Venue of the 22th Workshop (8-11 April 2013) of the IAVS Working Group *European Vegetation Survey* in Rome, the Palazzo Corsini

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Scorzonera humilis, a rare component of relic Nardus grasslands in North Germany. Badenstedt, May 2013. Photo by Josef Müller.
Preface

The 56th annual symposium of the International Association for Vegetation Science (IAVS) in Tartu, Estonia, will start shortly. It will be the first IAVS Symposium in a Baltic country – and in terms of participants one of the biggest IAVS meetings ever! The annual symposia are highlights in the life of the association, as our members and other participants have the opportunity to present their research to a large international audience of vegetation scientists. This research is usually based on the activities in local laboratories, but also in projects conducted in the framework of IAVS working groups. In order to make this research known also to those members and friends of the association who are not able to attend the annual meetings, we herewith start to use the Bulletin as a platform for presenting ‘Featured laboratories’ of IAVS research groups as well as the work, projects and events of IAVS Working Groups and Regional sections. By this we hope to stimulate more people interested in different aspects of vegetation science to engage in the work of the association or one of its groups.

Martin Diekmann,
President, IAVS
Featured laboratories of IAVS members

Laboratory of Quantitative Ecology (ECOQUA) at the Federal University of Rio Grande do Sul in Porto Alegre, Brazil

Head of the research unit is Valério Pillar, Vice-president of IAVS and host of the IAVS annual meeting in Porto Alegre in 2002.

Quantitative ecology is an exciting and fast growing field in ecology, aiming to provide practicing ecologists with mathematical and statistical tools that enable them to interpret the complex nature of ecological data, at all levels of biological organization. The research group of the Laboratory of Quantitative Ecology (ECOQUA) at the Federal University of Rio Grande do Sul (UFRGS) in Porto Alegre, southern Brazil, has been developing ecological theories and analytical methods that can be applied in various ecological contexts. ECOQUA congregates faculty, students and young scientists from different academic backgrounds, including applied ecologists, working across a wide-range of taxa and ecosystems. Given our geographical location, most of our applied research emphasizes the Campos grassland and grassland-forest mosaics that characterize this region.

Insofar, our main lines of research include: (1) analyzing the phenotypic and phylogenetic structure of metacommunities; (2) analyzing vegetation patterns at different spatial-temporal scales; (3) understanding the dynamics of grassland-forest mosaics and their interactions with climate, soil, dispersers, diaspores, herbivores and fire; (4) quantifying functional diversity and redundancy, and understanding their connection to community resilience, invasiveness and ecosystem processes; (5) analyzing paleo-ecological series of vegetation growth, and modeling past global changes; (6) simulating models of vegetation dynamics; (7) developing hypothesis testing and probabilistic inference in ecology, via permutation tests; (8) partitioning biological diversity across spatial scales; (9) developing analytical algorithms and implementing them as software.

Currently, two software packages are freely available at http://ecoqua.ecologia.ufrgs.br. The first is MULTIV, which is a flexible environment for multivariate data analysis. MULTIV offers exploratory analyses (constrained and unconstrained ordinations and cluster analysis), diversity indices, and randomization tests and bootstrap re-sampling methods. The second is SYNCSA, intended for the analysis of metacommunities based on functional traits and phylogeny of the community components. SYNCSA also allows ecologists to explore functional convergence / divergence patterns across different levels of biological organization.

Examples of ecosystem processes studied and related to a shift in vegetation structure are: litter decomposition, detritivorous activity and a great new research line that aims to determine patterns and their links to invasion by exotic plant species. The approach includes different organizational levels (populations, communities and ecosystems) and spatial scales (regional and local) to study the invasion process and predict community invasibility as well its effects on ecosystem processes. To achieve these aims, we are conducting surveys at different scales and field experiments. On a local scale, the target species is Eragrostis plana, which is the most significant invasive species in south Brazilian grasslands.
The native Campos grasslands provide important ecosystems services, which include grazing for livestock production. One focus of our studies is plant response to grazing and fire, which is evaluated by species composition and functional traits. Ongoing long-term ecological experiments aim at evaluating sustainable alternatives for grazing management considering biodiversity conservation and productivity. Further, a regional survey of natural grasslands is measuring diversity and traits at different taxonomic levels (herbaceous and woody plants, insects, birds, mammals, amphibians) to assess the effects of increasing grassland habitat losses due to land use conversion. We are developing a database for the uploading and organization of the field data.
Studying grassland encroachment by woody vegetation and recovery of disturbed tropical Atlantic rainforest and Araucaria-mixed forest is also a research focus of the lab. This includes modeling forest-grassland mosaics dynamics under current and future climate by incorporating an adaptive Dynamic Global Vegetation Model (aDGVM) into a spatially explicit modeling framework, which considers topography, seed dispersal and fire spread in two dimensions. Collaborating labs at UFRGS working on vegetation ecology (LEVeg, LevCamp) and on phylogenetic and functional ecology (LEFF) are also testing climate change effects on past, present and future distribution of vegetation in southern Brazil, as well as assessing patterns and processes in the regeneration of plant communities.

A recent topic of interest is on interaction networks, for understanding ecological and evolutionary dynamics and relating them to other aspects of biodiversity. In this we simulate models and also test real networks of seed disperser birds and zochorous plants and flower visitor insects of herbs in native grasslands. Additionally, we assess extinction debts through these interactions in highly fragmented grasslands. Recently, we are developing an analytical framework that integrates phylogenetic and ecological data from bipartite networks.

Ongoing international collaboration includes, among several others, participation in the TRY plant trait database initiative, and in the Dimensions of Biodiversity Distributed Graduate Seminar (DBDGS) funded by NSF and held through the University of Washington in Seattle.

We invite you to visit our website at http://ecoqua.ecologia.ufrgs.br to learn more about potential collaboration and for a list of our publications.

Collecting arthropods in grassland permanent plots
A field excursion to areas of native grasslands and grassland-forest mosaics (*Araucaria angustifolia* trees seen in the background)
One of the oldest and most active working groups of IAVS is the European Vegetation Survey (EVS), uniting plant ecologists interested in the survey and classification of the vegetation in Europe and beyond. With the 22nd workshop of the EVS in fresh memory we want to present the working group, give a short review of the most recent meeting in Rome, and stimulate our members and others interested in vegetation survey to join the group and contribute to its activities.

The EVS has various purposes, as summarized on the website [http://euroveg.org/](http://euroveg.org/) launched in November 2012:

- 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 exchange,
- to produce an overview of European vegetation,
- to organize scientific meetings,
- to encourage international research collaborations in vegetation survey, and
- to support publications on concepts, methods and results of vegetation survey in Europe and beyond.

A comprehensive history of the working group is published by John Rodwell on the EVS homepage [http://euroveg.org/history](http://euroveg.org/history). The EVS was ‘born’ in 1991 when at the IAVS annual meeting in Eger, Hungary, about 40 members of the association from 14 countries gathered to discuss the possibility to compile a *Prodromus of European Plant Associations*. The former president of IAVS, Sandro Pignatti, organized the 1st workshop of the group in March 1992 at the *Orto Botanico* in Rome. That first workshop was inspiring not only because of the enthusiasm and commitment of the participants, but also by the fantastic setting of the meeting venue in Trastevere, a distinctive district of the Eternal City. At this occasion, five people (Georg Grabherr, Laco Mucina, Sandro Pignatti, John Rodwell and Joop Schaminée) formed a core group of the emerging new IAVS Working Group.

The *Orto Botanico* remained the main venue of the EVS workshops for more than two decades. The early years saw an increasing number of participants from various countries, and the exchange of information about the state of the art of vegetation survey and classification in different countries stimulated many scientists to engage in national or regional survey programmes. These activities were reinforced by the first publication milestones of national vegetation surveys from the UK (Rodwell 1991-2000), Austria (Mucina et al. 1993) and The Netherlands (Schaminée et al. 1995-1999). In the mid 1990s the workshops attracted also an increasing number of participants from Eastern and Northern Europe. The workshops included talks and poster presentations as well as one-day excursions to areas in the surroundings of Rome in the region of Lazio. Several EVS workshops were devoted to vegetation types with a large distribution across Europe (such as beech forests) for which the interaction and cooperation of scientists from all over the continent appeared to be particularly meaningful.
The scientific discussions at the EVS workshops did not just focus on data analysis and methods, but likewise on how data might be stored and exchanged. A major step in this direction was the development of the program TURBOVEG by Stephan Hennekens that within short became the standard program for data storage of scientists active in the EVS. In the second half of the 1990s, the EVS established collaborations with other initiatives in Europe focusing on vegetation mapping (‘Vegetation Map of Europe’ under the direction of Udo Bohn at the Bundesamt für Naturschutz in Germany) and habitat classification in the framework of European nature conservation policy. In the mid-1990s, John Rodwell obtained a project from the UK Darwin Initiative, in which he offered training in vegetation data banking and data analysis to young vegetation scientists from several countries of Central and Eastern Europe. This project promoted new national vegetation survey projects in some countries, which were supported, besides TURBOVEG, by the new program for vegetation analyses, JUICE, developed by Lubomír Tichý.

The 2000 workshop was the first held outside Rome, and since then meetings alternated between Rome and other places in Europe. Members of the EVS started new initiatives such as the Global Index of Vegetation-Plot Databases, a metadatabase of vegetation data from all over the world, developed jointly by different working groups within IAVS and beyond (Dengler et al. 2011). Building on the original idea of the EVS to produce a large-scale survey of European vegetation, Laco Mucina with an expert team from many countries some years ago started to compile an overview of European vegetation alliances, orders and classes (“EuroVegChecklist”, Mucina et al., submitted). Since the 2012 workshop in Vienna the EVS adopted Bylaws and is thus also more formally recognized as a Working Group of the IAVS; the Steering Committee consists of Erwin Bergmeier, John Rodwell, Joop Schaminée, Wolfgang Willner and the newly elected secretary Milan Chytrý, with Emiliano Agrillo serving as a Membership Administrator. Currently the EVS has 1111 members on the mailing list.

Current efforts of the European Vegetation Survey focus on the development of a European Vegetation Archive (EVA), and associated with this the preparation of surveys of selected vegetation types across the continent. The Braun-Blanquet project, led by Borja Jiménez-Alfarro, builds upon both the EuroVegChecklist and data from European vegetation databases, aiming to deliver standardized species
composition data for European vegetation types. The results and resources obtained within these projects will be stored in the information system SynBioSys Europe, developed by Stephan Hennekens. Other projects of vegetation survey focusing on the whole European continent deal with aqua-tic, wetland and coastal dune vegetation. EVS activities are not only scientific, but they increasingly serve the European nature conservation policy. EVS provides expertise for habitat assessment to the European Environment Agency and the European Commission DG Environment, especially in parameterization and revision of the EUNIS habitat classification and evaluation of the conservation status of plant communities.

The 22th EVS workshop took place on 8-11 April 2013 in Rome. Whereas the poster presentations were located in the Orto Botanico as in the early days of the working group, the plenary sessions were now held in the Accademia dei Lincei hall in the Palazzo Corsini. The workshop was organized jointly by the Italian Society for Vegetation Science, University of Rome La Sapienza and by University of Perugia. Central themes were (1) Coastal and Inland Saline Vegetation and (2) Red List Evaluation of Plant Communities. 178 participants from 16 countries of Europe and beyond saw an interesting and inspiring programme with more than 40 talks and 86 posters. The first day was mainly devoted to coastal habitats, but also saline vegetation in Eastern Europe and Central Asia, finished by an open session on ‘Diversity Patterns and Temporal Changes of European Vegetation’. John Rodwell opened the 2nd day of the workshop with a keynote talk on the Red List evaluation of European habitats, an excellent starting point for the following presentations and a stimulus for many discussions. Also the second open session on ‘Vegetation Data Analysis: Methodological Challenges’ sparked many discussions and even controversy.

The 2nd day was concluded by the EVS Business meeting and a short presentation of next-day’s excursion to the National Park of Circeo. The 2014 EVS workshop will take place in Ljubljana, Slovenia, on 8-12 May 2014, hosted by the Slovenian Academy of Sciences and Arts. The main topic will be ‘Biogeographical Patterns and Processes in Plant Communities’ and a special session will be devoted to Balkan vegetation.


Martin Diekmann & Milan Chytrý
EVS excursion to the National Park of Circeo

The destination of the excursion of the 22th EVS International Workshop was the National Park of Circeo (Parco Nazionale del Circeo) south of Rome. The excursion was organized as a one-day field trip on Thursday, 11 April.

The bus with our excursion guide Francesco Spada left at 7.30 in the city centre close to our venue at Villa Farnesina. All participants were equipped with an informative booklet on the vegetation and cultural history of the National Park (Spada et al., unpubl.). After having left behind the morning traffic of Rome we entered the typical landscape surrounding the capital, the Campagna Romana, characterized by undulating plains dominated by pastures and interspersed with small villages. After an hour we reached the Pontine marshes, formerly an extensive alluvial plain at about sea level that was once famous for its wild and sparsely populated landscape of forests and wetlands. Marshes developed in this area because the coastal dunes form a dam here that prevents or slow down the water flow from the rivers coming from the Apennines. Already at Roman times and on several occasions during the Middle ages and later, people attempted to drain parts of the area for land reclamation and also to fight malaria, but all projects failed until the 1930s when extensive drainage works were initiated, including the construction of networks of canals and pumping stations as well as massive logging. Within a few years most of the pristine vegetation of the Pontine marshes had been destroyed. Only an area of about 75 km² escaped this transformation: a long and narrow strip of dunes, remains of a lowland forest and the promontory of Circeo. These areas were set aside as a National Park in 1934 and offer unique ecosystems that have almost completely vanished from other parts of the region. The National Park includes about 1200 species, which is an extraordinarily high number given the size of the area.

Slope of the promontory of Circeo with Torre Paola, a defence tower constructed in the 16th century. The Tyrrhenian sea is seen at the right.
After a coffee break the excursion arrived at the promontory of Circeo at mid-morning, and we started our walk in marvellous sunny weather. The promontory is a 5 km long limestone ridge that had once been an island, but made part of the mainland by sedimentation. It reaches 541 m a.s.l. and is mostly covered by dense forest. Due to strong differences in meso-climatic conditions, the northern and southern slopes show pronounced differences in flora and vegetation. Close to the parking place we entered one of the largest and most intact evergreen broad-leaved forests with *Quercus ilex* along the Tyrrenian coast.

*Quercus ilex* forest with frequent occurrence of woody vines (especially *Smilax aspera*)

The trees, however, were predominantly rather small, reaching only about 10-12 m height, and were often polycormic, testifying former coppicing that was wide-spread in the area along with grazing and fires.

*Viburnum tinus*, an understorey species with strong rejuvenation below the *Quercus* canopy

Below the canopy of holm oak there were dense populations of evergreen small trees and shrubs, e.g. *Arbutus unedo, Laurus nobilis, Phillyrea latifolia, Pistacia lentiscus* and *Viburnum tinus*. A conspicuous species at the forest floor was *Cyclamen repandum* being in full flower.
After having left the forest we made a short visit to the sandy shore close to the channel that connects the sea with one of the marsh lakes, Lago di Paola. This channel, the Canale di Paola, dates back already to the time of the Roman emperor Nero. We then entered a small path crossing the consolidated dunes with dense, woody maquis vegetation dominated by Juniperus oxycedrus ssp. macrocarpa and several shrubby angiosperm species such as Pistacia lentiscus and Rhamnus alaternus, but also vines such as Clematis flammula and Smilax aspera.

Coastal dune vegetation close to Torre Paola at the promontory of Circeo
The next stop was at the visitor centre where we enjoyed a wonderful Italian lunch buffet. Located near-by was the lowland forest Selva di Circe, one of the largest uninterrupted forests in the lowlands along the Tyrrhenian coast. Growing on fossil dunes only slightly above the elevation of the surrounding former marshlands, the area shows a remarkable variety of different forest types. Depending on elevation and soil conditions there is a mixture of thermophilous forest with evergreen Mediterranean oaks (*Quercus ilex*, *Q. suber*), sub-Mediterranean oak forest (*Quercus frainetto*, *Q. cerris* and *Q. pubescens*) and more temperate and hygrophilous mixed oak forest (*Quercus robur*, *Carpinus betulus* and *Fraxinus oxycarpa*) growing at the lowest sites. The latter is perhaps the most remarkable, as one wouldn’t expect this type of forest under the prevailing climatic conditions that are typical Mediterranean. The ground water table at the sites of the hygrophilous forest, however, is so high that the trees do not suffer from the pronounced summer drought. The deepest depressions, being inundated for up to 3 months per year, are dominated by stands of *Quercus robur*. At the time of our excursion these pools (*Piscine*) were under water and gave the impression of a riverine swamp forest.

Sub-Mediterranean oak forest at Selva di Circe at the time of foliation
Two impressions of an inundated forest with *Quercus robur* and *Fraxinus oxycarpa*. 
Also many species in the field layer are frequent elements of more temperate forests, such as *Iris pseu-dacorus*, *Lycopus europaeus* and *Mentha aquatica*.

Late in the afternoon we started our return to Rome. Our guide Francesco Spada had shown us a beautiful landscape with a large diversity of habitat types, and he had given us plenty of information on the flora, vegetation and cultural history of the National Park. We arrived in the city centre of Rome in early evening, looking back at a fantastic excursion day.

Further reading:

*Martin Diekmann*
Obituary:  
Professor Herbert Reisigl (1929-2012)

Professor Herbert Reisigl (1929-2012) passed away peacefully in December 2012 after a painful sickness. Herbert was Professor of Geobotany and Plant Ecology at the Institute of Botany, Innsbruck University, Austria. His research activity was focused on soil algae, endemism of alpine plant species and plant ecology of the Mediterranean regions. Together with Hans Pitschmann he developed a method to cultivate soil algae on artificial substrate in the 1950s. This was the cornerstone to the in vivo culture collection of algae (ASIB) in Innsbruck. With his colleague Pitschmann, he studied the altitudinal ranges of plants in the Oetztal Alps, was involved in the vegetation mapping of Tyrol, and published the unique “Flora der Südalpen”. Herbert was a champion in photography and his books on alpine and Mediterranean flowers are famous. He participated at several IAVS symposia and excursions. Everybody will remember his humor and his dedication to the scientia amabilis.

Brigitta Erschbamer

Forthcoming meetings

2013

3-6 July: 35th meeting of the Eastern Alpine and Dinaric Society for Vegetation Ecology, Ohrid (Republic of Macedonia)

The 35th meeting of the Eastern Alpine and Dinaric Society for Vegetation Ecology will take place in Ohrid (Republic of Macedonia) from 3-6 July 2013, organised by the Macedonian Academy of Sciences and Arts and the Institute of Biology, Scientific Research Centre of the Slovenian Academy of Sciences and Arts. For further information, see www.odin.sbg.ac.at, www.manu.edu.mk and http://bijh.zrc-sazu.si/en/dogodki/35th-meeting-of-the-eastern-alpine-and-dinaric-society-for-vegetation-ecology#v.

4-9 August; 98th Annual Meeting of the Ecological Society of America, Minneapolis, Minnesota, USA

“Sustainable Pathways: Learning From the Past and Shaping the Future”

See: http://www.esa.org/esa/?page_id=127

18-23 August: 11th INTECOL Congress, Ecology: Into the next 100 years, London, UK:

Advancing ecology and making it count

Held in London as part of the centenary celebrations of the British Ecological Society

See: http://www.intecol2013.org/
9-13 September: 43rd Annual Meeting of the Ecological Society of Germany, Austria and Switzerland, Potsdam, Germany
“Building bridges in ecology - linking systems, scales and disciplines”
http://www.gfoe-2013.de/

17-25 September: Changes in alpine and arctic flora under climate change, Davos, Switzerland (WSL Institute for Snow and Avalanche Research SLF)
For more information:

29 September - 3 October: Open Landscapes 2013 - Ecology, Management and Nature Conservation, Hildesheim, Germany
For more information, see http://www.open-landscapes2013.de/welcome

2014

24-26 February: Vegetation Databases and Ecological Restoration, Koblenz, Germany
1st circular available in autumn 2013.

8-12 May: 23rd Workshop of the IAVS Working Group European Vegetation Survey, Ljubljana, Slovenia

10-15 August: 99th Annual Meeting of the Ecological Society of America, Sacramento, California, USA

1-5 September: 57th Annual Symposium of the International Association for Vegetation Science, Perth, Australia
The IAVS Bulletin is an electronic newsletter of the International Association for Vegetation Science (IAVS, www.iavs.org), edited by the members of the Governing Board and the Administrative Officer Nina Smits (admin@iavs.org). To become a member, contact our Administrative Officer Nina Smits (Wageningen, The Netherlands).

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**Publications:** IAVS publishes two international journals: the *Journal of Vegetation Science and Applied Vegetation Science*, edited by J. Bastow Wilson (Dunedin, New Zealand), Alessandro Chiarucci (Siena, Italy), Milan Chytrý (Brno, Czech Republic) and Meelis Pärtel (Tartu, Estonia). For more information on subscriptions to the journals, consult our website www.iavs.org.