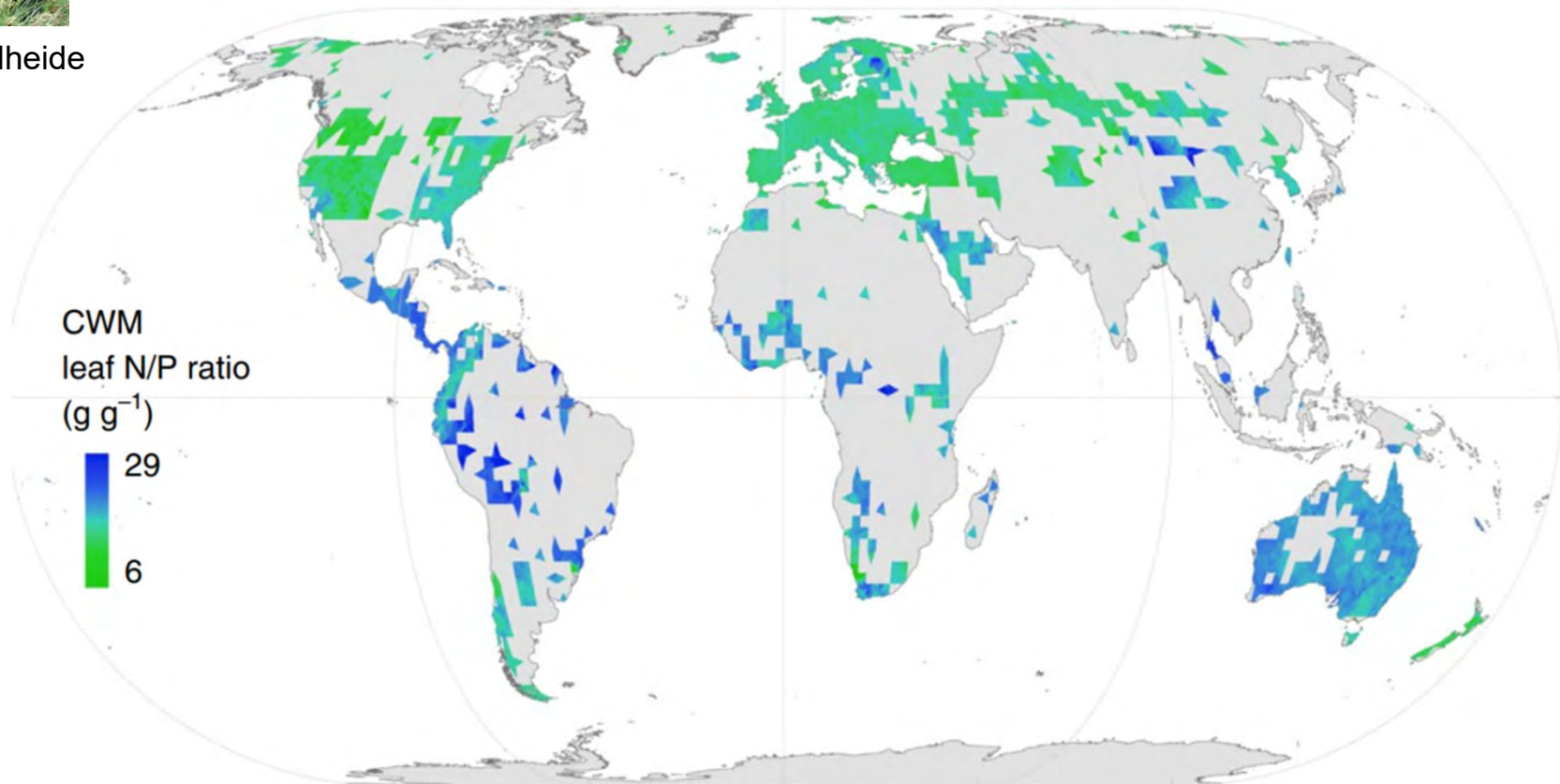


Helge Bruelheide

sPlot – Global Vegetation Database



Case study: Trait-environment relationships



Bruelheide et al. 2018, *Nature Ecology & Evolution*

Database 4

ReSurveyEurope



ReSurveyEurope



Helge Bruelheide, Univ. Halle



Franz Essl, Univ. Vienna



Launching the **ReSurveyEurope** Initiative:
EVA call for data contribution and collaboration

2020-10-06

ReSurveyEurope initiators: Idoia Biurrun (ES), Helge Bruelheide (DE), Milan Chytrý (CZ), Stefan Dullinger (AT), Franz Essl (AT), Stephan Hennekens (NL), Ute Jandt (DE), Florian Jansen (DE), Borja Jiménez-Alfaro (ES), Ilona Knollová (CZ), Anna Kuzemko (UA), Bernd Lenzner (AT) and Francesco Maria Sabatini (DE)

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Helge Bruelheide, Martin Luther University Halle-Wittenberg and German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Germany, helge.bruehlheide@botanik.uni-halle.de

ReSurveyEurope



Ilona Knollová

Knollová et al. 2024,
Journal of Vegetation Science

Received: 1 July 2023 | Revised: 2 December 2023 | Accepted: 19 January 2024

DOI: 10.1111/jvs.13235

Journal of Vegetation Science

REPORT

ReSurveyEurope: A database of resurveyed vegetation plots in Europe

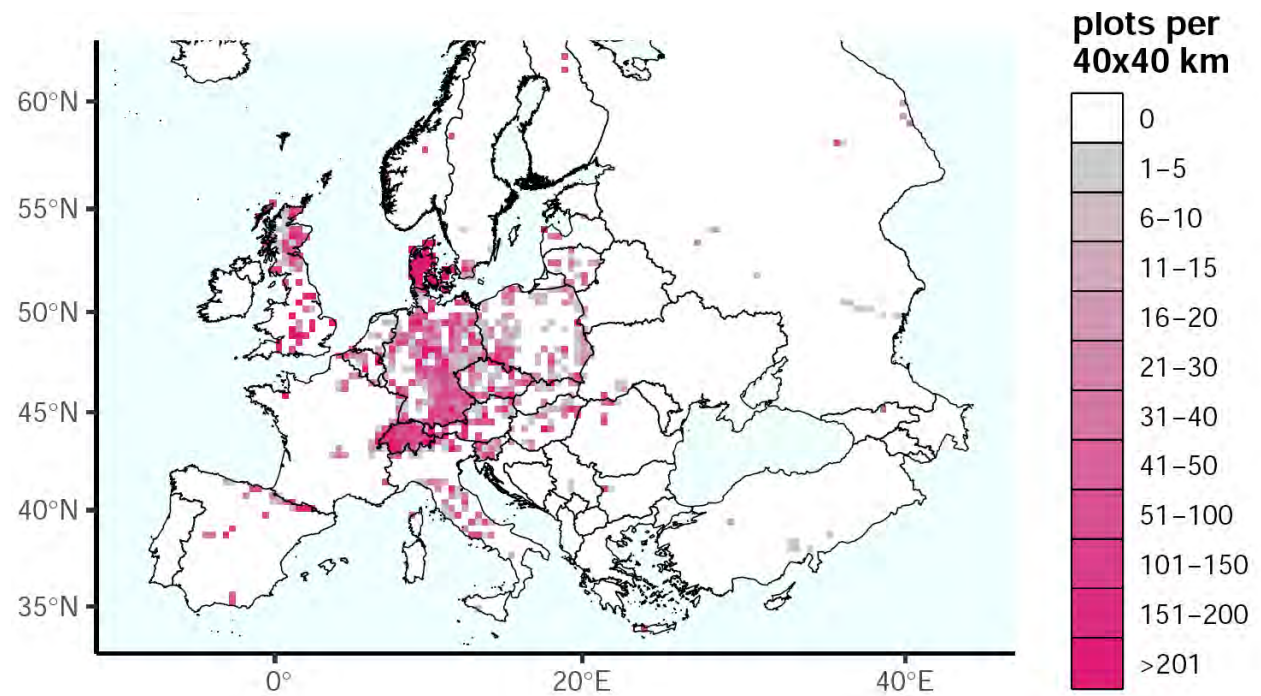
Ilona Knollová¹ | Milan Chytrý¹ | Helge Bruelheide^{2,3} | Stefan Dullinger⁴ |
Ute Jandt^{2,3} | Markus Bernhardt-Römermann^{3,5} | Idoia Biurrun⁶ |
Francesco de Bello^{7,8} | Michael Glaser⁹ | Stephan Hennekens¹⁰ |
Florian Jansen¹¹ | Borja Jiménez-Alfaro¹² | Daniel Kadaš¹ | Ekin Kaplan^{9,13} |
Klára Klinkovská¹ | Bernd Lenzner⁹ | Harald Pauli^{14,15} | Marta Gaia Sperandii¹ |
Kris Verheyen¹⁶ | Manuela Winkler^{14,15} | Otari Abdaladze¹⁷ | Svetlana Aćić¹⁸ |
Alicia T. R. Acosta¹⁹ | Audrey Alignier^{20,21} | Christopher Andrews²² |
Raphaël Arlettaz²³ | Fabio Attorre²⁴ | Irena Axmanová¹ | Manuel Babbri²⁵ |
Lander Baeten¹⁶ | Jakub Baran²⁶ | Elena Barni²⁷ | José-Luis Benito-Alonso^{28,29} |
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Barbara Bock³³ | Frank Bode³⁴ | Gianmaria Bonari³⁵ | Karel Boublík³⁶ |
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Sabina Burrascano²⁴ | Juan A. Campos⁶ | Bengt-Göran Carlsson⁴² |
Maria Laura Carranza⁴³ | Tomáš Černý⁴⁴ | Kévin Charmillot⁴⁵ |
Alessandro Chiarucci³⁹ | Philippe Choler⁴⁶ | Kryštof Chytrý^{1,4} |
Emmanuel Corcket⁴⁷ | Anikó Csecserits⁴⁸ | Maurizio Cutini¹⁹ |
Marta Czarniecka-Wiera⁴⁹ | Jiří Danihelka^{1,50} | Maria Carla de Francesco⁴³ |
Pieter De Frenne¹⁶ | Michele Di Musciano^{39,51} | Michele De Sanctis²⁴ |

ReSurveyEurope

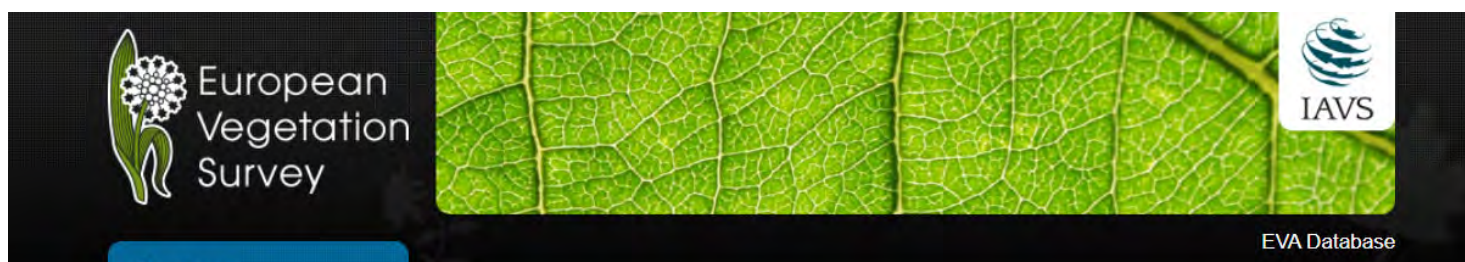
Current state



- 507 datasets
- 88,000 plots
- 440,00 plot observations
- Oldest plot from 1911



ReSurveyEurope



- | Home
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- | Bylaws
- | Meetings
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- | EVC Committee
- | EVA Database
- | Annual reports
- | Steering Committee
- | Links

 Join EVS on Facebook

News

2023-02-02 31st EVS Conference, Rome, Italy, 21-25 May 2023 - website and registration open [See more »](#)

2023-01-31 Documents

ReSurveyEurope Databases



Code	GIVD	Name of Resurvey DB	Country	Detail
ATIT_0001		ATIT_GlacierSuccession	AT, IT	info
AT_0001		AT_Grassland_FE1	AT	info
AT_0002		AT_Grassland_FE2	AT	info
AT_0003		AT_Jaidhaus	AT	info
AT_0004		AT_Resurvey_HS21	AT	info
AT_0005		AT_WeinViertel_Roetzer	AT	info
AT_0006		AT_Jamtalferner	AT	info
AT_0007		AT_DiseqAlp	CH	info
AT_0008		AT_Zoebelboden_LTER	AT	info
AT_0009	EU-AT-001	Austrian Vegetation Database	AT	info
AT_0010		AT_resurvey_HS22	AT	info
BE_0001		BE_Elsbroek	BE	info

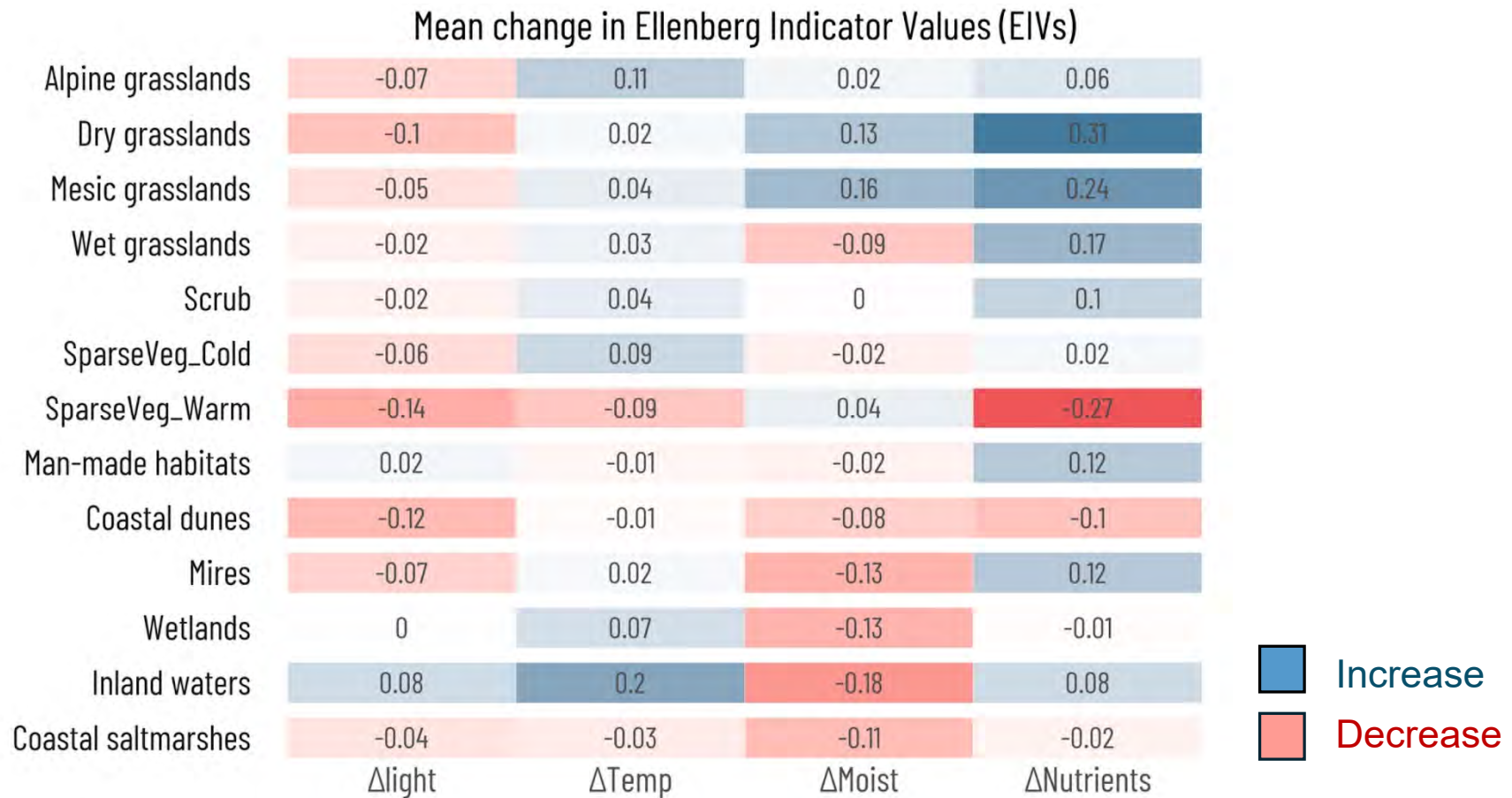


Marta Gaia Sperandii

ReSurveyEurope: research



Change in species composition of non-forest habitats



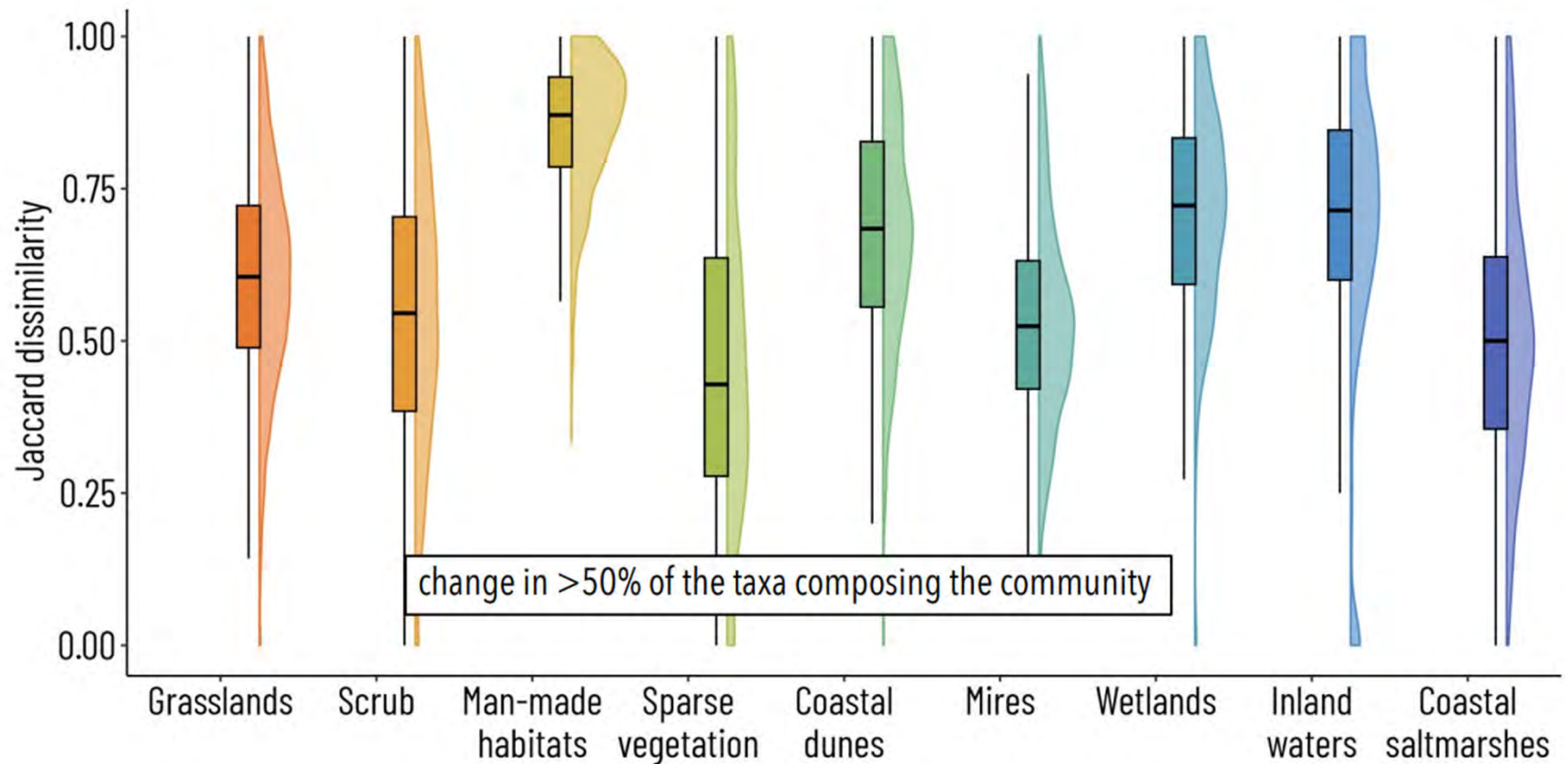
Sperandii et al.,
in preparation

ReSurveyEurope: research



Change in species composition of non-forest habitats

Species composition
change over time

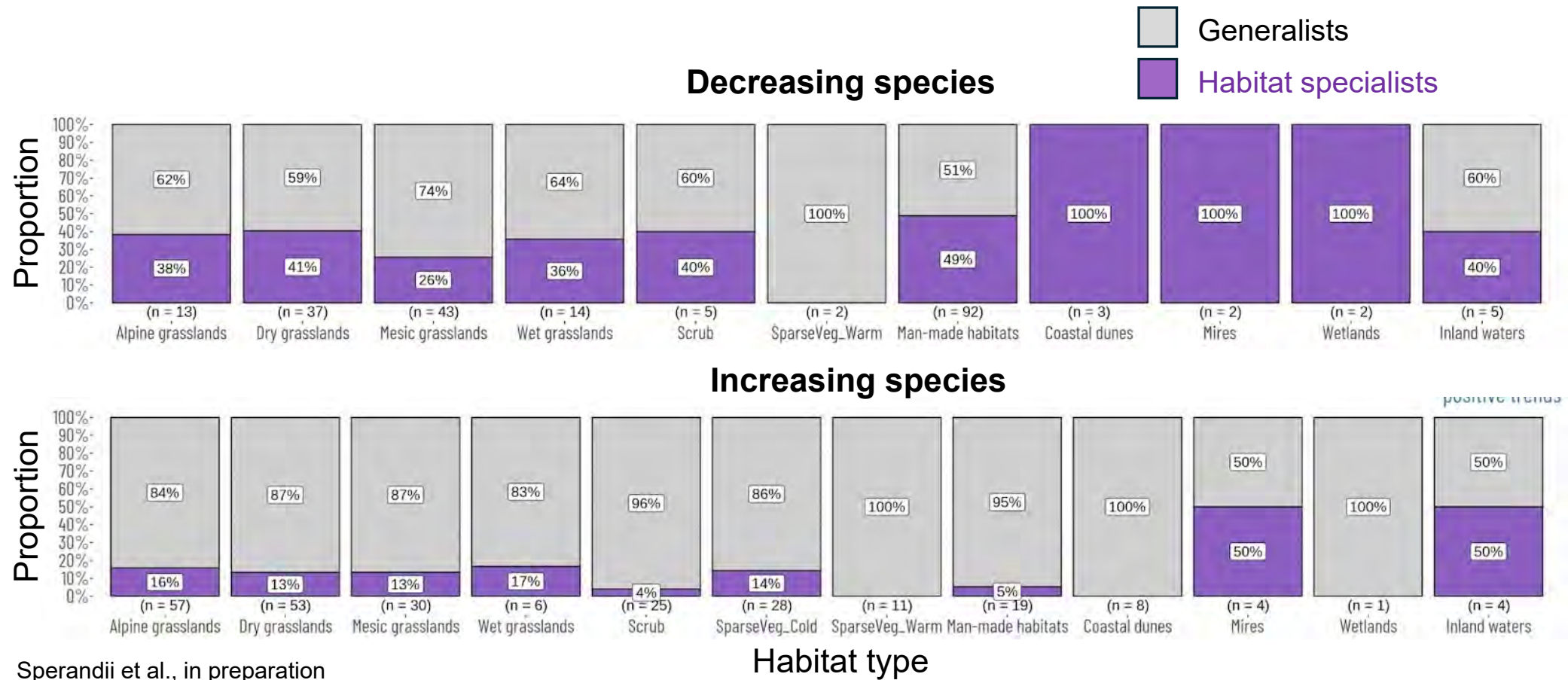


Sperandii et al.,
in preparation

ReSurveyEurope: research



Change in species composition of non-forest habitats



Sperandii et al., in preparation

Biotic homogenization



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My former students



Irena Axmanová



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Flavia Landucci



Ching-Feng Li



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Salza Palpurina



Zdenka Preislerová



Jan Roleček



Lubomír Tichý



Martin Večeřa



David Zelený

... and many others

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Gianmaria
Bonari



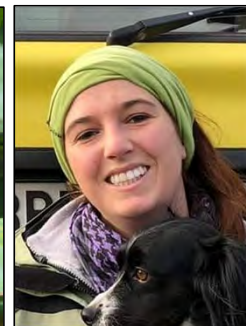
Dariia
Borovyk



Zoltán
Botta-Dukát



Miquel
De Cáceres



Felícia
M. Fischer



Hamid
Gholizadeh



Borja
Jiménez-Alfaro



Anna
Kuzemko



Attila
Lengyel



Corrado
Marcenò



Gabriele Midolo



Gianluigi
Ottaviani



Josep
Padullés Cubino



Ricarda
Pätzsch



Francesco Sabatini



Marta Gaia
Sperandii



Denys Vynokurov



Viktoria
Wagner

... and many others

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European Vegetation Survey



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- ¡Muchas gracias!



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