

BioSyst.EU 2013

Global systematics!



First Circular

General Information

NOBIS Austria is honoured to host and organise the 2nd BioSyst.EU meeting 2013 from **February 18th to 22nd 2013** in Vienna. The conference will take place at the University of Vienna (UZA II building).

Scope

1. Attendance of c. 500 participants
2. Joint meetings of the European biosystematic societies
3. Scientific enhancement by means of lectures and workshops. According to the concept of NOBIS Austria to represent systematics in the broadest sense we would like to embrace extinct and extant micro- and macro-organisms in equal measure!
4. BioSyst.EU: strengthening and extension of the scientific web
5. Global synergetic strategies of BioSyst.EU.... to be developed during the meeting

The second circular will outline the topics of the Congress in more detail and would benefit greatly from suggestions and ideas brought forward by you.

Registration and Fees

Booking, registration and accommodation will be organised by the congress-service agency of the University of Vienna supporting and assisting the participants. Please see the congress homepage for further details: <http://biosystemu.univie.ac.at/>

Early-bird fee:	€ 270.- (deadline: 31. 10. 2012)
Students:	€ 220.- (deadline: 31. 10. 2012)
Late registration:	€ 350.-
Accompanying persons:	€ 150.- (includes only social program)



Deadlines

31. 03. 2012

Deadline for symposium and workshop submission

31. 10. 2012

Deadline for early registration
(including registration for accompanying persons)

31. 10. 2012

Deadline for abstract submission

Abstract submission

Abstracts can be directly submitted via the form on the homepage

<http://biosysteu.univie.ac.at/abstract-submission/>.

Contributions are limited to two abstracts per participant
(one poster, one oral presentation).

Preliminary Program

February 18th – Opening ceremony at the Natural History Museum Vienna

February 19th-22nd – Scientific symposia

The conference will take place at the University of Vienna (UZA II building) which can be accessed easily by public transfer. Two or three parallel sessions will be organised with professional technical support.

February 18th & 19th 2013 – Social events (*included in fees*)

The organisers will arrange a congress dinner at the town hall of the City of Vienna or a comparable event (e.g. "Heuriger" – a traditional wine tavern). Details will be announced in the second circular.

Vienna is famous for its museums and culture. Participants will have opportunity to visit important exhibitions on art and may find time for opera, concert or theatre. The botanical and zoological gardens are famous for their architecture and contents. Nearby there are the *National Park Donau Auen* and the *Biosphere Reserve Wienerwald* and the important *Geotainmentpark Fossilienwelt Weinviertel*, which are worth visiting. These activities will not be included in the conference fee but will be offered by the travel agency.



Organising Committee

Mathias Harzhauser | Martin Zuschin | Andreas Kroh
Dominique Zimmermann | Helmut Sattmann | Lisi Haring
Julia Walochnik | Björn Berning

Advisory Board

Livia Wanntorp (SSF) | Bengt Oxelman (SSF) | Juliet Brodie (SA) | Eve Lucas (SA)
Eric Smets (Neth) | Gerhard Haszprunar (GfBS) | Michael Ohl (GfBS) | Seraina Klopstein (SSS)
Reto Nyffeler (SSS) | Alessandro Minelli (It) | Patrick Martin (SFS) | Cyrille D'Haese (SFS)
Ulrike Aspöck (NOBIS) | Helmut Sattmann (NOBIS)

Correspondence

All request concerning registration, accommodation and travelling should be sent to

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All correspondence concerning the scientific program of the congress should be sent to the
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Scheduled Symposia

Currently, the following symposia and workshops have been proposed. The Organizing Committee welcomes any and all input regarding potential symposia for inclusion (Deadline for symposium and workshop submission is the 31. 03. 2012). Symposium number should be cited with abstract submission and have been assigned on a first-come-first-served basis.

01 – GfBS-Symposium: Small but manifold: Protist diversity

Convener: Birgit Gemeinholzer

Protist diversity is far from being completely described. Unsuspected diversity is discovered by the application of new techniques. The session is dedicated to investigations presenting new techniques to detect diversity, revealing up to now hidden diversity, and/or new concepts about how to deal with the newly discovered diversity.

02 – Swiss Systematics Society-Symposium: Evolution of parasites and parasitoids

Convener: Seraina Klopstein, Hannes Baur, Jean Mariaux

Diversity of parasitic organisms: The majority of species on earth have a parasitic lifestyle. Despite their overwhelming diversity and importance in both ecology and economy, parasitic organisms still only play an underpart in biodiversity research. This symposium will try to shed light on patterns of parasite diversity, focussing on multi-cellular parasites and insect parasitoids, and discuss mechanisms involved in their diversification.

03 – Svenska Systematikföreningen-Symposium: Phylogenetic methods

Convener: Bengt Oxelman

Studying the evolution of extant and ancient biota belongs to the core questions of biological science. Phylogenetic methods have greatly advanced our knowledge on the interrelation of organisms. This session is devoted to new methods of phylogenetic inference, character evolution and molecular clock studies.

04 – Société Française de Systématique-Symposium: Cryptic species

Conveners: Patrick Martin & Cyrille D'Haese

The taxonomical issue addressed by cryptic species (two or more distinct species classified as a single one due to morphological similarity) has been recognized for nearly 300 years ago. The recent advent of DNA sequencing as a new tool in systematics, especially the growing use of barcoding, and the resulting discovery of an unexpectedly large amount of cryptic diversity have reactivated the interest of biologists in such an issue. This session will try to consider different facets of the topic, from concepts to their impact on biodiversity assessments, conservation, and nomenclature, via questions such as whether cryptic species are more common in particular habitats, taxonomical groups, and what extrinsic or intrinsic factors to living beings potentially affect cryptic biodiversity.

05 – The Systematics Association-Symposium: Animal Venoms

Convener: Ronald A. Jenner

Animal venoms have evolved many times independently. Convergently evolved venoms in distantly related taxa, however, can show remarkable compositional similarities. This symposium addresses the question of what factors determine venom composition across a diversity of phylogenetic levels from closely related species to distantly related phyla.

06 – NOBIS Austria-Symposium: Estimate of biodiversity in space and time

Convener: Martin Zuschin

No reliable census of modern life exists so far. Even less complete information is available for the geological past. Nevertheless, we aim to arrive at realistic calculations and estimates to understand the spatial and evolutionary aspects of biodiversity. The session is dedicated to advances, new techniques and burning questions in this field.

07 – Alpine biodiversity

Convener: Andreas Tribsch

Alpine habitats offer very different living conditions at different habitats, which result in a rich flora and fauna. Thus, the Alps and other mountain systems, shelter a considerable part of worldwide biodiversity. This session is dedicated to the Alpine and high mountain biodiversity as well as to their faunal and climate history.

08 – Biotic responses to climate change

Convener: Willem Renema

Anthropogenic climate change is reflected in the modern biosphere in numerous aspects. Modulations of the climate system, however, are a common phenomenon throughout Earth's history. This session will discuss the feed back of modern biota to current change in the climate but will also focus on examples from the geological past.

09 – Philosophy of Phylogeny

Convener: Alessandro Minelli

Phylogenetic methods are widely applied in different branches of sciences, yet the basic philosophical backbone of phylogenetic inference is rarely tackled. Evaluation of alternative phylogenetic trees, however, necessitates consideration of the underlying principles. This session is dedicated to the basal rules governing phylogenetic inference, new applications and changing concepts.

10 – Evo-devo

Convener: Andreas Wanninger & Alessandro Minelli

The recent years have seen an explosion of morphological and molecular data on metazoan development, which has resulted in various new hypotheses on the evolutionary origins of animals and their bodyplans. This session will focus on new findings in the field of evolutionary developmental biology ("EvoDevo"). We welcome presentations on metazoan morphogenesis, gene expression, and experimental developmental biology, in particular of non-model system species.

11 – Biodiversity-Informatics: Data mobilization with GBIF-D

Convener: Walter G. Berendsohn; coConvener: Dagmar Triebel

The mission of the Global Biodiversity Information Facility (GBIF) is to facilitate free and open access to biodiversity data worldwide via the Internet. As a founding member GBIF Germany (GBIF-D, www.gbif.de) contributes since 2001 to this largest biodiversity information project worldwide. Main objective is the focused gathering and mobilization of suitable data from Germany's research community and natural history collections. In addition, available observation data will be linked into GBIF. The eight project partners of GBIF-D are organizing data sharing but also develop and provide software tools for data mobilization. The symposium is dedicated to the entire spectrum of tools and technical solutions developed and used in the GBIF-context such as BioCASE and GeoCASE, Diversity Workbench, the

EDIT Platform for Cybertaxonomy, Euro+Med PlantBase, the DNA Bank Network, LIAS, the smartphone-app Anymals+Plants and more.

12 – Processes of Diversification and Speciation

Convener: Gerald Schneeweiß

Elucidating processes of diversification and speciation is paramount for our understanding of how the tremendous biodiversity observable today has originated and how it may react to threats and challenges imposed by human activities now and in the future. Technological advances with respect to data generation (e.g., next-generation sequencing, sophisticated analytical tools) as well as conceptual advancements (e.g., modes and models of speciation) set an excitingly powerful framework for studying those processes (e.g., hybrid and polyploid speciation, ecological speciation, sexual selection) in and beyond model organisms.

13 – Systematics as an integrative science

Convener: Eric Smets

For many years already systematics not only relies on comparative morphology and anatomy to reach an overall picture of plant evolution. To reconstruct the phylogeny of plants the integration of phylogenetics, evolutionary and developmental genetics, genomics, and morphology and anatomy offers unprecedented opportunities. This symposium aims to illustrate examples of this integrative approach.

14 – Plant-Animal Interactions

Convener: Sigrid Liede-Schumann

Interactions between plants and animals are at the same time influential factors in ecological communities and powerful evolutionary drivers both on the plant and on the animal side. Herbivory, predation by plants on animals (carnivorous plants), mutualism, dispersal of plant reproductive structures, and, finally, deception of animals by plants constitute important regulators for the success or failure of populations and species. This symposium aims at highlighting some of the newest results in the field to enhance our understanding of the complex regulatory patterns of our biosphere.

15 – Evolutionary epigenetics

Convener: Ovidiu Paun

Elucidating the evolutionary implications of epigenetic signals promises to significantly improve the general understanding of the mechanisms underlying natural phenotypic variation and organismic adaptation strategies. Recent investigations started to integrate epigenetics in population genetics, evolutionary biology and ecology, particularly when studying biotic responses to changing environmental conditions. The reality of transgenerational epigenetic inheritance in a broad variety of organisms currently challenges the gene-centered view that still dominates the evolutionary thinking about variation, heritability, adaptation and evolution. Accordingly, our focus in the study of evolution is shifting from single genes to developmental/regulatory networks and holistic phenotypes.

16 – Evolution and Systematics of Colonial Organisms

Convener: Andrey Ostrovsky & Björn Berning

Colonies of clonal organisms often display various degrees and types of polymorphism among their interconnected modules, occasionally resulting in highly integrated colonies that can be regarded as super-organisms. The investigation of these complex biological systems may greatly aid our understanding of evolutionary processes, e.g. the origin and maintenance of phenotypic plasticity,

evolvability, or stabilising selection. This session will feature studies of colonial organisms that highlight their evolutionary pathways and developmental processes as well as the common and distinctive features in different groups.

17 – Systematics – nomenclature

Convener: to be determined

In a world of growing networking and global collaboration across disciplines, a sound nomenclatorial framework becomes more important than ever.

Global databases allowing rapid access to information on the world's biota are being developed by numerous institutions. The session will be dedicated to harmonization approaches for biological nomenclature, advances in E-taxonomy and new techniques for global biodiversity databases.

18 – Conservation & Systematics

Convener: to be determined

Human pressure on natural ecosystems is driving biodiversity loss at an unprecedented rate. Recent studies suggest that scientific knowledge of species richness is far from complete and biased, e.g. towards widespread and charismatic species. Research and conservation priorities may thus be misled, as e.g. regions with high numbers of yet unrecognized species may not adequately be considered when setting conservation priorities. This session will convene contributions on how conservation strategies may take into account current taxonomic knowledge and biases.

19 – Hybrid evolution and speciation

Convener: to be determined

In times of phylogenetic thinking hybrid speciation violates the assumptions of a “tree of life” evolution. It is known for decades that hybridization between plant species is frequent and that many species are of hybrid origin. Recently evidence is accumulating that also animal species are frequently a result of hybrid evolution. This session will cover several aspects of hybrid evolution and speciation using the term “hybrid” in a wide sense. Aspects of lateral gene transfer, homoploid and polyploid speciation, evidence of historical hybridization of lineages and introgression will be covered.

20 – Medicine & Systematics

Convener: to be determined

During the past decades it has become more and more apparent that the diversity of microorganisms, including also most human pathogens, has been severely underestimated. Many bacterial pathogens that have formerly been regarded as a single species have now been split up into numerous species and even genera, and this is almost similarly true also for fungi and parasites. Moreover, clinically important characters, such as virulence or drug resistance, may only be linked to specific sub-species or genotypes, thus genotyping has become a daily routine in diagnostic laboratories. Finally, also modern epidemiology requires rapid and precise differentiation down to the strain level, particularly in the hospital setting. The foundation for all approaches trying to solve these problems is a reliable systematics.

21 – Biogeography and Systematics

Convener: to be determined

While Systematics seeks understanding which species, or more generally spoken taxa, exist on earth, how the differentiated and how they can be classified, biogeography aims for explaining their distributions. As biogeography (including phylogeography) with all the new methodology available has

considerably contributed to our understanding of the “plasticity” of species and the temporal colonization patterns of taxa across their geographical ranges it has contributed a lot to our understanding of the geographical component of speciation and diversification. This session will discuss new aspects of biosystematics and biogeography.

22 – Neobiota & Biodiversity

Convener: to be determined

This session will be devoted to introduced species and their impact on the terrestrial and marine biodiversity of native communities. Contributions on invasions in (pre)historic times, the anatomy of specific invasions, the success of remedial measures, and prognoses for the future are welcome.

23 – European biodiversity

Convener: to be determined

Europe is composed by rather young ecosystems. The Mediterranean, temperate, boreal, and Arctic Biomes are products of the Neogene (late Tertiary and Quaternary) climate changes, human made habitats are widespread in Europe and a product of the Holocene. It is often stated that European Biodiversity is rather poor because of the severe impact of the Ice Ages. This session aims to cover all aspects of biodiversity research related to Europe, spanning from areas rich in endemism (Mediterranean, mountain ranges) to man made habitats.

24 – Regional biodiversity

Convener: to be determined

Biodiversity can be studied at a series of hierarchical scales which all contribute to an understanding of its distribution in time and space. Diversity is, however, biologically meaningful at local scales, where ecological processes operate and at regional scales because local communities receive species from a biogeographically delimited metacommunity. Accordingly, this session will focus on modern and ancient biodiversity patterns in their regional context.

25 – Analysis of biodiversity across scales

Convener: to be determined

The diversity of biodiversity is organized on different spatial and temporal levels. Recently, our understanding of drivers and patterns of genetic, organismic, and structural diversity has significantly increased. However, there is a lack of an integrated understanding on the way how individual components of biodiversity interact. This session will be devoted to the question how and which causal agents create biodiversity patterns on different spatial and temporal scales.

26 – Historical ecology and conservation palaeobiology

Convener: to be determined

Historical and palaeontological data on biodiversity are of increasing importance for the management of ecosystems and the conservation and restoration of biodiversity, ecosystem services, and suitable habitats. This session will focus on studies that integrate biological and geological datasets to provide guidelines for recovery and restoration.

27 – your session here....?