ISSN 1948-6596

Paulo Borges (University of Azores, Azorean Biodiversity Group), described the Azorean Biodiversity Portal (http://www.azoresbioportal.angra.uac.pt/) and highlighted the importance of science communication for the general public, putting island biodiversity on the web. He also explained the importance of standardized studies and monitoring of island ecosystems using Long Term Ecological Studies (LTER).

Frederico Cardigos (representing the Azorean and Madeiran Governments) affirmed that along the whole processes of governance and nature conservation policies, it is assumed that public perception is of great importance and has a considerable impact on the way politicians react. In addition he presented the plan of the Azorean Government for the management of both terrestrial and marine environments.

António Machado referred that the task is immense and complex, and that as an island decreases in size and its distance to the mainland increases (isolation), its ecological vulnerabilityalso increases, the data is scarcer, and there is insufficient local technical capacity and lack of political commitment.

IAS on Islands were discussed by Juan Luis Rodríguez Luengo (Canary Islands) that presented the TOP100 Macaronesian initiative, Piero Genovesi (Italy) that presented the ISSG (Invasive Species Specialist Group), Lucilla Carnevali that presented the database on IAS in European Islands and Sarah Brunel (EPPO), that talked on Biosecurity in Islands – Using Plant heath instrument to control IAS. Invasive species were considered the most important problem to the conservation of the native island biota and ecosystems.

By the end of the meeting the Priorities for action and Proposals to the Standing Committee of the Bern Convention were discussed under the coordination of Eladio Fernández-Galiano. Suggestions included: EU legislation dedicated to IAS on islands; portfolio of biodiversity on islands; manual of best practices; establishing working groups (climate change; IAS; IUCN criteria revision adapted to islands and invertebrates; communication improvement); for the parties – special attention to natural systems on islands promoting initiatives of biodiversity information gathering.

A major challenge of this group of Experts on Island Biological Diversity is to influence the policy-makers, managers and general public on the importance of putting special resources for the conservation of island biota and ecosystems, maintaining also a sustainable life for island human populations.

The solid experience and knowledge in island ecosystems of most of the experts that participated in this meeting, together with the commitment of local politicians is a strong indicator that the goals of this meeting will be entirely achieved, and that we will create an international network of expertise in island studies.

Paulo A. V. Borges
Azorean Biodiversity Group, University of the Azores, Portugal
http://cita.angra.uac.pt/biodiversidade/

update

Decomposing beta diversity

Baselga (2009) proposes a creative analysis to decompose patterns of beta diversity into effects of nestedness and species turnover. This kind of approach moves us closer to distinguishing different mechanisms that can contribute to observed measures of beta diversity. Two additional considerations will help to improve this analysis.

First, more effort should be devoted to carefully exploring the statistical performance of this index with artificial data sets that have specified amounts of randomness and structure. The analyses presented in Figures 2 and 3 are an excellent start, but we need an expanded analysis of different kinds of benchmark matrices to evaluate the potential for Type I errors (incorrectly rejecting a true null hypothesis) and Type II errors (incorrectly accepting a false null hypothesis). These kinds of tests are challenging because they

require a careful consideration of exactly what constitutes a "random" and a "structured" matrix with respect to species nesting and spatial turnover. But they should be conducted before attempting a meta-analysis of published empirical matrices.

Second, this index, like most other measures of nestedness and beta diversity, assumes that island censuses are complete and there are no undetected species. Anne Chao and colleagues have recently modified classic similarity indices to take into account undetected shared species. The presence of undetected species biases the unmodified indices towards underestimating shared species (and hence over-estimating beta diversity). It is not yet clear how serious of a problem this is for Baselga's (2009) proposed partition. Baselga (2009) has made an innovative contribution that deserves further exploration.

Baselga, A. (2009) Partitioning the turnover and nestedness components of beta diversity. Global Ecology and Biogeography, doi:10.1111/j.1466-8238.2009.00490.x.

Nicholas J. Gotelli
Department of Biology, University of Vermont, USA
e-mail: Nicholas.Gotelli@uvm.edu
http://www.uvm.edu/~ngotelli/homepage.html

Edited by Thiago F. Rangel

update

Of refugia and colonization, an innovative use of biogeography for climate studies

A beautiful sight in Glacier National Park is found along the Trail of the Cedars, a stand of western red cedar (*Thuja plicata*) replete with mossy rocks and cold running waters. This tree, and western hemlock (*Tsuga heterophylla*), are emblematic of the northern coastal temperate rainforests of the western US and Canada. However, they are also found over 160 kilometers to the east, across a large expanse of sagebrush steppe, on the western flank of the Rocky Mountains. This well known disjunct rainforest distribution is the subject of a new biogeographic study titled, "The coastal-disjunct mesic flora in the inland Pacific Northwest of USA and Canada: refugia, dispersal and disequilibrium" by Daniel Gavin, professor of Geography at the University of Oregon. Dr Gavin analyzed the patterns of biodiversity between the coastal populations and northern and southern interior populations of 67 vascular plant species, all components of the temperate rainforest group. He used the biogeographic patterns to explore the possible interactions between species richness, climate change, and glaciation. The study examines how species richness varies with climate; how distribution patterns may have been affected by glaciated *versus* un-glaciated areas in the interior; and whether life history characteristics such as seed dispersal mode and growth habit help explain the current extent of the species analyzed.

Dr. Gavin mapped each plant's range distribution to 50x50 km grid cells using a variety of reference materials. He then examined patterns of species richness, according to life history characteristics and climate as defined in the PRISM data sets. The study used regression models of species richness as a function of Actual Evapotranspiration (AET) in the coastal regions (most mesic and specious) to develop expected levels of species richness for the AET of more recently suitable interior regions. This permitted regional quantification of the level of disequilibrium from expected species richness, an indication of incomplete colonization by the regional flora. The northern interior was most in disequilibrium, indicating that many species have yet to disperse into the area. Since several sources of colonizers exist, the implication is that some plant species may have a difficult time dispersing into newly suitable habitats across a fragmented landscape under future climate change.