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The nature of vegetation science

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Vegetation is universal – the thinner or thicker green layer of living plants on our planet. Sometimes vegetation is dense forest, sometimes hidden biodiversity of annuals in seemingly bare desert. In all cases coexisting plants form complex communities and interact with other trophic levels. Vegetation science is just as diverse. From the webpage of our society – *International Association for Vegetation Science* (IAVS) – we read that vegetation scientists deal with theoretical and practical studies of vegetation: its composition and structure, history, classification, distribution, ecology, dynamics, management and uses in the landscape.

The past year has been successful for our society and journals. *Journal of Vegetation Science* published 111 papers, the most in a single year since its founding. However, since manuscript submission is increasing year after year, we can accept only 20–30% of submitted papers. Therefore, many excellent papers, which are not focussed directly on vegetation science or which have narrow interests, must be rejected. At the same time, the publication of many very interesting contributions made us proud of the *Journal of Vegetation Science*. As usual, we selected the Editors' Award for 2009 among several candidates. The winning paper for 2009, by de Bello et al. (2009), concerns partitioning of species and functional diversity into alpha and beta components. Alpha diversity is diversity found within a community, beta diversity refers to variability among communities. *Journal of Vegetation Science* has been the flagship in studies of plant traits. Now de Bello and co-authors have shown that while most variation in species richness is due to beta diversity, most trait variation is actually found within each community (alpha diversity). Moreover, they demonstrated that trait convergence and divergence can occur simultaneously, depending on the trait. This work has opened a new avenue to explore the nature of vegetation: how local communities are assembled from the regional species pool.

Several other papers were nominated and here we mention two that attained almost same score as the winning study. In a Forum paper, Cousins (2009) solved the controversy as to why contemporary plant diversity in European grassland is sometimes related to current and sometimes to past landscape configuration. The latter situation refers to extinction debt – a phenomenon by which environmental conditions are no longer favourable for many species but due to slow population dynamics diversity remains higher than expected. Cousins assembled several case-studies and showed that extinction debt is likely if there are still $>10\%$ of grasslands left in the landscape. Forum papers will contribute to debates of openly current and often controversial ideas in vegetation science; such contributions are very much appreciated. Sara Cousins currently serves as Associated Editor for the *Journal of Vegetation Science*, but her paper was submitted and accepted before her appointment. The other runner-up is a monographic work by Gosling et al. (2009). They asked whether the distribution of species-rich *Polylepis* woodlands in the Andes is fragmented due to human influence or natural causes. Here palaeo-ecology and autecology of dominant taxa have been elegantly combined. Pollen diagrams reveal the 370 000 years of history of this vegetation to establish that these woodlands were patchy already before the arrival of humans. The niche space of *Polylepis* predicted that ongoing climate change is dramatically reducing suitable range for this vegetation. Conservation measures, however, can take into account this historic knowledge and re-establish woodland in patches to 'mimic' the natural fragmented distribution of this vegetation. To sum up, the Editors' Award and the runners-up show the diverse nature of vegetation science we cover in our journal.

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The initial emphasis of vegetation science was on documenting, classification and mapping of variation in vegetation. Later, experimental, functional and theoretical works flourished. The descriptive work, however, still holds enormous importance, especially when we see the appearance of novel ecosystems which have never occurred before (Hobbs et al. 2009). Statistical methods and algorithms in vegetation science are continuously developing and ecoinformatical advancements to handle large datasets have opened new avenues in the survey and classification of vegetation (e.g. De Caceres et al. 2009; von Wehrden et al. 2009). If one peruses biological papers in prominent journals, such as *Nature* and *Science*, many are descriptive: new fossil species or new genes discovered. Together with our sister journal, *Applied Vegetation Science*, we have made several steps to guarantee proper emphasis on solid descriptive vegetation science. First, our editorial board already boasts leading vegetation classification specialists; nonetheless we have invited Angelika Schwabe-Kratochwil and Joop Schaminée as associated editors in *Applied Vegetation Science* to strengthen the team even more. Second, special features on vegetation survey and ecoinformatics are to be published in *Applied Vegetation Science*. A collection of relevant papers from past years are already freely available from the Virtual Special Issue on the web page of *Applied Vegetation Science*. Third, we have updated instructions to authors in the aims and scopes of both journals. Publications on vegetation surveys can benefit from Electronic Appendices which can include large tables, methodological details and photos. Indeed, we encourage the authors of all papers to add relevant photos to Electronic Appendices. This is very helpful to editors and referees as well as readers. The best photos are candidates for the cover of our journals.

The ultimate aim of a scientific journal is to disseminate results to its readership. With our new publisher, Wiley-Blackwell, we have been very successful during the past year. *Journal of Vegetation Science* reaches hundreds of institutions and thousands of readers worldwide. We have redesigned the layout of our journals, while maintaining the essence of their traditional view. Tens of thousands of articles were downloaded this year, multiple times more than we expected. Such progress encourages us to improve even more. Currently, the first screening by our editorial team filters out ca. 40% of submissions that are either not on topic or that have obvious shortcomings. These decisions can be made very quickly and authors can find a more suitable journal for their work without undue delay. If a manuscript is sent to a co-ordinating editor, it usually takes seven to eight weeks until the first decision. With the *ScholarOne* online system, we aim to further increase the speed of our manuscript processing. This puts greater pressure on our editors and referees but we maintain that our authors and readers deserve this effort. We are always very positive when we receive feedback on our journal and suggestions for improvement. If you have any concerns or ideas, please let us know.

Finally, we thank all who have worked for us – editors, referees, editorial office staff and publishers. Referees who served us are listed in App. 1. Together we can make a solid journal to cover the diverse nature of vegetation science.

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App. 1. Referees who served Journal of Vegetation Science during 2009. Data from 01 January–24 November 2009. Several referees kindly served multiple times. Spelling of names is based on ScholarOne database.

Lonnie Aarssen
Belen Acosta
Ken Aho
Matthew Albrecht
Bruce Allen
Madhur Anand
Fabien Anthelme
Frederic Archaux
José Arévalo
Cris Armas
Kwabena Asante
Fabio Attorre
Mike Austin
Giovanni Bacaro
Ernesto Badano
Robert Bagchi
Edith Bai
Alexandra Barthelmes
Ignasi Bartomeus
Enric Batllori Presas
John Battles
Suzanne Bayley
Hermann Behling
H. John Birks
Stella Bogino
Robert Booth
Gudrun Bornette
Danilo Boscolo
Oliver Bossdorf
Zoltan Botta-Dukat
Gary Bradfield
Simon Brewer
Peter Brown
Jorg Brunet
Elise Buisson
Richard Busing
Marco Caccianiga
Giandiego Campetella
Robert Capers
Paul Caplat
Michelle Casanova
Alfredo Cascante-Marin
Laura Celesti-Grapow
Paolo Cherubini
Alessandro Chiarucci
Ana M. Cingolani
Matthew Clark

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Jonathan Coop
Carolyn Copenheaver
Will Cornwell
Heike Culmsee
Nick Cutler
Mike Dale
Fred Daniels
Nicolas Dassonville
Francesco de Bello
Geert De Blust
Henrik de Knegt
Igor de Silva
Roger del Moral
Jürgen Dengler
Vincent Devictor
Martin Diekmann
Jiri Dolezal
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Lorenzo Fattorini
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Norma Fowler
Shawn Fraver
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Hans Jacquemyn
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Graham Kerley
Zaal Kikvidze
Kari Klanderud

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