DOI: 10.21570/EDGG.PG.60.9-15

EDGG Event

18th EDGG Field Workshop
Dry grasslands of South-Western Alps
Aosta, Susa and Durance valleys, Italy and France, 1–11 June 2024
Second Call

Introduction

The EDGG Field Workshops are research expeditions dedicated to the acquisition of high-quality data of Palaearctic non-forest vegetation types, using a standardized methodology (Dengler et al. 2016). The fieldwork includes vegetation-plot sampling with documentation of all encountered vascular plant, bryophyte, and lichen species, as well as recording crucial structural and environmental parameters. The data are sampled in two kinds of plots: vegetation plots of 10 m^2 and "EDGG biodiversity plots", nested-plot series with grain sizes ranging from 1 cm^2 to 100 m^2 and exceptionally 1000 m^2. Also, in some cases this sampling involves other taxa, like orthopterans, leafhoppers, spiders, butterflies, etc. Such a Field Workshops usually leads to several scientific publications focusing either on patterns and drivers shaping the sampled vegetation or differentiation of plant communities.

The forthcoming 18th EDGG Field Workshop will take place in the South-Western Alps. Conducted from June 1st to 11th, 2024, the event will focus on three valleys with continental climate: Aosta and Susa in Italy, and Durance in France. This Field Workshop is the final one in a series of Field Work-

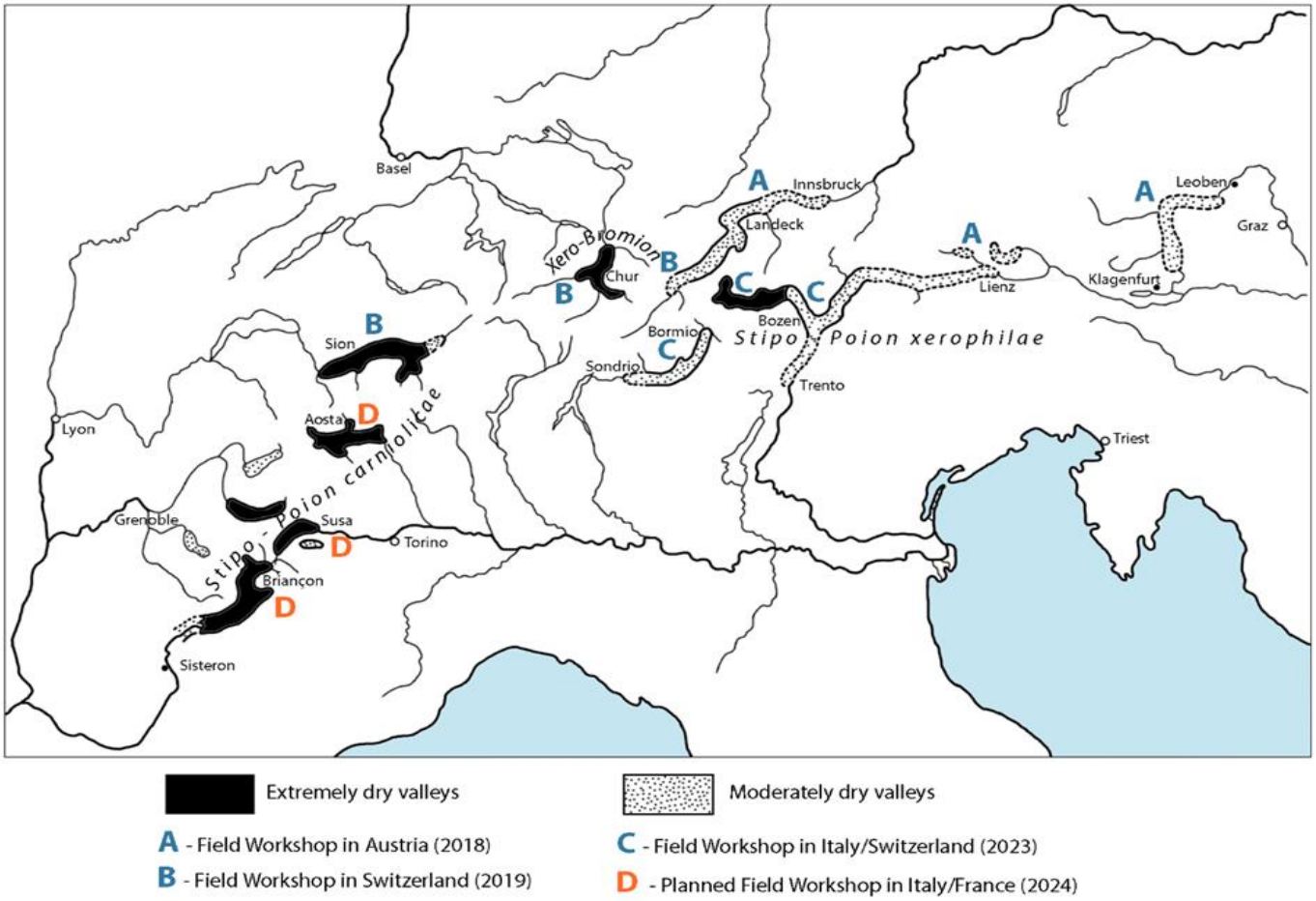

Fig. 1. Overview of the inner-alpine dry valleys based on the map of Braun-Blanquet (1961) with indication of the conducted and planned EDGG Field Workshops.

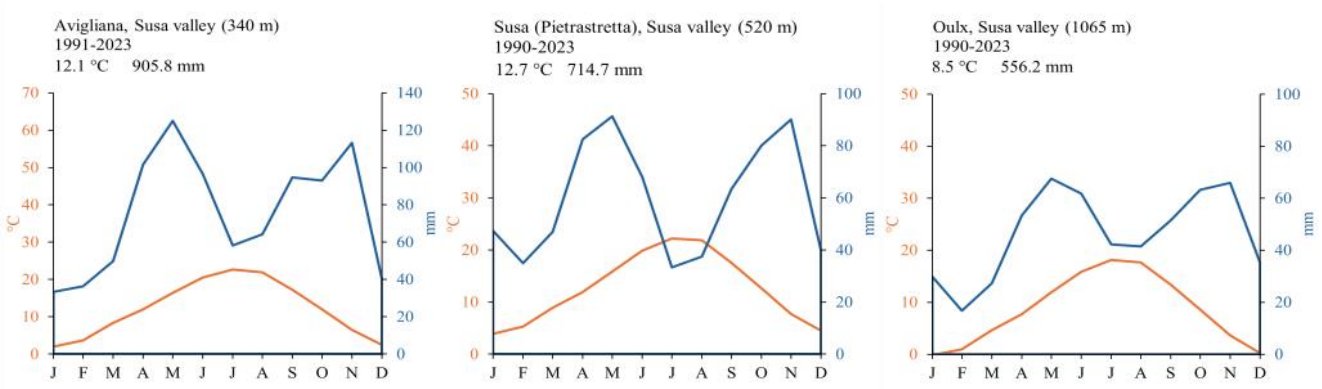

Fig. 2. Climate of the lower (Avigliana), medium (Susa) and upper (Oulx) Susa valley. Data is from ARPA Piemonte meteorological stations.

shops conducted in inner-alpine dry valleys (Fig. 1), after the successful Field Workshops in Austria (2018; Magnes et al. 2021), Switzerland (2019; Bergauer et al. 2022), and NE Italy (2023; Angelini et al. 2024). Two EDGG biodiversity plots have already been sampled also in the Aosta Valley (Wiesner et al. 2015).

Together with the expected data from the 18th Field Workshop, and additional data sampled with the same methodology by EDGG members, we will have about 100 nested-plot series and approximately 600 standardized 10-m^2 plots from the majority of the deep valleys of the Alps, allowing for comprehensive biodiversity analysis and a modern syntaxonomic revision of the complicated situation of the classes *Festuco-Brometea* and *Sedo-Scleranthetea* in the Alps, which are here under the influence of steppic, temperate, alpine and Mediterranean floristic elements.

Characterisation of the three study valleys

Please note that the cited syntaxon names are largely taken from historic or local to regional studies and are not harmonized. Hopefully that situation may change after our planned syntaxonomic revision.

Susa Valley

The Susa Valley is the largest valley in the Piedmont Region of Italy, spanning 80 km in length and oriented from west to east. The climate of this inner-alpine region is dry, with more sub-Atlantic features in the east and a more continental climate in the west, with annual precipitation ranging from 600 to 900 mm (Fig. 2). The geological substrate varies, with serpentine rocks in the lower part of the valley and limestones, calcescists, and gneiss in the medium and upper parts. The unique climate of the valley allows for the presence of many Mediterranean species, particularly on south-facing slopes, such as *Juniperus oxycedrus* and *Quercus ilex*, as well as herbaceous species like *Asterolinon linum-stellatum, Euphorbia sulcata*, and *Linum strictum*.

Dry grasslands are abundant in the valley (Fig. 3), mainly occurring as secondary communities, associated with *Quercus pubescens* and *Pinus sylvestris* forests in the medium and upper regions of the valley, respectively. Due to the cessation of livestock management, many species-rich grasslands are currently under serious threat from shrub and tree encroachment. The vegetation and management of these grasslands have been extensively studied within the

Fig. 3. Dry grasslands in Susa Valley. Photo: A. Gorlier.

Fig. 4. *Stipo capillatae-Poion carniolicae* grassland in the Susa valley. Photo: A. Gorlier.

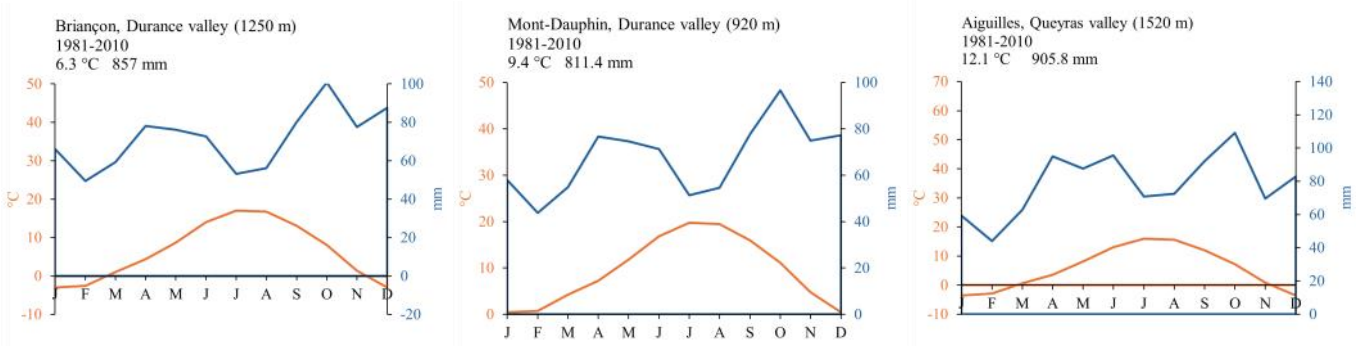

Fig. 5. Climatic diagrams for Briançon and Saint-Crépin in the Durance Valley, and for Aiguilles in the valleys Queyras. Climate data is from the CHELSA database (Karger et al. 2017, 2018).

LIFE 'Xero-grazing' project, which reintroduced sheep grazing as a management tool for the conservation of these valuable habitats (Ravetto Enri et al. 2019; Nota et al. 2021).

From a syntaxonomic perspective, grasslands of the alliances *Diplachnion serotinae* and *Stipo capillatae-Poion carniolicae* (Fig. 4) are present, with various associations ("*Contorteto-Diplachnetum*", "*Trinieto-Stipetum*", and "*Koelerieto-Helianthemetum apennini*") described by Braun-Blanquet (1961). The presence of *Xerobromion* communities is also possible. Additionally, on the flat valley bottom of the upper valley, more mesic *Bromion erecti* meadows are found. Dominant grass species in these communities include *Bromus erectus, Stipa pennata, Chrysopogon gryllus, Heteropogon contortus*, and *Festuca ovina* aggr. Among others, numerous orchid species thrive here, including abundant populations of *Anacamptis pyramidalis* and *Ophrys holosericea.*

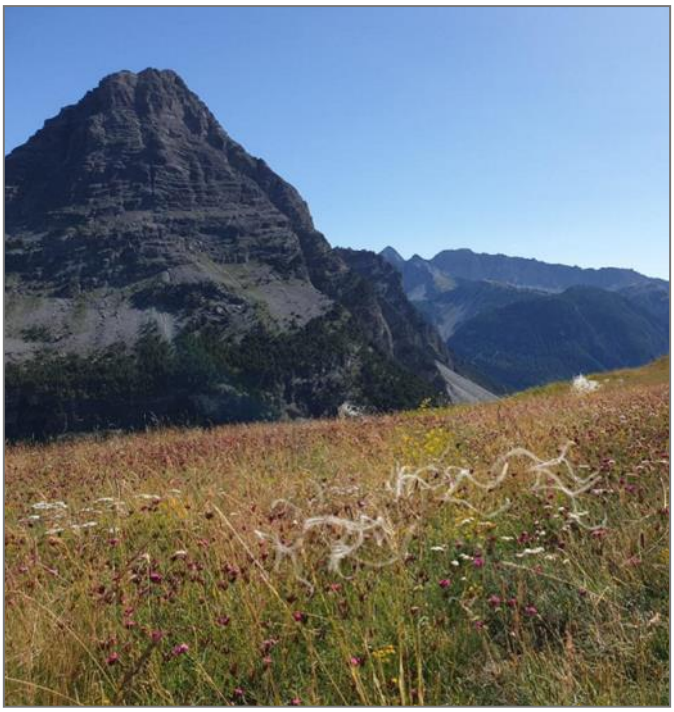

Fig. 6. Dry grasslands of *Stipo capillatae-Poion carniolicae* in the Durance Valley in France. Photo: S. Abdulhak.

Durance Valley

The Durance Valley is the southernmost inneralpine dry valley, located in the department of Hautes-Alpes in South-Western France. Its lower section is significantly influenced by the Mediterranean climate, which gradually diminishes in the direction towards the upper reaches of the valley (Braun-Blanquet 1961). This change in climate is accompanied by shifts in the precipitation pattern, with the majority of rainfall occurring during the summer months (Fig. 5). The upper Durance Valley is linked to the Susa Valley via the high mountain pass known as Col de Montgenèvre. The valley has two primary tributaries: the Guisane in the North-East, originating from the Col du Lautaret, and the Guil, which traverses the Queyras region and originates from the foothills of Mount Viso (3841 m a.s.l.). The western boundary of the Durance Valley is delineated by the Ecrins massif, encompassing peaks such as Pelvoux (3946 m a.s.l.) and Barre des Écrins (4101 m a.s.l.), the latter being the highest summit in the Southern Alps. The valley primarily consists of sedimentary rocks intermixed with various Quaternary deposits, with notable occurrences of quartzite formations, such as those found in Saint-Martin de Queyrières.

The dry grasslands in the Durance Valley predominantly consist of steppe-like communities belonging to *Stipo capillatae-Poion carniolicae* (Fig. 6). Braun-Blanquet (1961) identified several associations within the valley: *Herniario incanae-Elytrigietum intermediae* and *Festuco valesiacae-Poetum carniolicae*, which are more prevalent in the middle and upper sections of the valley and also in the Queyras Valley, while the *Lavandulo angustifoliae-Artemisietum albae* and the *Koelerio vallesianae-Astragaletum vesicariae* are common in the lower region of the valley, influenced by a Mediterranean climate. These communities are accompanied by meso-xeric *Bromion erecti* grasslands in more mesophilous conditions.

Due to a decrease in grazing activity over recent decades, slopes that were once grazed are now predominantly covered by woodlands containing species such as *Quercus pubescens, Pinus sylvestris*, and *Pinus uncinata*. Particularly noteworthy is the presence of relict woodlands of *Juniperus thurifera*, which reach their northernmost limit in the Southern Alps within this area.

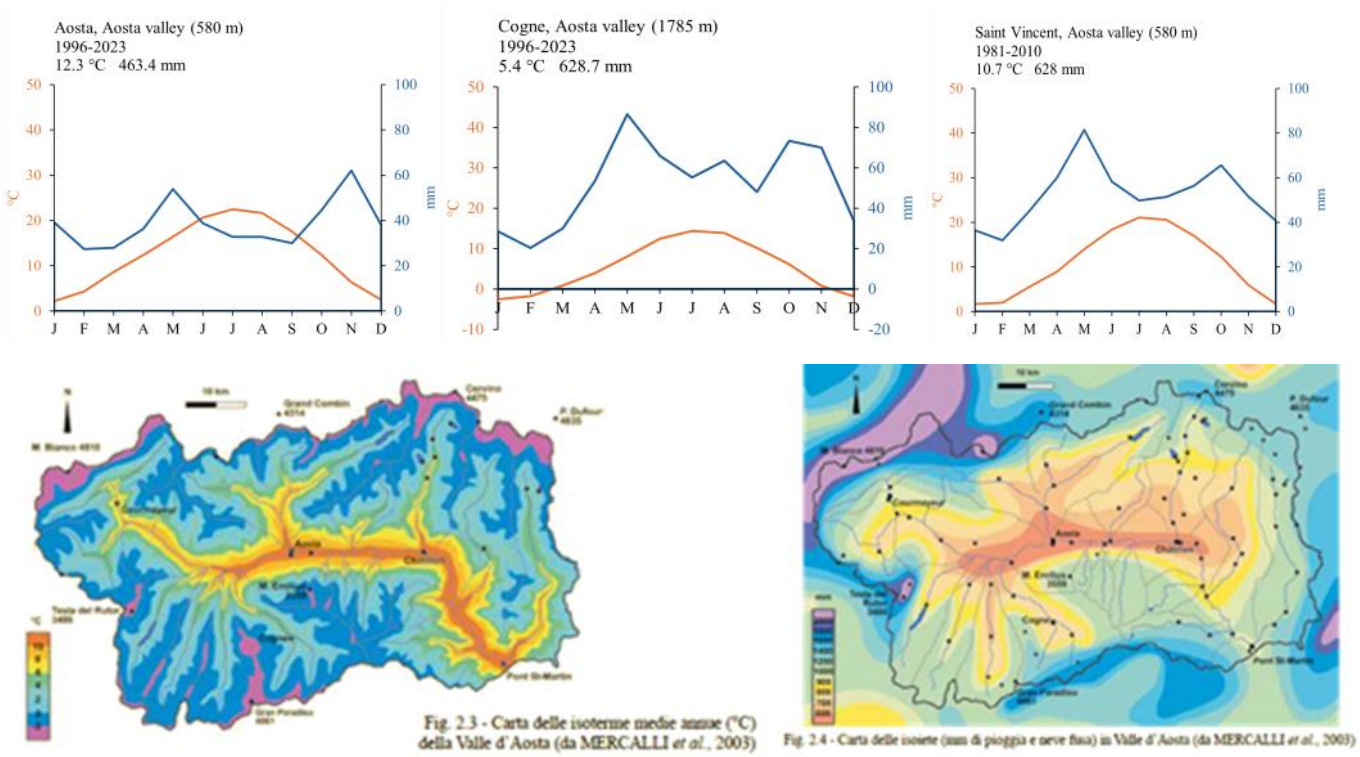

Fig. 7. Above: climatic diagrams for the Aosta Valley (Aosta and Cogne). Data for Aosta and Cogne are from 'Centro Funzionale Regione Valle d'Aosta'; data for Saint Vincent are from the CHELSA database. Below: Map of annual mean isotherms and isohyets for the Aosta Valley from Mercalli (2003).

Aosta Valley

The Valle d'Aosta is an autonomous region situated in the North-West corner of Italy, extending approximately 90 km from the border with Piedmont to the orographic barrier of Mont Blanc, the highest peak in the Alps. The main valley runs in a west-east orientation, exhibiting a marked contrast between its south-facing slope, which is warm and dry, and its north-facing slope, which is shadier and more humid.

The climate in the Valle d'Aosta is characteristic of the inner valleys of the Alps, with the municipality of Saint-Marcel experiencing the lowest precipitation of less than 500 mm per year (Fig. 7). The barrier effect from western wet air masses is influenced not only by Mont Blanc but also by surrounding massifs such as Monte Rosa, Gran Paradiso, Grand Combin, and the Matterhorn (Cervino), which entirely encircle the region.

The secondary valleys, however, generally lack this pronounced contrast. Only Valpelline and the renowned Valle di Cogne stand out. For centuries, this valley has attracted numerous botanists eager to observe species from arid and warm environments at high altitudes, such as *Astragalus alopecurus* or *Aethionema thomasianum*, which were first described scientifically in Cogne itself.

The geological substrates in Valle d'Aosta exhibit significant diversity and are often intermixed. Some areas feature outcrops of serpentinites and ultra-basic rocks, typically within a predominantly acidic context. Additionally, scattered outcrops of calc-schist rocks can also be found, which support an exceptionally rich and distinctive flora. True calcareous rocks, however, are relatively scarce and uncommon in Valle d'Aosta. Overall, the Valle d'Aosta presents challenges from a phytosociological perspective due to frequent encounters between associations and species with distinct ecological characteristics, sometimes even within a few square meters. Mediterranean species are more prevalent in the lower reaches of Valle d'Aosta. In contrast, the central region of the valley typically harbours steppe-like grasslands (Fig. 8), with such steppic species, such as *Bassia prostrata, Artemisia vallesiaca*, or *Trinia glauca*.

Fig. 8. *Stipa capillata* grassland in Aosta Valley. Photo: M. Broglio.

Short itinerary of the Field Workshop

Preliminary localities of the 18th EDGG Field Workshop are shown in Fig. 9.

- **1 June**: Meeting at Torino Railway Station at 15:00 and transportation to our accommodation in the Susa Valley. Joint sampling with introduction on Biodiversity plots sampling methodology (next to guesthouse).
- **2 June**: Lower Susa Valley (municipalities of Avigliana and Villar Dora); dry grasslands on serpentine or ultramafic rocks.
- **3 June**: Middle Susa (municipalities of Bruzolo, Bussoleno, Foresto, Mompantero, and Susa); dry grasslands on moraine deposits with a calcareous matrix.
- **4 June**: Upper part of the Susa valley (municipalities of Salbertrand and Oulx); dry calcareous grasslands.
- **5 June**: Moving to Durance Valley. Sampling in the vicinity of Briançon (upper Durance).
- **6 June**: Lower Durance (Châteauroux-les-Alpes, Mont-Dauphin).
- **7 June**: Middle Durance and Queyras Valley.
- **8 June**: Moving to Aosta valley. Sampling in the vicinity of Saint-Vincent.
- **9 June**: Sampling in Valle di Cogne.
- **10 June**: Upper and Middle Aosta Valley.
- **11 June**: One stop in the Lower Aosta, and travelling to the Torino Railway Station. The FW finishes at 16:00.

Technical information

Accommodation and travelling

We will stay at three different places, one in each of the valleys: Susa (Azienda Agricola San Giuliano di Giai Pier Luigi e figli), Durance (cApVerb) and Aosta (Hostel Nus). We plan to travel in one rented 9-seat minibus and several cars. If you have a possibility to come with your car, please contact the EDGG Field Workshop coordinators, Denys Vynokurov and/or Jürgen Dengler – as this might reduce the overall costs.

Travel information

The starting point of the Field Workshop is Torino Railway Station, Italy (Stazione Porta Nuova), where we will meet participants at 15:00, on 1st of June. The ending point of the Field Workshop is Torino Railway Station, where we will arrive at 16:00 on 11th of June. The detailed meeting place will be sent to the registered participants closer to the beginning of the Field Workshop. We expect up to 15 participants.

Fees

The fees comprise all costs of meals, travel and accommodation starting at 15:00 on 1st of June and ending at 16:00 on 11th of June.

The fees for full participation are:

- € 700 for students (including PhD students) who are IAVS members;

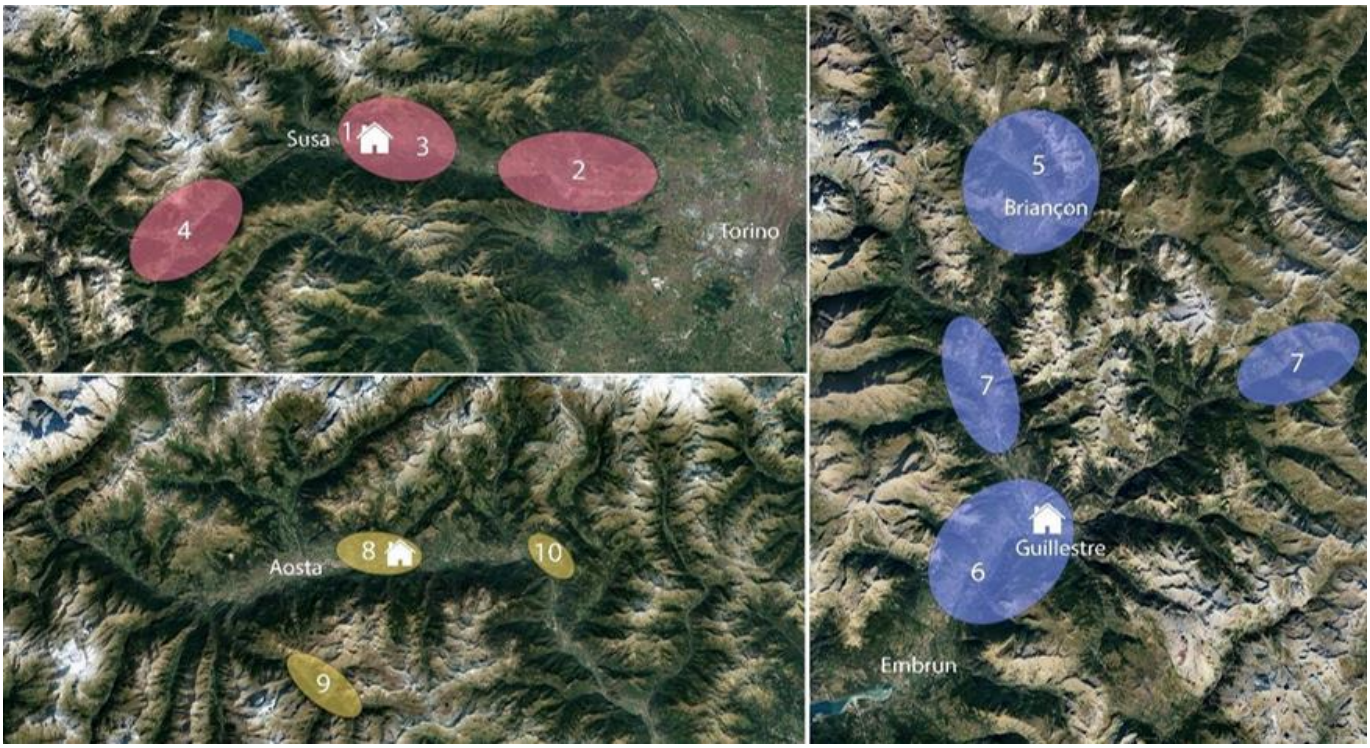

Fig. 9. Preliminary localities of the 18th EDGG Field Workshop in three valleys with indication of the sampling days (1-4 – Susa Valley, 5-7 – Durance Valley, 8-10 – Aosta Valley).

- € 800 for postdocs, senior scientists or other regularly employed persons who are IAVS members;
- € 800 for students (including PhD students) who are not IAVS members;
- € 900 for postdocs, senior scientists or other regularly employed persons who are not IAVS members;
- € 0 (i.e. no participation fee) for any Ukrainian participant (whether living in Ukraine or a refugee abroad) who is IAVS member at the time of application (it is possible also to apply additionally for travel expenses to/from Torino).

Payment has to be made in cash on the first day of participation or directly into the bank account. Bank account details will be provided to the registered participants after the confirmation of participation.

The fees are calculated with some small buffer. Therefore, if everything goes well and/or we can reduce the costs by using more private cars than currently planned, some refund at the end is possible. In case of cancellation, we will refund money – but only to the extent that the cancellation led to a cost reduction.

How to apply

In general, only EDGG members can participate in EDGG Field Workshops, but if non-members apply this will be considered as an application for free membership of the EDGG.

To apply for participation, please submit a motivation letter (about 200 words) to the Field Workshop coordinators, Denys Vynokurov (denys.vynokurov@gmail.com) and Jürgen Dengler (dr.juergen.dengler@gmail.com) in an email entitled "EDGG Field Workshop", explaining why you are interested in participation and what would you contribute to its success, both during and after the Field Workshop. Deadline for applications is **15th April 2024**. Confirmation of participation and feedback on travel grant applications will be given not later than 5 May 2024.

If there are more applications than places, we will select participants on the basis of the motivation letters and competences contributed. We will give preference to those who are willing and able to determine bryophytes and lichens from the Field Workshop or analyse the collected soils. For those who already participated in at least three EDGG Field Workshops, the motivation letter is not required. When applying for participation, in addition to your motivation letter please include in your e-mail the following information:

- Name
- Age
- Professional status (e.g., PhD student, postdoc, professor, unemployed)
- Affiliation
- Address
- Mobile phone number (we need to be able to contact you, e.g., when you get lost in the field)
- Dietary requirements (no/vegetarian/other: please specify)
- If you are not an EDGG member yet, you need to agree explicitly to join EDGG (for free)
- Travel grant application (Yes/No)

Experts on other taxonomic groups, like grasshoppers, leafhoppers, spiders, butterflies, fungi or soil metagenomics are also welcome to join if they are able and willing to carry out their sampling in a way that allows joint analyses with the vegetation diversity data. Such applicants are requested to discuss a potential sampling design prior to application with EDGG Field Workshop coordinators, Denys Vynokurov and Jürgen Dengler.

Partial participation is possible (e.g., only one or two valleys). However, the priority will go to full-time participants. If you wish to apply for partial participation, please contact the Field Workshop coordinators.

Travel grants

Travel grants are provided by our maternal organization IAVS, and they are only available to members of IAVS in 2024. Priority for travel grants will be given to the following groups of persons: a) students and other applicants from low-income countries; b) active participants of previous Field Workshops; c) persons that have already agreed to organize a Field Workshop in the coming years or provide any additional input such as soil analyses or sampling and identification of taxonomic groups other than vascular plants. The final decision will depend on the combination of these three variables. The amount of money provided to a particular grantee is not a fixed sum, but depends on the available money, the demonstrated need of the respective person and his/her relevance to the success of the Field Workshop. Accordingly travel grants can cover parts of the registration fee, the full registration fee or possibly even the travel costs to get to the event.

IAVS and EDGG requires their grantees to be actively involved in the EDGG event and contribute to its success. In the case of Field Workshops, it is necessary that all participants work intensively during and after the Field Workshop to obtain high-quality scientific results. Some of the tasks shared by participants are data entry and digitizing data, sorting and analysing soil samples, preparing and identification of plant specimens. Post-Field Workshop tasks usually require a few days of work for each participant. Participants will be invited as a co-author to one or more publications using these data. It is required that IAVS grantees accept to fulfil tasks relevant to their expertise and capabilities during and after the Field Workshop. If a grantee does not fulfil the post-Field Workshop task, he or she may be exempted from next year's grants for EDGG events.

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