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Crocus vernus announces spring in the northern hemisphere
© M. Janísova
When so many of us met in Bremen last July, I don’t think we ever would have imagined the world situation as it is today and that, among other impacts, it would have led us to cancel our annual symposium. This was a sad decision as for many of us IAVS is our scientific home and this event is a high point of our year. However, as events have transpired since that decision, I think it is clear to everyone that it was the only option. Now we need to think towards the future and how best to keep our linkages in IAVS strong until we can meet again. Our journals – *Journal of Vegetation Science* and *Applied Vegetation Science* continue to publish the results of high quality research and our recently launched journal *Vegetation Classification and Survey* provides new opportunities. You can subscribe to Contents Alerts for any of these journals by visiting the journal websites and following the links. You can keep up with the most recent news related to the journals by viewing and subscribing to the *Vegetation Science Blog* (https://vegsciblog.org/).

IAVS has numerous Working Groups and Regional Sections. These provide another way or remaining involved with IAVS through more focused or regional activities. Follow [iavs.org/Working-Groups/Join-a-Group](http://iavs.org/Working-Groups/Join-a-Group) to learn more about these groups and how you can join, if you haven’t already. If the situation with the pandemic improves, there may even be opportunities for smaller botanical excursions or regional meetings that could be promoted through these groups.

If there is interest and sufficient content, we can support the production of more frequent issues of the *IAVS Bulletin* over the coming period. For example, many of our members know little about the history of IAVS and previous difficult times that the association has been through. Javier Loidi wrote me recently explaining how IAVS was founded by Braun-Blanquet and Tüxen in 1939 and was interrupted throughout WWII and was not able to form again until in the 1950s. I would find it very interesting to learn more of the early IAVS history. Martin Diekmann suggested that it would be interesting to put together some historical photo stories from early IAVS symposia or related meetings. If any of our more senior members could write such articles, they would be very welcome. If you have ideas of other themes that could be pursued in the Bulletin or you have an idea for an article, please email the Editor at monika.janisova@gmail.com.

If you have other ideas of what we should do as a society over the next period to keep our ties strong, please feel free to contact me at wisers@landcareresearch.co.nz or any of the other members of the Governing Board.

I know this is a very difficult time for many of you and your family and friends and things continue to change daily. The situation varies greatly around the world, with it being much worse in some countries and locations than others. On behalf of myself and the IAVS Governing Board I wish all the best to you, your family, friends and colleagues in these challenging times.

Kia kaha – Stay strong.

Susan Wiser
President of the IAVS
Happier times in Bremen, July 2019 (© J. Dengler).
It is my great pleasure to introduce Professor Pierre Legendre, recipient of the 2019 Alexander von Humboldt Award for Excellence in Vegetation Science. This is the highest award that IAVS can bestow on a vegetation scientist in recognition of an outstanding body of work that has made a major contribution to vegetation science. The Award was established in 2011 and is awarded at 2-year intervals.

I have known Pierre for 31 years. We first met at the IAVS Working Group for Theoretical Vegetation Science symposium in 1988, which was held in Vienna, Austria. This working group, originally known by the much less impressive title of the Working Group for Data Processing, was very active in developing numerical methods for the analysis of vegetation data. At the Vienna symposium, I not only met Pierre but also David Goodall, Jari Oksanen, and Dave Roberts. In 1994, Pierre and his wife Ghislaine Ouellette visited Melbourne, Australia and stayed for a week at my home. I recall that they were model guests and Pierre showed himself to be an excellent cook. I have very fond memories of his kangaroo curry (if I recall correctly, an adap-
tation of a recipe he had learned in Montreal for venison curry. Pierre and Ghislaine continued on from Australia to his sabbatical in Perpignan in SW France. My wife and I met up with them there for a few days en route from Spain to Italy. We explored the local sights, including several wineries around Perpignan and I learned a lot from Pierre about the regional wines - Côtes du Roussillon, Banyuls, Muscat de Rivesaltes, and Maury. Pierre once again excelled in the kitchen, preparing a delicious duck dish and inventing a sauce featuring local peaches from the farmers market and Roussillon wine.

But to get back on topic, Pierre is a very worthy recipient of this award. His research and in numerical ecology, both solo and collaborative, has provided vegetation scientists with many effective tools to analyze plant communities, investigate their patterns of spatial and temporal variation, and identify environmental factors that determine these patterns in space and time.

Pierre obtained a B.A. from Collège Saint-Viateur (affiliated with University of Montréal) in 1965 and then did 2 years of a B.Sc. in biological sciences at the University of Montréal before heading to McGill University to complete a M.Sc. in zoology in 1969. He then obtained his Ph.D. in biology from the University of Colorado (Boulder) in 1971.

Pierre was a Postdoctoral Fellow in the Institute of Genetics at Lund University, Sweden 1971-72 and a Research Associate, Center for Ecological Research, University of Québec in Montréal 1972–73. After positions as Research Director of the Centre for Environmental Research and a Natural Sciences and Engineering Research Council Research Associate, he was appointed a Professor in the Physics Department at the University of Québec in Montréal 1980. Pierre then moved to the University of Montréal as an Associate Professor in the Department of Biological Sciences in 1980-84, becoming a Full Professor in that department in 1984.

Pierre has previously received many richly deserved awards and distinctions. He was elected Fellow of the Royal Society of Canada in 1992, received the Distinguished Statistical Ecologist Award of the International Congress of Ecology (INTECOL) in 1994, and the Romanowski Medal (environmental science) of the Royal Society of Canada in 1995. In 1999, at the Ninth Lukacs Symposium “Frontiers of Environmental and Ecological Statistics for the 21st Century”, Pierre received the Twentieth Century Distinguished Service Award “for outstanding contribution to the synergistic development and direction of statistics, ecology, environment and society”.

In 2005, he was awarded the Prix Marie-Victorin, the annual prize of the Government of Québec for highest achievements in research in natural sciences and engineering. He was made an Officer of the National Order of Québec in 2007 and in 2012 he received the Canadian Council of University Biology Chairs Career Achievement Award. In 2013 Pierre was awarded the Canadian Society for Ecology and Evolution President’s Award. In 2015, the Canadian Aquatic Resources Section of the American Fisheries Society declared him to be a Legend in Canadian Fisheries Science and Management “in recognition and appreciation of contributions to fisheries science” and French Consulate in Québec City awarded him the Adrien-Pouliot Prize (for scientific cooperation with France).

In 2016 Pierre was elected Corresponding Member of Academia Mexicana de Ciencias (AMC) and in 2019 he was made an Honorary Life Member of the Sociedad Ibérica de Ecología.

Pierre is generally regarded as one of the founders of the field of Numerical Ecology, building on the work of pioneers such as David Goodall, Paul Jaccard, Robert Sokal, and John Gower. Numerical Ecology deals with the analysis of multivariate ecological data, including community composition data (generally with many species) and related environmental data (typically with many variables). Methods have been developed to seek patterns in these types of data, explore correlations between species composition and environment, and test ecological hypotheses. The methods of numerical ecology are widely used by community ecologists, vegetation scientists, and conservation biologists. Though some methods have been borrowed from other disciplines and adapted to the specific structure of ecological data, in many cases it has been necessary to develop entirely new approaches to answer ecological questions. Much of the standard toolkit of multivariate statistics assumes multivariate normal data and linear correlations among variables, while most ecological variables are not normally distributed and have highly non-linear relationships.

Pierre has an enormous output, including more than 300 journal articles, 11 books, 18 book chapters, and more than 90 versions of software packages in R. Pierre’s work is heavily cited. According to the Web of Knowledge, his articles alone have had about 35,000 citations, giving him an H index of 75. In the field of Environment/Ecology, he is one of only four scientists worldwide who have been listed as Web of Science Highly Cited Researchers in all six lists that have so far been published.

Apart from his publications, Pierre’s legacy includes the large number of graduate students and postdocs that have worked with him in his lab in Montreal. I could not find an exhaustive list of students and postdocs but just since 2009 he has had 4 MSc students, 5 PhD students, and 7 postdocs.

Pierre’s early publications in the 1960’s and 70’s were mainly in the field of numerical taxonomy but by the 1980’s he had come to realize that ecology is much more interesting. I will not attempt the impossi-
ble task of documenting all of Pierre’s research achievements here but will briefly try to summarize some of his main contributions in the early 21st century.

Since 2000, Pierre’s interests have focused on providing methods for the analysis of patterns in community data, including the role environmental factors underlying these patterns and the elucidation of spatial and temporal structures. This mainly arose from collaborations with his long-time colleague Daniel Borcard, which were followed up by post-docs in his lab, especially Pedro Peres-Neto and Stéphane Dray. More about these guys coming up.

One of the key contributions has been the variation partitioning of species data matrices, into fractions attributable to environment, space, time, and their interactions. This research has led to a debate in the literature about the way in which beta diversity should be analyzed.

Many of you (or at least the oldies) may recognize this famous photo, taken in Sun Studio, at 706 Union Avenue in Memphis, Tennessee, in 1957. It shows Elvis Presley, Johnny Cash, Jerry Lee Lewis, and Carl Perkins, all of whom had made their first records with Sam Phillips at Sun Studio and had then gone on to become famous and successful. During an impromptu reunion at the studio, this photo was snapped and became known as “The Million Dollar Quartet”. If you are in Memphis, I recommend that you do the tour of Sun Studio, which ends in this studio room, unchanged since the 1950s (the same piano is even there), and they play back the studio tape from the moment that the photo was taken.

Note the similarity with this photo taken in Pierre’s lab. It shows Pierre, Daniel Borcard, Pedro Peres-Neto and Stéphane Dray. I think Pierre refers to it as “The Dream Team of 2013” but I like would like to suggest that it be called “The Thousands of Citations Quartet”.

More recent contributions on analysis of beta diversity have included reviews of dissimilarity indices and their appropriateness for beta-diversity analyses along with the assessment of local contributions to beta diversity and additional studies about different forms of dissimilarity coefficients and their value to assess beta diversity patterns.

Another important line of methodological contributions has been the spatial analysis of ecological structures, starting with the proposal to use Principal Components of Neighbourhood Matrices (and later generalized to Asymmetric Eigenvector Maps and Moran’s Eigenvector Maps) as spatial variables to quantify the importance of spatial structures and their scales.

These approaches have had extensions to phylogenetic analysis and multi-scale spatial analyses, research conducted in collaboration with Guillaume Guénard, a PhD student in Pierre’s lab. Pierre has developed ideas about the analysis of temporal and spatio-temporal patterns, the latter also profiting from the Principal Components of Neighbourhood Matrices approach. In addition to these main lines of research since 2000, Pierre also continued to make important contributions to the use and improvement of existing, classical statistical tools.

This has been just a brief summary of some of Pierre’s contributions over the past two decades but I hope it has served to give a taste of his enormous volume of work and its contribution to the tool kit for vegetation science. Apart from his research articles, Pierre has had a major impact on the development of data analysis in ecology through his books.

In 1975, Pierre and his brother Louis Legendre, an oceanographer, were independently invited to attend a 3 day meeting of ecologists to discuss an emerging area in ecology – the application of statistical methods to study multivariate ecological data. On the final evening of the meeting, Pierre and Louis sat out on the terrace of a restaurant overlooking the Mediterranean and wrote a list of topics on a paper place mat. That list was to become the Table of Contents for a book about this new area of ecology, which was published in two volumes in 1979, written in French, and named Écolo-

Pierre Legendre and his brother Louis. Cover picture from Interface, September-October 1986, photograph René Decarrufel, reproduced with permission of l’Acfas, Canada.
gie Numérique (Numerical Ecology). This was followed, in 1983, by the first English edition.

The book was a huge success. I remember how impressed I was to see it for the first time as postdoctoral fellow in the lab of Mike Austin at the CSIRO Division of Water and Land Resources in Canberra, Australia. The book provided a comprehensive and encyclopedic description of methods for multivariate data analysis in ecology, with informative examples showing how to do the calculations. It quickly became a must-have book for community ecologists wanting to understand these methods and apply them to their data.

There have since been two more English editions, in 1998 and 2012. This slide shows Pierre and Louis planning the 3rd English edition over a glass or three of wine. The huge influence this book has had is shown by the fact that, according to Google Scholar, the total number of citations for all editions so far is approaching 20,000. The first English edition was 419 pages long but this expanded to 853 with the second edition and 990 with the third, as new methods and examples were added. I could not resist analyzing these data. Committing the sin of extrapolation, I predict that the fourth edition will come out in around 2025 and will be 1070 pages☺.

Cajo ter Braak once told me as we had coffee in a café in the countryside outside Wageningen, in the Netherlands that you can write as many great papers about a method as you like but in the end the best way to ensure that your method becomes widely used is to provide good software. One way to do that is to write a commercial program and sell it. An even better way is to write software that is open source and free to everyone. To this end, Pierre has made many contributions of code to the R project.

The first edition of Numerical Ecology with R was published in 2011, co-authored by Pierre, Daniel Borcard, and François Gillet (University of Franche-Comté). It makes most of the methods discussed in the book accessible to all ecologists via R. The second edition was published in 2018. Numerical Ecology with R has been translated into both Mandarin and Spanish, further increasing accessibility (since both of these languages are in the top four spoken languages of the world). Now all we need is a Hindi edition.

My personal favourite paper by Pierre is this one, in which the method of spatially constrained clustering that he developed with François-Joseph Lapointe was applied to the important task of making a regional classification of single malt Scotch whiskies, taking into ac-
count data on their colour, aroma, taste, and finish (see
the reproduction of the paper title above). My only
criticism is that the data were compiled from a book on
single malts by Michael Jackson (not the singer but a
British whisky expert). I would have preferred to see
data collected from the field by Pierre and François
(and had I known, I would have volunteered to be a
field assistant).

They found that classifications based on aroma and
taste agreed well but both of them differed markedly
from a classification based on finish characteristics. It
the final paragraph of the paper, they discuss this dis-
cordance. “Only when swallowing an alcoholic product
could one totally capture the aftertaste. … Jackson ex-
plains that ‘some professional blenders work only with
their nose, Not finding it necessary to let the whisky
pass their lips’; this could be read as an indication that
smell is the most important feature to distinguish single
malts. However, we are led to believe from our anal-
yses that finish should be equally weighted as a selec-
tion criterion. In any case, single malts must be swal-
lowed.”

I find myself in total agreement.

And so, I figuratively (and perhaps later on literally)
raise a toast to you, Pierre, congratulating you and your
many career achievements and your huge contributions
to community ecology and vegetation science.

Pierre will now present his 2019 von Humboldt Award
talk, entitled “Temporal beta diversity: identify sites
where species communities have changed in exception-

Material used for Pierre's acceptance speech “Temporal
beta diversity: identify sites where species communities
have changed in exceptional ways” has been published
in two papers:

Legendre, P. 2019. A temporal beta-diversity index to
identify sites that have changed in exceptional ways

analysis of beta diversity in the Barro Colorado Island
forest dynamics plot, Panama. Forest Ecosystems 6:
Yuriy Romanovych Shelyag-Sosonko (1933 – 2019)

By Dmytro Dubyna and Anna Kuzemko

Yuriy R. Shelyag-Sosonko – world-famous scientist, Ukrainian geobotanical school founder, Chief researcher of the Department of Geobotany and Ecology of M.H. Kholodny National Institute of Botany of the National Academy of Sciences of Ukraine, Doctor of Biological Sciences, Professor, Academician of the National Academy of Sciences of Ukraine, Cavalier of the Order of Yaroslav Mudryi of IV degree, Honored Worker of Science and Technology of Ukraine, laureate of the State Prize of Ukraine in the field of science and technology and the M.H. Kholodny Prize of the NAS of Ukraine, author of fundamental works that are of utmost importance in the field of geobotany, phytocenology, florology, phytogeography, phytosozology, ecology, botanical resource science, passed away on 13 December 2019.

Yuriy Romanovich was an extraordinary personality. He was distinguished by his obsessiveness in research, uncompromising and principled nature, as well as his ability to bring together specialists in various fields of botanical science, through his scientific ideas. His inexhaustible energy, great talent as a scientist and organizer high self-organization, wide erudition and global thinking have inspired numerous students and colleagues, who continue to develop his scientific ideas.

Yuriy R. Shelyag-Sosonko was born 10 January 1933 in Kyiv. His early childhood was spent in the small town of Bairam Ali in Turkmenistan, where his family moved in 1933 due to his father’s, Roman Petrovich, teaching career. In Central Asia he graduated from four classes and in 1945 returned to Ukraine with his family. He grew up among the picturesque nature of the Podolian region of the Western Ukraine. After his return, his family moved to Zalishchysky, Ternopil region, to his father’s new job. Here, Yuriy Romanovich graduated from high school in 1950 and in the same year joined the Faculty of Biology of V. Stefanyk Chernivtsi University. After graduation, he began his career as a senior laboratory assistant at the Department of Botany at the same University, and was engaged with arranging the herbarium and participated in a number of expeditions under the guidance of the famous taxonomist and florist I.V. Artemchuk. The well-known geobotanist and forestry expert Zoya Nikandriyna Gorokhova made a significant contribution to the choice of the direction of scientific work and the formation of scientific views of the young researcher. Together they published several papers on forest vegetation in the Pre-Carpathian region.

In 1959, Yuriy R. Shelyag-Sosonko became a graduate student at the Institute of Botany. His scientific supervisor was a prominent scientist, a graduate of the St. Petersburg School of Forestry, and colleague of V.M. Sukachev, Corresponding Member of the Academy of Sciences of Ukraine, Doctor of Biological Sciences, Professor Alexandr Volodymyrovych Povarnitsyn. Outstanding botanists Y.M. Lavrenko, V.D. Alexandrova, Y.M. Bradis, A.M. Oxner had a significant influence on the formation and development of the young scientist and Yuriy Romanovich considered them also as his teachers.

The Ph.D. thesis of Yuriy R. Shelyag-Sosonko investigated the vegetation of the Dniester river valley. He studied different types of vegetation and revealed the peculiarities of its organization and differentiation. After defending his Ph.D. thesis in 1964, he was elected...
Y.R. (left) on field studies of wetland vegetation with Y.M. Bradis and L.S. Balashov (1965).

a junior, and two years later – a senior researcher at the Department of Geobotany of the Institute of Botany. During this period, Yuriy Romanovich was involved in implementing scientific topics within the geobotany department including the study of the Western Polissia grassland vegetation and the influence of the Kyiv reservoir on vegetation of an adjacent areas. His biggest passion, however, was forests. Based on a comprehensive study of the oak forests of Ukraine, he creatively developed the scientific ideas of Yuriy Dmitrovych Kleopov - founder of the Department of Geobotany of the Institute of Botany, an unrivaled seer of the origin and development of genetic complexes of the plant world. In particular, Yuriy R. Shelyag-Sosonko developed the concept of phytocenotypes and phylogenetic classification of oak forests. The result of this study was the defense of a doctoral thesis in 1972 and the publication of the monograph “Forests of the common oak at the territory of Ukraine and their Evolution” (1974).

In 1972, Yuriy Romanovich was elected head of the department of systematics and geography of higher plants, and since 1976, was head of the geobotany department. He headed this department until 2012. From 1979 to 1984, Yuriy Romanovich was Deputy Director of the Institute of Botany for Scientific Work. In 1976 he was elected a corresponding member, and in 1990 – academician of the National Academy of Sciences of Ukraine. In 1983 he received the academic rank of professor. In 2003, by the Decree of the President of Ukraine, he was awarded the Order of Yaroslav Mudryi of the 4th degree for his significant contribution to Ukrainian science and nature protection. In 1999 he was awarded the title "Honored Worker of Science and Technology of Ukraine".

For a series of original works devoted to issues of typology, coeno-population structure, coenogenesis and conservation of the nemoral forests of the European part of the former USSR, he was awarded the M.H. Kholodny award from the NAS of Ukraine for 1988.

In 2005, Yuriy Romanovych, together with a team of authors, was awarded the title of Laureate of the State Award of Ukraine in the field of science and technology for a series of works on the topic "Development and implementation of scientific bases and practical principles for biodiversity conservation as a prerequisite for the sustainable development of Ukraine ".

Many considerable results of studies of the key problems of the theory of geobotany and classification,
Yuriy Shelyag-Sosonko among the participants of the international botanical expedition on the research vessel of the NAS of Ukraine "Academician Vernadsky" (1981).

Yuriy Shelyag-Sosonko was known among the global botanical community, first of all, as a leading expert on the nemoral forests of Europe. From 1976 he led work on geobotanical studies of deciduous forests of Ukraine, and since 1985 – the European part of Russia and the North Caucasus. Since 1980 he becomes the head of the "Deciduous Forests of Eastern Europe" section of an international program "Map of the vegetation of Europe on an international basis", which resulted in a three-volume edition written by leading experts-geobotanists of the European continent.

Yuriy R. Shelyag-Sosonko proposed a method of evaluation rare phytocenoses and developed principles for their identification. Based on these studies, he and a team of scientists form the Department of Geobotany prepared a series of monographs dedicated to nature reserves of Ukraine, as well as the "Green Book of Ukraine", the first of its kind in the world, whose ideas were in line with the "Convention on Biodiversity" adopted later in Rio-de-Janeiro. He was the editor of the second edition of the Green Book of Ukraine, prepared in accordance with the Regulation on the National Green Book of Ukraine, approved by the Cabinet of Ministers in 2002, and is an official state document that summarizes the current state of the rare, endangered and typical natural plant communities to be protected.

Yuriy Romanovych demonstrated the need to develop an ecological network as a whole territorially and functionally continuous system that ensures gene pool migration and maintenance of ecological balance throughout Ukraine. The methodology, theoretical principles, structure and models of key areas of construction of the eco-network of Ukraine at the national level, fully compatible with the eco-networks of neighboring states have been developed. The approaches he proposed were implemented in the Ukrainian legislation. Yuriy R. Shelyag-Sosonko was one of the authors of the reports "On the plant world" (1999), "On the national program of the formation of the national ecological network of Ukraine for 2000-2015" (2000), "On the Red Book of Ukraine" (2002), "On the Ecological Network of Ukraine" (2004), “Framework Convention for the Protection and Sustainable Management of the Carpathians" (2004), and other regulatory documents.

Based on the leading role of biodiversity in the functioning of the biosphere and the vector of evolution of biodiversity to reduce entropy, Yuriy Shelyag-Sosonko proved that the planet's six global ecological crises, as well as the loss of dynamic equilibrium of the planet's natural areas, are the result of large-scale destruction of biodiversity. He argued that the global economic and political crises are already in the process of being manifested and that the global community was embarking on a new path of development - the path of globalization of the main spheres of human activity and relations, both in society and with nature.

Yuriy Shelyag-Sosonko was the President of the Ukrainian Committee for Support of the United Nations Environment Program, as well as the chairman of many committees and working groups on environmental policy formulation and implementation in Ukraine. He was a member of the editorial board of the Ukrainian Botanical Journal and the journals "Ecology and Noosphere", "Soil Science" and others. He is the author of over 500 scientific publications including 37 monographs. His "swan song" was his last lifetime monograph "Prodromus of Vegetation of Ukraine" (2019). Its publication was a significant event in the development of Ukrainian geobotany. This book summarizes the results of a multi-year study of the classification of vegetation of Ukraine based on the Braun-Blanquet system. The classification scheme and prodromus created by the authors are
Working with the Vegetation Map of Ukraine with the staff of the Department of Geobotany (1976).

With the staff of the Department of Geobotany (2003).
methodologically consistent with those that have been
developed and are now widely used in many other
European countries, and therefore are successfully
integrated into the international system of
syntaxonomic units. Prodromus includes more than 30
units of different rank, described by Yuri Romanovych.

Yuriy R. Shelyag-Sosonko paid great attention to the
training of young scientists, in particular, he was a
supervisor of 37 PhDs and consultant of eight doctors
of Sciences. The geobotanical school established by him
is recognized by the global scientific community. His
former students and followers work in research
institutes and universities, as well as in government
agencies, leading scientific and environmental
departments.

Yuriy Romanovych was noted for his great diligence,
the ability to discuss and actively defend his scientific
and public positions, the uncompromising nature and
passion for field research. His powerful intellect, depth of heart,
and generosity attracted the hearts of all who worked
and communicated with him. It should be added that

Yuriy Romanovych possessed a special magnetism.
Describing elementary or well-known things and
phenomena, he gave them his own evaluation,
illuminating them from unexpected sides, putting
everything in its place. And things, seemingly
equivalent, were divided before the listeners into the
main and minor ones, and they made true sense; it
aroused a well-deserved and boundless trust in the
claims of the scientist.

In everyday life, Yuri Romanovich was an extremely
humble person. He avoided high positions, did not like
loud celebrations and praise in his address. He most
appreciated working time, had a penchant for
philosophy, enjoyed reading and sharing his
impressions and thoughts on books and articles with
friends and colleagues. During field expeditions, Yuriy
Romanovych was extremely productive.

The bright memory of Yuriy Romanovych Shelyag-
Sosonko – an outstanding scientist, a wonderful
teacher, a public figure, responsive, kind and soulful
person, forever remain in the hearts of all who knew
him and worked with him.

Among the winners of the State Prize of Ukraine in the field of science and technology with the President of the
Botany in places time forgot

By Monika Janišová, Susan Wiser and Alessandra Fidelis

After the IAVS Annual Symposium in Bremen I took advantage of my colleagues’ interest in the Carpathian grasslands and invited Susan Wiser (New Zealand) and Alessandra Fidelis (Brazil) to Romania for a one-week fieldwork experience. I wondered how the non-European vegetation scientists would perceive local mountain rural landscapes with species-rich semi-natural grasslands. I also wondered whether people skilled in botanical field work in other biomes could prove themselves in completely different geographical and ecological conditions. Finally, I hoped that they would be enchanted by the beauty of the Carpathian landscapes like I am, and that the rare grassland ecosystems will have additional fans. The more fans they earn, the better the chance is that they will be maintained for the future. This article aims to bring Susan’s and Alessandra’s impressions closer by help of a few pictures and a short interview.

Monika: How was your first impression when you came to the Carpathians from the other continents?

Susan: Our first sites were relatively species-poor pastures and I felt like I was in a very weedy field in New Zealand. This is because many of the species we observed in pastures are also naturalized in New Zealand. It took me a few days to appreciate that I was indeed working in native-dominated grasslands.

Alessandra: I had a completely different view. I was amazed by the beautiful mountains and all species were new for me. I knew few species (I remembered something from the time I lived in Germany), but most of them were new for me.

Monika: Do you think this kind of life will survive here the next ten years?

Susan: I do not know.

Alessandra: I hope so.

Monika: What do you think about the landscape in the Romanian Carpathians?

Susan: It is very beautiful, and it seems like a place time forgot, you get a view into the history, which is very interesting. And the plants are very beautiful.

Alessandra: I was really looking forward to seeing these semi-natural grasslands here, and it is really amazing. I loved the meadows and the opportunity to learn all the small plants with great experts.
Monika: Which type of grassland habitat is now your favorite?

Susan: The meadows.

Alessandra: The meadows.

Monika: Which are your three most favorite plants from this fieldwork?

Susan: I like *Rhinanthus alectorolophus*, *Knautia arven-sis*, *Scabiosa ochroleuca*, *Briza media* (picture above, the upper row).

Alessandra: *Anthyllis vulneraria*, *Dianthus deltoides*, *Avenula adsurgens*, *Holcus lanatus* (picture above, the lower row).

Monika: What would you like to hand down to readers of this post?

Susan: There is the point to maintaining the ability of people to live in this landscape, to know their landscape, and to have a nice life in their landscape. When everything is measured by money, it doesn’t necessarily make people very happy. It is sad to see financial demands resulting in a loss of traditional systems of land management.

Alessandra: I had the opportunity with this field trip with you Monika, not only to visit the Carpathian Mountains and the beautiful semi-natural grasslands there, but also to see the amazing research you are doing with the local people! I agree with Susan that financial demands are leading this people to leave their properties and old land use, which will directly affect these nice grasslands.

Monika: I was delighted with our collaborative fieldwork. Our small expedition had nine members from different countries, but only Susan and Alessandra were from outside Europe. I admired how well organized the girls were, how they handled difficult conditions, and how willing they were to learn new species. This year’s botanical season does not favor foreign visitors. However, I believe that the next one will be even better.
Mountain pastures of Poiana Călineasa are situated above the Ghetari village in the Apuseni Carpathians, Romania. Wherever you look, time forgot this landscape in the end of the 19th century. July 2019.

This colourful meadow on a steep north-facing slope in Marisel (Apuseni Carpathians, Romania) has never been ploughed. For the last five decades, this plot has had a stable management: it is annually mown in August, grazed by cows for one week in May and then again in autumn (September-October), manured in winter, cleared of shrub and trees in spring, and cleaned from *Veratrum album* by picking when necessary. August 2019.
People in Bârsana, Alba district, Romania, stay in their houses at 1200 m a.s.l. the whole year through. Animal husbandry is the main occupation in the village and although the number of cattle is gradually declining, abundant hay meadows are still well-maintained according to local traditions, except that human labor is sometimes replaced by machinery. July 2019.
Susan and Alessandra enjoying their Carpathian fieldwork. Bârsana, Alba district, Romania, July 2019

Alessandra is happy: In this meadow we recorded 57 species of vascular plants and 12 bryophyte species in our 100 m²-plot. The stand is full of plants and insects heard from a distance by their buzz. Before (May) and after (October) haymaking the meadow is grazed by cows and sheep. The haystacks must be fenced as the animals are not herded by a shepherd. Harrowing and cleaning from stones, shrubs and trees in spring are regular management activities keeping the meadow in a good condition. Bârsana, Alba district, Romania. July 2019.
Call for papers

The *Journal of Vegetation Science* invites contributions to a Special Issue

**Macroecology of vegetation**

Vegetation is the basis of all terrestrial ecosystems and a focus on vegetation is crucial to understand the consequences of global change on the biosphere. We believe that vegetation science has much to offer in the fight to biodiversity loss and climate change, by contributing to some of the most important basic and applied research questions. The *Journal of Vegetation Science* therefore plans a virtual special issue on `Macroecology of vegetation` and invites contributions that go beyond the geographic scales traditionally used in vegetation science and that address relevant macroecological questions. Examples include broad-scale tests of macroecological hypotheses, the exploration of drivers underlying the composition, structure, or functioning of plant communities across scales, the role of regional vs. local assembly mechanisms, and vegetation response to land-use or climate change over broad areas.

**Deadlines:**
15 May 2020 - Expressions of interest
   (e-mail title and abstract to meelis.partel@ut.ee)
15 September 2020 - Submission of invited contributions

**Editorial Board:**
Meelis Pärtel, Naia Morueta-Holme, Jürgen Dengler, Francesco Maria Sabatini, Holger Kreft
According to the decision of the IAVS Council last year, IAVS has established *Vegetation Classification and Survey* (VCS) as a third association-owned, peer-reviewed journal, to complement *Journal of Vegetation Science* (JVS) and *Applied Vegetation Science* (AVS). VCS is a gold open access journal and published by the innovative Bulgarian publishing house Pensoft, which is specialising in open access publishing in the fields of organismic biology, ecology and conservation, often in collaboration with academic societies. The journal website with further information can be found at [https://vcs.pensoft.net/](https://vcs.pensoft.net/) (Fig.).

VCS is devoted to *vegetation classification* and its application in fundamental and applied research as well as in nature conservation. It also welcomes longer, monographic articles as well as regional studies. There are permanent collections on *Ecoinformatics* (not restricted to classification, as long as vegetation is concerned; including Long and Short Database Reports in collaboration with the Global Index of Vegetation-Plot Databases, GIVD) and *Phytosociological Nomenclature* (in collaboration with the IAVS Group on Phytosociological Nomenclature, GPN).

Currently, VCS is managed by four Chief Editors, who are supported by nine Associate Editors, eight Linguistic Editors and an Editorial Board consisting of 42 researchers. The whole Editorial Team is much better gender-balanced than in most other ecological journals (37% female, but 56% among the Associate Editors). To allow competent handling of manuscripts from all over the world, our 60 team members are also geographically diverse, representing all continents (41 Europe, 6 Asia, 1 Africa, 3 Australia, 7 North America, 2 South America) and not less than 28 countries.

Thanks to a strong support from IAVS, we can offer attractive article processing charges (APCs), which are much lower than in comparable journals (see Table 1). If submitted in 2020, a standard article of 11–20 printed pages will only cost 600 EUR, but there are substantial discounts for IAVS members and for people from medium- and low-income countries or with personal financial constraints.
The release of the first articles together with an inaugural editorial is scheduled for April 2020 and will be broadly announced in IAVS media.

Advantages of publishing in VCS
Publishing in VCS comes with the following major advantages:

- The only globally active peer-reviewed journal with a main focus on vegetation classification
- One of only few journals with special focus on ecoinformatics
- The only journal that regularly publishes Long and Short Database Reports of vegetation-plot databases in collaboration with the Global Index of Vegetation-Plot Database (GIVD)
- Competent and dedicated team of editors and reviewers
- Meeting the requirements of many funding institutions of gold open access
- Global visibility and availability of articles through open access
- New issues and articles are advertised via the IAVS journal blog (https://vegsciblog.org/) and various media of the journal and the publisher
- Longer articles (> 20 pages) are possible for comprehensive classification works and syntheses
- Colour illustrations are encouraged at no cost, particularly to visualise the analysed vegetation types
- Linguistic editing of accepted articles of non-native speakers by experienced Linguistic Editors free of charge
- Close collaboration with IAVS and its working groups; any eventual profit will go to IAVS and be used to support vegetation ecological research
- Attractive article processing charges with discounts for IAVS members and authors with financial constraints

Conclusions
We look forward to your submissions. We also plan Special Features (called Special Collections in VCS) from the Eurasian Grassland Conference of the EDGG in Tolosa, the EVS Conference in Rome and future IAVS Symposia. IAVS Working Groups and Regional Sections are particularly encouraged to propose topically suitable Special Collections to the Chief Editor team. If you have questions, please contact one of the Chief Editors, preferentially Jürgen Dengler (juergen.dengler@uni-bayreuth.de) who serves as external contact of the journal in 2020.

Idoia Biurrun, Jürgen Dengler, Florian Jansen & Wolfgang Willner

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Table 1. Article processing charges (APCs) in VCS for articles submitted in 2020.

<table>
<thead>
<tr>
<th>Article length (print pages)</th>
<th>Discount Factor</th>
<th>Regular</th>
<th>IAVS or Ed-Board Member</th>
<th>Chief, Associate or Linguistic Editor</th>
<th>Financial hardship or country group 2</th>
<th>Extreme financial hardship or country group 3</th>
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<tr>
<td>1-2</td>
<td>25%</td>
<td>150 €</td>
<td>135 €</td>
<td>120 €</td>
<td>90 €</td>
<td>30 €</td>
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<td>540 €</td>
<td>480 €</td>
<td>360 €</td>
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<td>150%</td>
<td>900 €</td>
<td>810 €</td>
<td>720 €</td>
<td>540 €</td>
<td>180 €</td>
</tr>
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</table>

1 Defined as an annual income of less than 50% of the per capita income for the group 1 country of residence
2 Author would need to contact the editor and provide evidence of extreme financial hardship
3 Countries with a per capita income between US$10,000 and US$24,999 (based on our country list)
4 Countries with a per capita income less than US$10,000 (based on our country list)
5 For authors belonging to different categories, the highest discount applies, while discounts are not cumulative
Recently defended thesis in Vegetation Science

In this issue we introduce another recently defended PhD thesis in vegetation science provided to the bulletin. You are welcome to present your work to a broad audience of vegetation scientists throughout the world this way. Your message can be published in the forthcoming issues if you send your contribution to monika.janisova@gmail.com containing the following information: 1) Name and affiliation of the student (photo appreciated); 2) Name and affiliation of the supervisor (photo appreciated); 3) Topic of the thesis; 4) Summary of the thesis; 5) Date of defense; 6) Publications related to the thesis.

Investigating patterns and drivers of temporal changes in taxonomic and functional diversity of coastal habitats
(defended on 27 January 2020 at Università degli Studi Roma Tre)

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Due to their unique features, coastal dunes are considered among the most interesting ecosystems on earth. However, they are currently exposed to a number of threats globally affecting their conservation status. In the Mediterranean region, uncontrolled urbanization and population growth characterizing the last 70 years led to a progressive deterioration of coastal dune ecosystems and to a severe reduction in their extent. Several European coastal dune habitats have been recently assessed by the Red List of European Habitats as either endangered or vulnerable, and their conservation status in Italy largely reflects the European picture. Identifying the most endangered habitats and monitoring their dynamics are key research tasks that cannot be further delayed if we want to avoid a complete disappearance of these ecosystems in the near future. In this study, I provided a comprehensive assessment of tem-
Temporal changes characterizing Mediterranean coastal dune habitats in the last 10-15 years by using different approaches (a diachronic analysis of a random-plot database and a resurveying study), analyzing multiple dimensions of diversity (i.e. taxonomic and functional), and investigating multiple levels of biological organization (i.e. community and species).

I started by performing a diachronic analysis of a large database of random, standardized, georeferenced plots. Using linear and generalized linear models, I explored temporal trends in species richness and cover of targeted sandy habitats, investigated trends in the cover of selected native, psammophilous species, and assessed temporal patterns of invasion. This diachronic analysis revealed concerning changes involving dune grasslands, where a negative trend in species richness and habitat cover emerged. At the same time, results hinted at “early warnings” of degradation processes in shifting dunes, where a decline in the cover of the sand-binding *Ammophila arenaria* subsp. *australis*, and a parallel increase in the cover of *Carpobrotus* sp. were recorded.

Then, I planned a large resurveying study which led me to revisit and resample 334 plots belonging to the first portion of coastal zonation (from the upper beach to coastal dune grasslands) in the course of two sampling seasons.

With the data collected during my first sampling season I tested the effectiveness of resurveying approaches based on quasi-permanent plots in revealing temporal changes in herbaceous communities of Mediterranean coastal dune systems. In particular, I quantified compositional shifts using the Sørensen index of dissimilarity. I applied a partitioning method to determine whether observed change was driven by species turnover or by a “nestedness” effect, and I analyzed changes in the occurrence and cover of diagnostic species of the investigated habitats. Together with the disappearance of about 25% of historical plots, results revealed major transformations, mainly driven by species turnover, affecting most of the communities (especially upper beach, embryo and mobile dunes) and several of their diagnostic species.

After the second field season, I analyzed the complete set of resurveyed data to provide a comprehensive, habitat-based (*sensu* Annex I 92/43/EEC), multi-dimensional assessment of temporal changes spanning across multiple levels of biological organization (community and species). Specifically, I quantified taxonomic changes in community composition and dominance structure using two dissimilarity metrics reflecting local immigration and extinction processes known under the general term “species exchange ratio”. To assess functional shifts over time I used functional dissimilarity and community weighted mean (CWM) values. Taxonomic and functional dissimilarities were then compared among habitats and tested for significance using null models. Finally, I characterized changes at the level of single species by analyzing species-abundance distributions at both time points (T0 and T1) and by testing changes in occurrence frequency and cover using non-parametric tests. I observed considerable changes involving both the taxonomic and the functional spheres, varying among habitats but acting at most levels: from the community level to that of single species. This, together with the disappearance of 78 out of the 334 historical plots, and observed changes often exceeding “simulated changes”, confirmed preliminary results and highlighted an intense vulnerability of upper beach and shifting dunes.

Overall, this study provided a detailed, habitat-based quantification of the transformations experienced by coastal dune plant communities in the last 10-15 years. Along with enhancing the knowledge of recent dynamics affecting these vulnerable environments, it also proved that resurveying studies based on quasi-permanent random plots are effective tools for monitoring coastal dune ecosystems, even when based on short-to-medium time-spans. Finally, it allowed the identification of specific EU Habitats that appear to be particularly at risk, thus supplying an important resource to direct future conservation efforts and management strategies.

**Publications related to the thesis**
Contact IAVS
International Association for Vegetation Science
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Boulevard du Souverain 280
1160 Brussels - Belgium

www.iavs.org
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