



Organisers



Funding



*International Symposium
FloraMac2010*

*23-25 September 2010
Ponta Delgada, Azores, Portugal*



*International Symposium
FloraMac2010*

*23-25 September 2010
Ponta Delgada, Azores, Portugal*



Organisers

CCPA Centro de Conservação e Protecção do Ambiente
CIBIO Centro de Investigação em Biodiversidade e Recursos Genéticos, Pólo Açores

Organizing Committee

Universidade dos Açores

Luís Silva • Mónica Moura • Graciete Maciel • Ana Isabel Neto • Rosalina Gabriel

Universidade da Madeira

Miguel Sequeira

Jardin Botánico Canario “Viera y Clavijo” – Unidad Asociada CSIC

Juli Caujapé Castells

Instituto Nacional de Investigação e Desenvolvimento Agrário

Isildo Gomes • Samuel Gomes

Natural History Museum

Mark Carine • Fred Rumsey

Harvard University, Department of Organismic and Evolutionary Biology

Hanno Schäfer

Instituto de Investigação Científica Tropical

Maria Romeiras

Keynote speakers

David Bramwell

José Luis Martín Esquível

José María Fernández-Palacios

Juli Caujapé Castells

Ricardo Haroun

Robert J Whittaker

CONTENTS

SYMPOSIUM PRESENTATION	9
GENERAL PROGRAM	11
PROGRAM	13
PHYLOGENETICS & BIOGEOGRAPHY	13
ECOLOGY & CONSERVATION	17
ETHNOBOTANY & PLANT RESOURCES	21
ABSTRACTS	23
PHYLOGENETICS & BIOGEOGRAPHY	25
ORAL PRESENTATIONS	25
POSTER PRESENTATIONS	37
ECOLOGY & CONSERVATION	49
ORAL PRESENTATIONS	49
POSTER PRESENTATIONS	61
ETHNOBOTANY & PLANT RESOURCES	77
ORAL PRESENTATIONS	77
POSTER PRESENTATIONS	81
INDEX OF AUTHORS	89

General Program

23-09-2010

Phylogenetics & Biogeography

08:30 Registration	14:00 Session conference
09:30 Opening session	14:30 Oral presentations
10:00 Session conference	15:30 Poster Session / Coffee break
10:30 Coffee break	16:00 Oral presentations
11:00 Oral presentations	18:30 End of the day
13:00 Lunch	19:00 Reception of participants

24-09-2010

Ecology & Conservation

09:00 Session conference	14:00 Session conference
09:30 Oral presentations	14:30 Oral presentations
10:30 Coffee break	15:30 Poster Session/Coffee break
11:00 Oral presentations	16:00 Oral presentations
13:00 Lunch	18:00 End of the day
	20:00 Symposium dinner

25-09-2010

Ethnobotany & Plant Resources

09:00 Session conference	14:30 Workshops
09:30 Oral presentations	- DEMIURGO project meeting
10:30 Poster Session/Coffee break	- BIOCLIMAC project meeting
11:00 Session conference	- Macaronesian Herbaria
11:30 Conclusions of the symposium	- Conservation of Bryophytes in Macaronesia
12:00 Closing session	- Edition of a Flora of Macaronesia
12:45 Lunch	15:30 Coffee break

26-09-2010

Post-symposium Tour

08:30 Arrival of participants

09:00 Departure from the University Campus

09:30 Indigenous and non-indigenous species in the south coast

10:30 Lagoa do Fogo Nature Reserve – Indigenous and non-indigenous species

11:30 Porto Formoso tea plantations

12:30 Terra Nostra Gardens and swimming pool – Indigenous and non-indigenous species

13:30 Traditional Furnas Lunch

15:00 Visit to hotsprings

15:30 Lagoa das Furnas – Indigenous and non-indigenous species

17:00 Departure to Ponta Delgada

33. **The laurel forest: an example of relict biodiversity hotspots threatened by human impact and global change**
Landau A, Santos-Guerra A, Reyes-Betancourt JA, Thiv M & Koch M
34. **The plant communities of Cape Verde Islands: the impact of invasive species and the need for conservation management**
Duarte MC, Romeiras MM, Fernandes C, Figueira R, Gomes S, Gomes I & Costa JC
35. **Vascular flora conservation in the coastal zone of Lombo Gordo (S. Miguel, Azores)**
Dias EF, Jorge JC, Silva LB & Silva L
36. **Vascular flora conservation in the coastal zone of Rosto de Cão (S. Miguel, Azores)**
Xavier ED, Marques H, Sequeira J & Silva L
37. **Current and potential distribution for *Acacia* Mill species at Madeira Island and implications to biodiversity**
Figueiredo A, Pupo-Correia A & Menezes de Sequeira M
38. ***Arundo donax* L (Poaceae) in Madeira Island: invasiveness and impact on biodiversity**
Pupo-Correia A, Figueiredo A, Aranha JT & Menezes de Sequeira M
39. **Effect of alien herbivores on endemic species of the Canary pine forest**
Garzón-Machado V, González-Mancebo JM, Palomares-Martínez A, Acevedo-Rodríguez A, Fernández-Palacios JM, Del-Arco-Aguilar MJ & Pérez-de-Paz PL
40. **Restricted geographic and ecological ranges for endemic plants on islands: the case of *Armeria maderensis* Lowe**
Figueiredo A & Menezes de Sequeira M
41. **Relation between threatened species and habitat conservation in the Canary Islands**
Garzón-Machado V, Del-Arco-Aguilar MJ & Pérez-de-Paz PL
42. **Development of *Botryocladia macaronesica* (Rhodymeniales, Rhodophyta) under laboratory conditions**
León-Cisneros K, Nogueira EM & Neto AI
43. **The effect of natural vs artificial substrata on the development of benthonic assemblages inside marinas**
Torrontegui O, Martins G M, Garcia SA, Prestes ACL, Patarra RF, Álvaro NV, García A, Rosas-Alquicira EF & Neto AI
44. **Experiments on germination of four herbaceous species, endemic to the Azores Archipelago**
Dias EF & Pereira MJ
45. **Effects of bird ingestion on seed germination of *Vaccinium cylindraceum* Smith, an endemic species of Azores Archipelago**
Mourato C & Pereira MJ
46. **Main plagues and diseases of *Prunus azorica* (Mouill) Rivas Mart, Lousã, Fern Prieto, E Días, J C Costa & C Aguiar**
Bernad B, Pereira MJ, Mota J & Viveiros L
47. **Plant physiology research in university-level classes using Azorean endemic species**
Pereira MJ, Teixeira B, Andrade C & Furtado M
48. **Somatic embryogenesis and *in vitro* germination of *Viburnum treleasei* Gand. embryos**
Pereira MJ & Canhoto J

Development of *Botryocladia macaronesica* (Rhodymeniales, Rhodophyta) under laboratory conditions

León-Cisneros K, Nogueira* EM & Neto AI

Grupo de Biologia Marinha, Departamento de Biologia, Universidade dos Açores, Rua Mãe de Deus 58, Ponta Delgada, São Miguel, Açores, Apart. 1422, P- 9502, Portugal.

CIIMAR (Centro Interdisciplinar de Investigação Marinha e Ambiental), Rua dos Bragas, Porto, 289 - 4050-123, Portugal.

CIRN (Centro de Investigação de Recursos Naturais), Universidade dos Açores, Apartado 1422, 9501-801 Ponta Delgada, Portugal.

The development of *Botryocladia macaronesica* Afonso-Carrillo, Sobrino, Tittley & Neto, an endemic rare species of the Macaronesian region, was investigated *in vitro* under four irradiance regimes (4, 8, 12 and 16 $\mu\text{mol photons} \cdot \text{m}^{-2} \cdot \text{s}^{-1}$), a temperature of 18 °C and a photoperiod of 16:8 h. Cultures were initiated from carpospores released by mature cystocarps of gametophytes collected in the field, that produced tetrasporophytes. These were also regenerated by monospores which developed in the same way that the carpospores. Results revealed that both types of spore development can be divided into three stages: division, discoid crust, and erect juvenile germling. The best development was observed under 12 $\mu\text{mol photons} \cdot \text{m}^{-2} \cdot \text{s}^{-1}$.

Keywords: life cycle, monospores, discoid crust.

The effect of natural vs. artificial substrata on the development of benthonic assemblages inside marinas

Torrontegui*^{1,2,3} O, Martins^{1,2,3} GM, Garcia^{1,2,3} SA, Prestes^{1,2,3} ACL, Patarra^{1,2,3} RF, Álvaro^{1,2,3} NV, García^{1,2,3} A, Rosas-Alquicira^{1,2,3} EF & Neto AI^{1,2,3}

¹ Departamento de Biologia, Universidade dos Açores, Rua Mãe de Deus 58, Ponta Delgada, São Miguel, Açores, Apart. 1422, P- 9502, Portugal.

² CIIMAR (Centro Interdisciplinar de Investigação Marinha e Ambiental), Rua dos Bragas, Porto, 289 - 4050-123, Portugal.

³ CIRN (Centro de Investigação de Recursos Naturais), Universidade dos Açores, Apartado 1422, 9501-801 Ponta Delgada, Portugal.

(olalla@uac.pt; gmartins@uac.pt; sabrinangelic@hotmail.com; prestes@uac.pt; rpatarra@uac.pt; nalvaro@uac.pt; svalicia@hotmail.com; alquicira@uac.pt; aneto@uac.pt)

The replacement of natural by artificial coastal structures has been highlighted as one the major anthropogenic impacts on the structure and functioning of coastal communities. Here we examine the effect of substratum type on the development of benthonic assemblages in urbanised areas of the Azores. Experimental plates of natural (basalt) and artificial (concrete and fibre glass) substrata (totalling 360 plates) were deployed at 1m depth in each of two sites (10's of m apart) within each of two marinas (km's apart) in São Miguel. We further examined the effect of time of deployment on community succession by deploying half the number of plates each in winter and summer (respectively). Replicate plates will be taken at 1, 2, 3 6 and 12 months to follow community succession. Species richness, evenness, and the cover of dominant functional groups will be sampled in each plate. Preliminary analyses showed that differences in the structure of benthonic assemblages among substrata were already apparent at very early successional stages (1-month old) suggesting that these are mediated by habitat-specific features (e.g. micro-topography) acting on organism settlement.

Keywords: coastal urbanization, benthonic communities, succession.