



Organisers



Funding



*International Symposium
FloraMac2010*

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



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Organisers

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

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Keynote speakers

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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

14:30 Oral presentations

Molecular systematics and morphology of the endemic *Leontodon* in the Azores islands

Moura M, Silva L, Dias EF, Schäfer H & Carine MA

The Azores diversity enigma: why are there apparently so few Azorean endemic plant species and why are they apparently so widespread?

Carine MA & Schäfer H

Molecular phylogenetic analyses of the Macaronesian endemic moss genera *Echinodium* and *Andoa*

Martins S, Stech M, & Sim-Sim M

What do nuclear genes tell us about the evolution of the Macaronesian Crassulaceae-Sempervivoideae?

Thiv M, Esfeld K & Koch M

15:30 Poster Session / Coffee break

1. Contribution to the knowledge of the Desertas Islands Vascular Flora

Jardim R, Fontinha S, Silva I & Menezes de Sequeira M

2. Contribution to the knowledge of the Selvagens Flora

Menezes de Sequeira M & Jardim R

3. Contribution to the phycological flora of Cape Verde Archipelago

Almada CHBA, Viera- Rodríguez MA & Haroun R

4. Phylogenetic affinities of the *Laurencia sensu stricto* (Rhodophyta) on the basis of taxonomic and molecular analysis. Case study of *L. obtusa* in Canary Islands

Aylagas E, Cassano V, Díaz-Larrea J, Senties A, Machín-Sánchez M, Fujii MT & Gil-Rodríguez MC

5. Correlation between taxonomic and molecular analysis in *Osmundea* genus. Case study of *O. pinnatifida* in Canary Islands

Machín-Sánchez M, Fujii MT, Díaz-Larrea J, Senties A, Cassano V, Aylagas E & Gil-Rodríguez MC

6. *Choreonema thuretii* and *Pneophyllum confervicola* (Corallinales, Rhodophyta), new corallines to the Azores

Couto RP, Rosas-Alquicira EF, Rodrigues AS & Neto AI

7. Phylogenetic diversity on Canary Islands *Dunaliella salina* strains based on ITS DNA barcoding

Assunção P, Jaén-Molina R, Caujapé-Castells J, De la Jara A, Carmona L, Freijanes K & Mendoza H

8. Algal collections in the Herbarium Ruy Telles Palhinha, AZB

Nogueira EM, Medeiros J & Neto AI

9. Bryophytes of the island of S. Jorge – Temporal analysis of biodiversity

Claro D & Sérgio C

10. Evidence for multiple evolutionary origins in the Moss flora of Macaronesia

Aigoín DA, Devos N, Huttunen S, Michael S, Ignatov MS, Gonzalez-Mancebo JM & Vanderpoorten A

11. Macaronesia: a source of hidden genetic diversity for post-glacial recolonization of western Europe in the leafy liverwort *Radula lindenbergiana*

Laenen B, Désamoré A, Devos N, Shaw AJ, González-Mancebo JM, Carine MA & Vanderpoorten A

12. Bryoflora of the Lagoa do Canário (São Miguel, Azores)

Dias EF, Jorge JC, Silva LB & Gabriel R

Phylogenetic diversity on Canary Islands *Dunaliella salina* strains based on ITS DNA bar-coding

Assunção^{1*} P, Jaén-Molina² R, Caujapé-Castells² J, De la Jara¹ A, Carmona¹ L, Freijanes¹ K & Mendoza¹ H

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Dunaliella salina Teodoresco (Chlorophyceae) is an unicellular green algae, which thrives in extreme saline habitats such as traditional solar saltworks. It can accumulate large amounts of carotenes and has become the best commercial source of b-carotene. Due to the reported variability within this taxon, it has been argued that this entity might harbor different species. In order to clarify this matter, we compared the Internal Transcribed Spacer (ITS1+ITS2) sequences of 35 *D. salina* strains (8 of which were generated by us from strains from Canary Island saltworks). The results support the existence of two distinct phylogenetic species within the taxonomic entity presently known as *D. salina* (subclade-1 and subclade-2) and of several subspecies or varieties within these. Most strains isolated in the same country fell in the same subclade, however, the ITS data did not reflect geographical distribution. The Canary Islands isolates, which were characterized with high morphological and physiological variability, had identical ITS1+ITS2 sequences. Moreover, the phylogenetic and statistical analysis indicates that the strain ITC5105 “Janubio” isolated in Lanzarote (Canary Islands) is a new species. Since the saltworks ecosystem has an influence on the salt production, the biodiversity encountered might have important implications for the conservations of this industry.

Keywords: *Dunaliella*, ITS, saltworks.

Algal collections in the Herbarium Ruy Telles Palhinha, AZB

Nogueira^{1,2} EM, Medeiros^{1,2} J & Neto^{1,2,3} AI

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² CIRN (Centro de Investigação de Recursos Naturais), Universidade dos Açores, Apartado 1422, 9501-801 Ponta Delgada, Portugal. (ernogueira@uac.pt; demedeiros@sapo.pt; aneto@uac.pt;)

³ CIIMAR (Centro Interdisciplinar de Investigação Marinha e Ambiental), Rua dos Bragas, Porto, 289 - 4050-123, Portugal.

The Herbarium Ruy Telles Palhinha, AZB, integrates several types of botanical collections encompassing microalgae, macroalgae and vascular plants mainly collected in the Azores but also from other locations. Here we provide information on the macroalgae collections from the Azores, which include air dried, liquid preserved, silica gel and pressed material. In total there are 12.945 specimens registered and databased, comprising 8.326 Rhodophyta, 3.159 Phaeophyta and 1.393 Chlorophyta. Informations of the way these records are distributed by the different islands and islets of the archipelago are also provided.

Keywords: Herbarium, macroalgae, Azores.

Algal collections in the Herbarium Ruy Telles Palhinha, AZB

Herbarium Details:

Name: Universidade Dos Açores
 Herbarium Code: AZB
 Address: Herbario Ruy Telles Palhinha, Departamento De Biologia, Universidade Dos Açores, Rua Da Mãe De Deus Apartado 1422, 9501-881 Ponta Delgada, Açores, Portugal

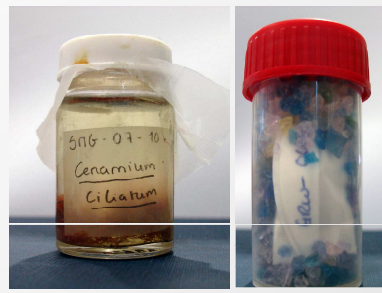
Nogueira¹ E. M., Medeiros¹ J., Neto^{1,2} A. I.

¹CIRN (Centro de Investigação de Recursos Naturais) and Grupo de Biologia Marinha, Departamento de Biologia, Universidade dos Açores, Rua Mãe de Deus 58, Ponta Delgada, São Miguel, Açores, Apartado 1422, P- 9502, Portugal (ernogueira@uac.pt)
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Research in to the marine algae of the Azores started in the middle of the XIXth century, when the Hochstetters, father and son, visited the Azores and made collections in several islands. Since then, many other scientists visited the archipelago and collected marine algae. As a result, several papers and books were published with reference to collections deposited in several places (e.g. the National Herbarium Nederland, the Natural History Museum, London), but rarely in the Azores.

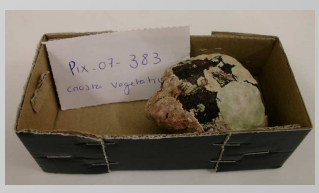


With the opening of the University of the Azores, in the second half of the XXth century, logistic facilities became locally available. Local scientists and visitors continued the taxonomic studies and deposited most of the collections at the Department of Biology. Named after the botanist Ruy Telles Palhinha, this herbarium was indexed in 2009.

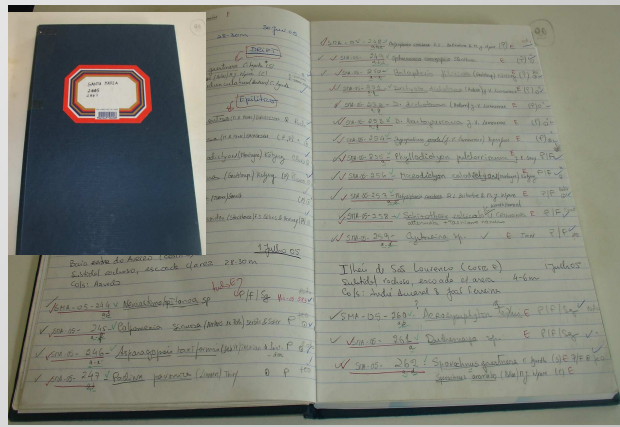


The AZB Herbarium integrates collections of microalgae, macroalgae and vascular plants mainly collected in the Azores.

The Azorean macroalgae collections include air dried, liquid preserved, silica gel and pressed material. In total there are 12.671 specimens registered and databased, comprising 8.148 Rhodophyta, 3.090 Heterokontophyta and 1.366 Chlorophyta.



	Santa Maria	São Miguel	Terceira	Graciosa	São Jorge	Pico	Faial	Flores	Corvo	Totais
Cyanophyta	18	10	0	10	3	15	8	3	0	67
Chlorophyta	150	592	7	169	12	280	85	59	12	1366
Heterokontophyta	318	2108	16	258	8	263	31	74	14	3090
Rhodophyta	437	5079	13	961	61	1200	143	218	36	8148
Totais	923	7789	36	1398	84	1758	267	354	62	12671



Division: Rhodophyta Reference: SMG-03-1356 Date: 03/01/02
 Species: *Phyllophora crispata* Locality: S. Vicente (I) Intertidal: High Low
 Taxonomic notes: Fleshy Furfuraceous Press Silica
 Preservation: Air-dry Formaline Press Silica
 T. length (cm): 16.00 Diameter (cm):
 Morphology (cm):
 Slightly wavy margins parallel sides
 Central (the)vein of cortex to form a nervi
 Outgrowth more or less parallel to margin of blade.
 Wide form of narrow plant from Flores
 Reproduction: Male Female Tetrasporous Unilocular Multilocular Plurilocular
 Illustration type: DRAWING PORFOT METFOR LUPFOR
 Type of substrate: Rock (rocha) Boulder (bloco) Cobble (pedra) Sand (areia) Shelly (conchas) Cracks (fendas) Caves (grutas)
 Living mode: Epibiotic Epizoic Endozoic Other
 Gen. observ. Março 2004 Determined by Tilley & Neto
 Histol codes: HS-03-12, 13 Drawings: