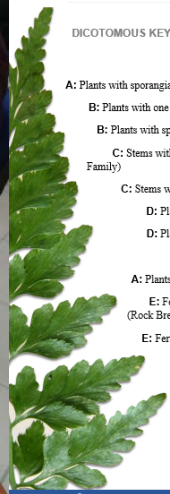




PLANT TAXONOMY PRACTICAL ACTIVITIES

Describe and identify a living plant using botanical terms. Exercises for the use of taxonomic keys for ferns, gymnosperms and angiosperms identification.

DICOTOMOUS KEY TO DIVISION PTERIDOPHYTA

- A: Plants with sporangia (spore producing bodies) in strobili (spore cone); or gr...
- B: Plants with one pinnate leaf; Sporangia in grape like cluster at end of a ...
- B: Plants with sporangia in strobili; Leaves needle like, scale like, or app...
- C: Stems with joints, Leaves appearing absent (leaves actually reduced ... Family)
- C: Stems without joints; Leaves present needle or scale like
- D: Plants larger than most mosses; Strobili very distinct cone like structure: *Lycopodiaceae* (Club-moss family)
- D: Plants not larger than most mosses; Strobili leafy or fleshy not so cone like: *Selaginellaceae* (Spikemoss Family)
- A: Plants with sporangia (spore producing bodies) on under side or edge of leaves:
- E: Fertile and sterile fronds (leafy branches) different; Sporangia on edges of curled up leaves of fertile fronds: *Pteridaceae* (Rock Break Fern Family)
- E: Fertile and sterile fronds similar; Sporangia in sori (sporangia clusters) on underside of leaves:
- F: Fronds evergreen; Sori without indusium (covering): *Polypodiaceae* (Polypody Fern Family)
- F: Fronds deciduous (withering in autumn); Sori with indusium (covering)
- G: Sori elongate; Leaf veins not reaching leaf edges: *Asplenaceae* (Splendid Fern Family)
- G: Sori round; Leaf veins reaching leaf edges: *Dryopteridaceae* (Fern Family)



Practical activities
Practical Plant Taxonomy



The karyotype is the set of the all chromosomes complex inside the cell. We study the karyotype of the eukaryotic cells because we can get some information about the evolutionary history of that group. The study of the karyotype is based on the measurement of the arms and the relationship among them. The most important characteristics of the karyotype are: number of the chromosomes, length ratio among chromosomes, ratio among the length of long arm/short arm, degree of symmetry, number and position of the satellites.

1. Turn the apices (1) and (2) and push the cone into (3,4,5). Leave the cone in the cone for 1-3 hours at the ambient temperature.
 2. Vial with distilled water and the apices with the canopy for 1/2 hour at the ambient temperature.
 3. Vial with distilled water and proceed to not hydratize with the hydronic acid and H₂O 1:1 at 60°C for 1-4 minutes.
 4. Vial with distilled water and changing the apices in a vial for 2-3 hours at the ambient temperature.

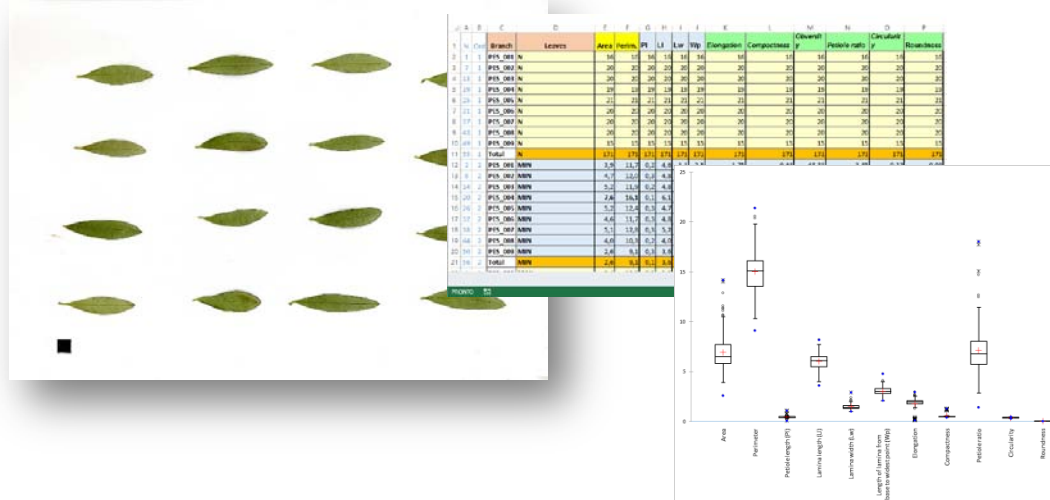
It adds a drop of 45% Acetic acid, and proceed to drain all with a glass pipette until you get a 1:1 supernatant.

At this point, you can close the glass slide with the micro cover glass. It is ready for a first observation under the microscope.

To avoid the entry of air inside of the glass slide, using the bonding agent (gel mounting). You can deposit the bonding agent with a brush on the bottom of the glass slide angle. However to obtain a permanent glass slide, you need a liquid nitrogen.

The glass slide is immersed in liquid for a few seconds, until it reaches approximately the same nitrogen temperature (after this occurs the liquid ceases to boil).

Practical activities
Practical Plant Taxonomy



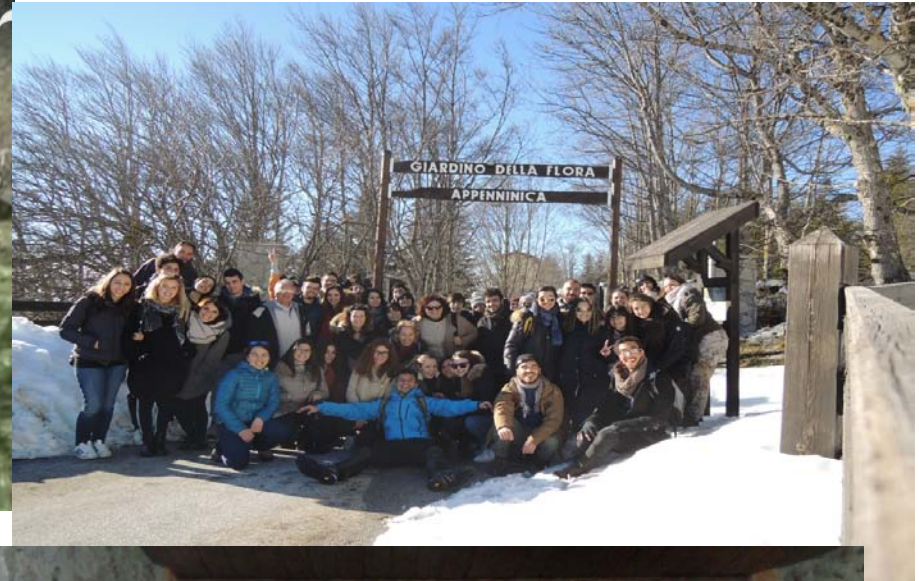
Sample collection	Selection of individuals - Collected leaves from 10-15 adult individuals of the species in very rare, measure as many as you can easily find! - Measured individuals should be independent of one another (i.e., be enough apart so that you cannot reasonably measure different parts of the same individual, or genetic clones, or individuals at least a few meters apart). - Individuals should be randomly chosen for measurement, preferably in areas unlikely to be disturbed by humans. - All leaves have to be measured on the same individual.	
Image acquisition (scanning)	Selection of leaves Choose only young mature leaves (fully expanded and hardened) without signs of damage or disease. Preferably, collect a branch or a branchlet, so that the individual leaves are just before measurement. Alternatively, the leaves can be removed from the branch and placed in plastic bags until measurements are conducted. Place the leaves on the scanner such that the vein angle isches from left to bottom) of the leaves are towards the glass. Add a scale bar. Scan on a 6-bit color image at 300 ppi (TIF format).	
File management	Each image should bear a file name such as: species name + single integer number (leaf's 3 digits) + number of an individual (3 digits) + number of a leaf scanned from PERCHÉ (internal use: be PERB_0002, 0003, ...). Individuals to be measured in future should be marked with the following markers: image file name; date; time; study site; day; year; collector(s) name(s); and code; i.e. name, identifier.	



PLANT TAXONOMY PRACTICAL ACTIVITIES

Field trip in Alto Molise territory: Botanic garden and UNESCO MAB Reserves

Gli studenti dell'Erasmus alla scoperta dell'Alto Molise



Convivial moments





PLANT TAXONOMY PRACTICAL ACTIVITIES

Assessment of practical activities

HEI PLADI - Quizzes

Answer at the questions below, one of them is right. correct answer is worth 1 point

*Required

1. Email address *

2. Name and surname *

3. Plant taxonomy is the science of naming, describing and classifying plants. *
Mark only one oval.

- ☐ No
- ☐ Yes

4. An accurate description of plants requires a thorough knowledge of:
Mark only one oval.

- ☐ Anatomy
- ☐ Morphology
- ☐ Ecology
- ☐ Physiology

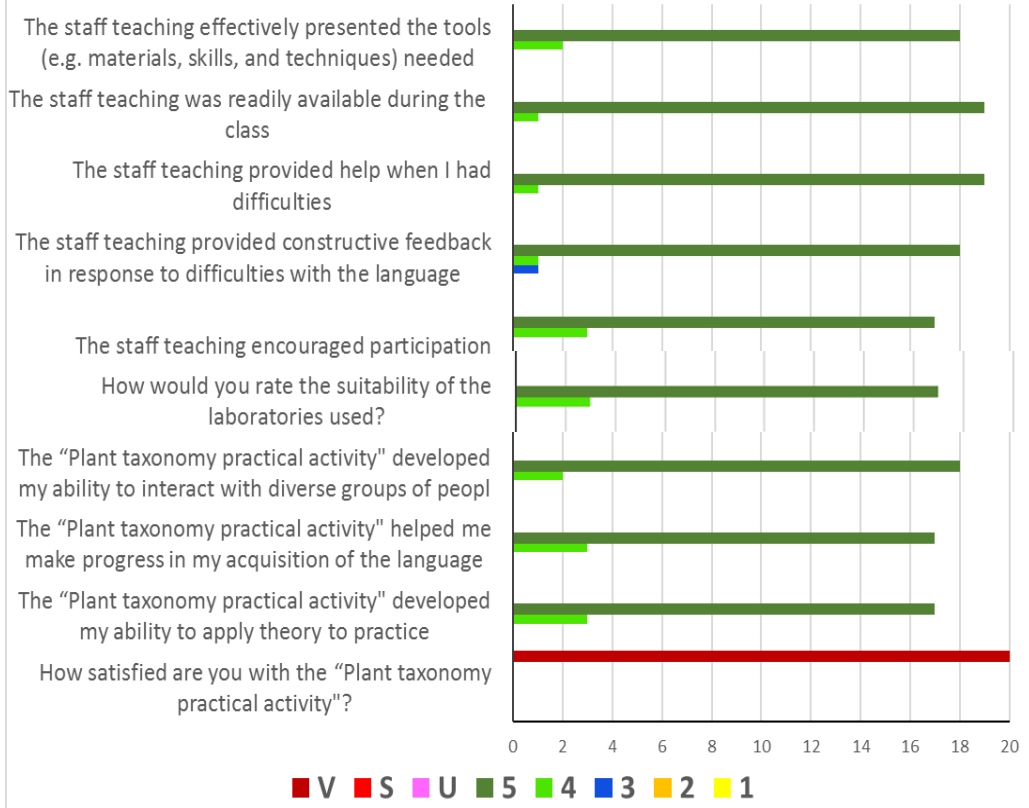
5. What can you observe on the fronds of the pteridophytes?
Mark only one oval.

- ☐ the sorus
- ☐ primitive flowers

6. In the gymnosperms you can observe that the seed is carried on the surface of:
Mark only one oval.

- ☐ short twig
- ☐ Receptacle
- ☐ modified leaf

Satisfaction survey



"PLANT TAXONOMY" practical activity
 ERASMUS Plus – KA2 "Strategic Partnership"
 "Higher Education Innovation in Plant Diversity:
 flexible learning paths for emerging labour market - HEI-PLADI"
 March 13-18, 2017 University of Molise, Pesche (IS, Italy)

CERTIFICATE OF ATTENDANCE

It is certified that _____

From _____ has attended the «Plant taxonomy» practical activity organized within the «Hei-Pladi Erasmus project» at the University of Molise (Pesche, Italy) from 13th to 18th March, 2016 and passed the examination test with the evaluation of _____ earning 5 ECTS.

Prof. G. Stefania Scippa
Coordinator of the HEI-PLADI project



<https://www.youtube.com/watch?v=ebWg25MgJdo>



BOTANIC MANAGEMENT PRACTICAL ACTIVITIES

Objectives:



- Management of the Botanic gardens and arboretums, based on knowledge of national and international biodiversity legislation and network organizations of Botanic gardens (Washington Convention CITES, United Nation Convention on Biological Diversity, Global Strategy for Plant Conservation, Strategy for management of Botanic Gardens etc.)



- Botanic garden guides



- Landscape and architecture design in Botanic gardens and arboretums



- Knowledge and evaluating the significance of the social and educational roles of the Botanic gardens.



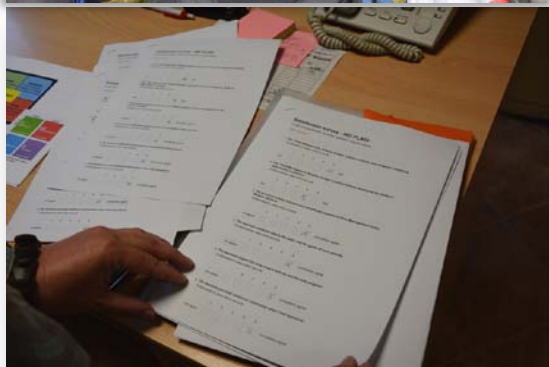
- Knowledge and practical examples on conservation and management of the botanical collections;



- General garden care and cultivating methods (watering, pruning, weed control, planting and transplanting, vegetative propagation), plant herbarium and seed banks
- Key role of the Botanic garden in plant biodiversity conservation



BOTANIC MANAGEMENT PRACTICAL ACTIVITIES



Satisfaction survey

	GRADE	(5)	(4)	(3)	(2)
The teaching staff presented the tools effectively (materials, skills, tools)	13	1			
The teaching staff was readily available during the class	9	3	2		
The teaching staff provided help when I was facing difficulties	13	1			
The teaching staff provided constructive feedback in response to difficulties with the language	12	2			
The teaching staff encouraged participation	13	1			
How would you rate the suitability of the laboratories used?	13	1			
The "Plant Management: botanic garden" practical activity developed my ability to interact with diverse groups of people	10	2	1	1	
The "Plant Management: botanic garden" practical activity helped me make progress in my acquisition of the language	10	3	1		
The "Plant Management: botanic garden" practical activity developed my ability to apply theory to practice	10	3	1		
How satisfied are you with the "Plant Management: botanic garden" practical activity?	12	2			

EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

Monday, 10 July	9-13	Arrival		
	13-14			
	15-18	Lecture and seed bank presentation		
Tuesday, 11 July	9-13	Cleaning	Drying I	Germination I
	13-14	Lunch break		
	14-18	Drying I	Germination I	Cleaning
Wednesday, 12 July	9-13	Drying II	Cleaning	Germination II
	13-14	Lunch break		
	14-18	Germination I	Packaging and storage	Drying I
Thursday, 13 July	9-13	Germination II	Drying II	Packaging and storage
	13-14	Lunch break		
	14-18	Packaging and storage	Germination II	Drying II
Friday, 14 July	9-13	Cryopreservation of apple buds/excursion on PAS Botanical Garden		
	13-14	Lunch break		
	14-15	Assessment		
Saturday, 15 July		Departure		



EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

Material for „EX SITU PLANT CONSERVATION” Practical Activities

Theory

OU 4 „Packages of learning objective (OER) on *in situ* and *ex situ* plant conservation”, Credit 6



OU 4 „Packages of learning objective (OER) on *in situ* and *ex situ* plant conservation”, Credit 7 (part A)



Practice

HEI-PLADI PROJECT
Higher Education Innovation in PLAnt Diversity



„EX SITU PLANT CONSERVATION” PRACTICAL ACTIVITIES HANDBOOK

Polish Academy of Sciences Botanical Garden – Center for Biological Diversity
Conservation in Warsaw-Fourth, POLAND
10-15 July 2017



EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

Cleaning and seed quality and quantity checking



- Laboratory exercises on seed sample cleaning using basic laboratory equipment like sieves, bungs and seed aspirator,
- Checking seed quality using stereoscope – checking the purity of seed sample, performing cut tests etc.,
- Checking the quantity of seeds, 1000 seed weight.



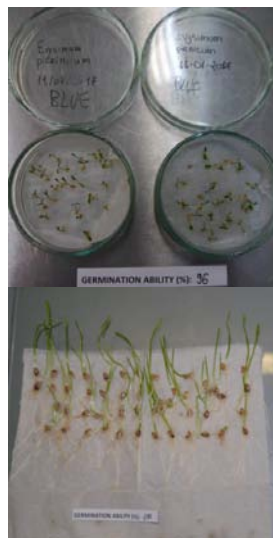
EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

Drying

- Presentation of seed bank equipment used for seeds drying and moisture content monitoring,
- Checking the equilibrium relative humidity (eRH) of seed sample,
- Practical course on seed water content evaluation.



Germination



- Presentation of substrates used for germination tests (agar, filter paper, paper towels, perlite),
- Presentation of basic dormancy breaking methods (cold-wet stratification, scarification, gibberellic acid),
- Assessment of the effect of light and temperature on seed germination,
- Viability evaluation using tetrazolium test.

EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

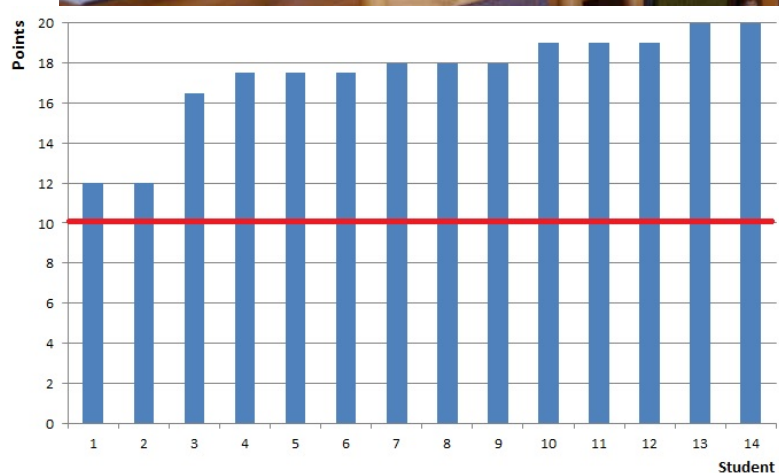
Packaging and storage

- Presentation of packaging methods for the long-term storage of seeds samples.
- Presentation of standard method of the long-term seed storage (freezers),. Presentation of cryopreservation as a method for long term seeds storage.



EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

Evaluation



20 questions (13 test questions, 7 open questions) about the practical activities scope.

EX SITU PLANT CONSERVATION" PRACTICAL ACTIVITIES"

Satisfaction survey

How satisfied are you with the "Ex situ plant conservation" practical activity?

☐ Unsatisfactory

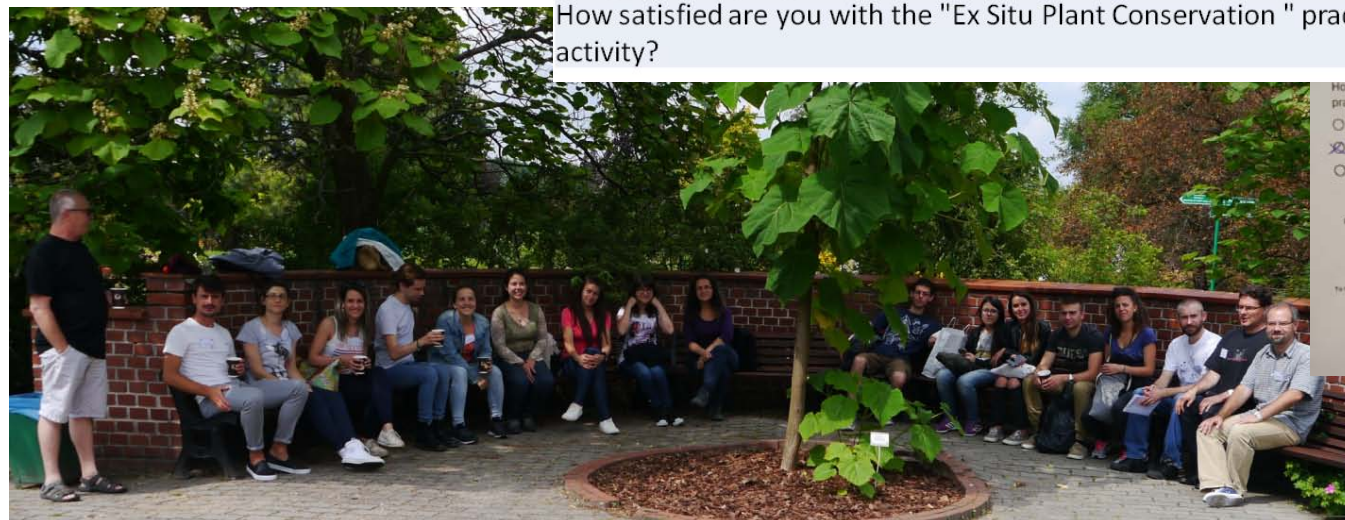
☐ Satisfactory

☒ Very satisfying

PRZESŁU

very very happy for that

I'm very pleasure to take part at this experience because I think that this experience improve my ability.



	GRADE	(5)	(4)	(3)
The teaching staff presented the tools effectively (materials, skills, tools)	14			
The teaching staff was readily available during the class	14			
The teaching staff provided help when I was facing difficulties	14			
The teaching staff provided constructive feedback in response to difficulties with the language	12	2		
The teaching staff encouraged participation	14			
How would you rate the suitability of the laboratories used?	10	4		
The "Ex Situ Plant Conservation " practical activity developed my ability to interact with diverse groups of people	13	1		
The "Ex Situ Plant Conservation " practical activity helped me make progress in my acquisition of the language	14			
The "Ex Situ Plant Conservation " practical activity developed my ability to apply theory to practice	14			
How satisfied are you with the "Ex Situ Plant Conservation " practical activity?	13	1		

How satisfied are you with the "Ex situ plant conservation" practical activity?

☐ Unsatisfactory

☒ Satisfactory

☐ Very satisfying

PRZESŁU

I'm very happy for this opportunity. I hope you will be here very soon.

See you!

Thanks

GIS PRACTICAL ACTIVITIES

	Monday 4/9	Tuesday 5/9	Wednesday 6/9	Thursday 7/9	Friday 8/9
9.00 - 10.00	Field data collection	Field data collection	Field data collection	Field data collection	Field data collection
10.00 - 11.00	using GPS	using GPS	using GPS	using GPS	using GPS
11.00 - 12.00	Basic Operations in	Digital Image Analysis	Using Multi Criteria	Demonstration	Student GIS project
12.00 - 13.00	QGIS		Analysis	project	
13.00 - 14.00	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
14.00 - 15.00	Generating Data:	Spatial Analysis	Practical examples of	Demonstration	Student GIS project
15.00 - 16.00	Digitizing and	Methods	Multi Criteria Analysis	project	
16.00 - 17.00	Database population				

11 participants in total: The practical activity involved data collection in the field (tree heights) and data processing in the lab.

3 Cagliari (4/9)

4 Molise (4/9)

3 Sofia (5/9)

Student assessment was based on a project developed by the students through Thursday and Friday, presenting it on Friday afternoon.

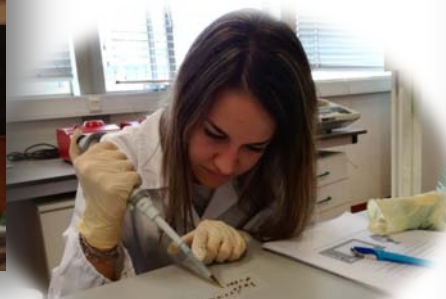


Satisfaction survey

	GRADE	(5)	(4)	(3)
The teaching staff presented the tools effectively (materials, skills, tools)	9	2		
The teaching staff was readily available during the class	10	1		
The teaching staff provided help when I was facing difficulties	11			
The teaching staff provided constructive feedback in response to difficulties with the language	11			
The teaching staff encouraged participation	8	2		1
How would you rate the suitability of the laboratories used?	9	2		
The "Geographic Information Systems" practical activity developed my ability to interact with diverse groups of people	6	4		1
The "Geographic Information Systems" practical activity helped me make progress in my acquisition of the language	7	4		
The "Geographic Information Systems" practical activity developed my ability to apply theory to practice	8	3		
How satisfied are you with the "Geographic Information Systems" practical activity?	9	2		



MODERN METHODS IN PLANT TAXONOMY



Modern Methods in Plant Systematics-practical activity C2

Lisbon, October 30th-November 3rd 2017

Lecturer(s) or Responsible(s): Helena Cotrim and Filipa Monteiro

Location: building C2, Faculdade de Ciências da Universidade de Lisboa, Campo Grande 1749-016 Lisboa

SCHEDULE		ACTIVITY	ROOM *
Monday 30 Oct	9.-10.00	Reception of participants	2.2.22
	10.00-12.30	A1 -Plant DNA extraction and quantification. #Groups activity digest: dry out the required volume of DNA solution in the vacuum oven at 60 °C for all afternoon.	lab 2.4.37
	14.00-17.00	B1 - Amplification of target sequences (Polymerase Chain Reaction) for Sanger sequencing. #Groups activity digest : check if samples are dried if precipitated let them dissolve ON).	lab 2.4.37
Tuesday 31 Oct	9.00-12.30	C1 -Amplified Fragment Length Polymorphisms (AFLPs): preparation and setup of Restriction -Ligation reactions B2 -Validate PCR results from B1; clean and quantify PCR products to sequence.	lab 2.4.37
	14.00-17.00	C2 - Amplified Fragment Length Polymorphisms (AFLPs): verify Restriction-Ligation reaction and STOP the restriction reaction. C3 - AFLPs, set up Pre-Selective Amplification. Groups activity digest	lab 2.4.37
	9.00-12.30	C4 - AFLPs, set up Selective Amplification.	lab 2.4.37
Wednesday 1 Nov	14.00-17.00	D2 - AFLP and microsatellite analysis workflow. Groups activity digest D1 - Primer design for phylogeny and diversity studies. B3 -Sequence databases and sequence analysis workflow; sequence analysis	2.4.16 PC room 2.3.16
	9.30-12.30	E1 -DNA barcode: databases and applications, BOLD.	2.4.16
Thursday 2 Nov	14.00-17.00	F1 -Next Generation Sequencing (NGS), overview of techniques and applications: analysis of case studies	PC room 2.3.16 /2.4.16
	9.00-12.30	F2 -Next Generation Sequencing (NGS) techniques: group presentations and discussion	
Friday 3 Nov	14.00-16.00-17.00	F2 -Next Generation Sequencing (NGS) techniques: group presentations and discussion.	2.4.16
	CONCLUSIONS		

Satisfaction survey



	GRADE	(5)	(4)	(3)
The teaching staff presented the tools effectively (materials, skills, tools)	20	2		
The teaching staff was readily available during the class	21	1		
The teaching staff provided help when I was facing difficulties	22			
The teaching staff provided constructive feedback in response to difficulties with the language	20	4		
The teaching staff encouraged participation	20	1	1	
How would you rate the suitability of the laboratories used?	16	5	1	
The "Modern Methods in Plant Systematic" practical activity developed my ability to interact with diverse groups of people	18	6		
The "Modern Methods in Plant Systematic" practical activity helped me make progress in my acquisition of the language	15	4	3	
The "Modern Methods in Plant Systematic" practical activity developed my ability to apply theory to practice	18	3	1	
How satisfied are you with the "Modern Methods in Plant Systematic" practical activity?	19	3		

Comments: reflected my expectation, it has been interesting and improving. The staff was available for any kind of problem

PLANT MANAGEMENT – BOTANIC GARDEN PRACTICAL ACTIVITIES

Date	Time	Activity
Monday 16th April	10:30 – 12:30	Welcome to participants to Argotti Botanic Gardens. Explanation of Schedule and tour of gardens.
	13:30 – 15:45	Plant Identification and role of herbaria.
Tuesday 17th April	08:30 – 10:00	Plant Adaptations: relating plant morphological features to plant requirements.
	10:30 – 15:45	Activity: Mediterranean Garden, Observe plant in vivo, produce a plant profile and a herbarium specimen.
Wednesday 18th April	08:30 – 10:00	Principles of Garden Maintenance (eg. diseases, labelling and propagation).
	10:30 – 15:45	Activity: Different methods of Plant propagation, repotting and transplanting.
Thursday 19th April	08:30 – 15:45	Fieldwork: Field Collection of seeds and other propagules and samples for herbarium specimen.
Friday 20th April	08:30 – 10:00	Principles of a good managing system (database).
	10:30 – 12:30	Activity: Producing a plant label, Processing of field collection inc. Entering data to database.
	13:30 – 15:45	Conclusion and Evaluation

Garden Orientation Tour - Plant requirements, Role of Herbaria & Plant Identification



Building a Plant Profile and Herbarium Specimen



Practical Garden Maintenance from Disease Identification to Compost making



Basic Methods of Plant Propagation



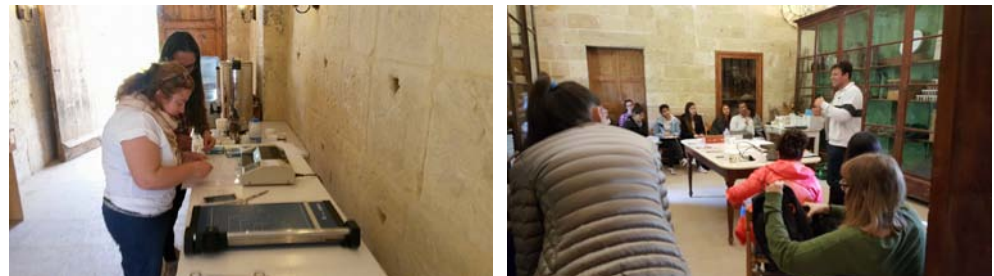
Coastal Habitat Fieldwork: Vegetation Transitions & Seed Collection



Fieldwork & Heritage Appreciation



Managing Garden Data Database System & Garden Labels Generation



Conclusion & Evaluation: Group Presentation of Plant Profiles



All participants produced a herbarium specimen and a plant profile of a halophyte, xerophyte or hydrophyte. They were asked to present their plant profile and awarded their final mark. **Average Mark was 87±3%**

SALSOLA MELITENSIS

Plant family: *Amaranthaceae*

Synonym: *Darniella melitensis*

Common name: Maltese salt tree

Maltese name: Xobb



- Endemic of Maltese islands
- Grows mainly on sides of cliff, escarpments and hills
- IUCN Conservation: Threatened status
- It is a medium to large perennial dense shrub which reaches a height of around 2.5 metres, although large specimens can reach up to four to five metres in height
- Leaves are small mostly alternated, simple, cylindrical and succulent, a common water-saving feature for maritime plants
- Flowering time: Summer. Its flowers are tiny, brown and inconspicuous
- It is an Halophyte that is adapted to withstand salinity at their roots by living in saline coastal soils.

DIAMENTE SARA



UNIVERSITÀ
DEGLI STUDI
DEL MOLISE



L-Università
ta' Malta



HEIPLADI



Erasmus+

"Plant management: botanic garden" Practical activity
ERASMUS Plus – KA2 "Strategic Partnership"
"Higher Education Innovation in Plant Diversity:
flexible learning paths for emerging labour market - HEI-PLADI"

April 16-20th, 2018 University of Malta

CERTIFICATE OF ATTENDANCE

It is certified that _____

From _____ has attended the «**Plant management: botanic garden**» practical activity organized within the «Hei-Pladi Erasmus project» at the University of Malta from April 16th to 20th 2018 and passed the examination test with the evaluation of 87% earning 4 ECTS.

Dr. 
Director of Argenti Botanic Gardens & Resource Centre
University of Malta

Conclusion & Evaluation

Satisfaction survey- HEI PALDI

"PLANT MANAGEMENT BOTANIC GARDEN" PRACTICAL ACTIVITY

MALTA 2018

mark only one choice from 1 (least good) to 5 (best)

The staff teaching effectively presented the tools (e.g. materials, skills, and techniques) needed

1 2 3 4 5 ☒

The staff teaching was readily available during the class

1 2 3 4 5 ☒

The staff teaching provided help when I had difficulties

1 2 3 4 5 ☒

The staff teaching provided constructive feedback in response to difficulties with the language

1 2 3 4 5 ☒

The staff teaching encouraged participation

1 2 3 4 5 ☒

How would you rate the suitability of the laboratories used?

1 2 3 4 5 ☒

The "Plant management botanic garden" practical activity developed my ability to interact with diverse groups of people

1 2 3 4 5 ☒

The "Plant management botanic garden" practical activity helped me make progress in my acquisition of the language

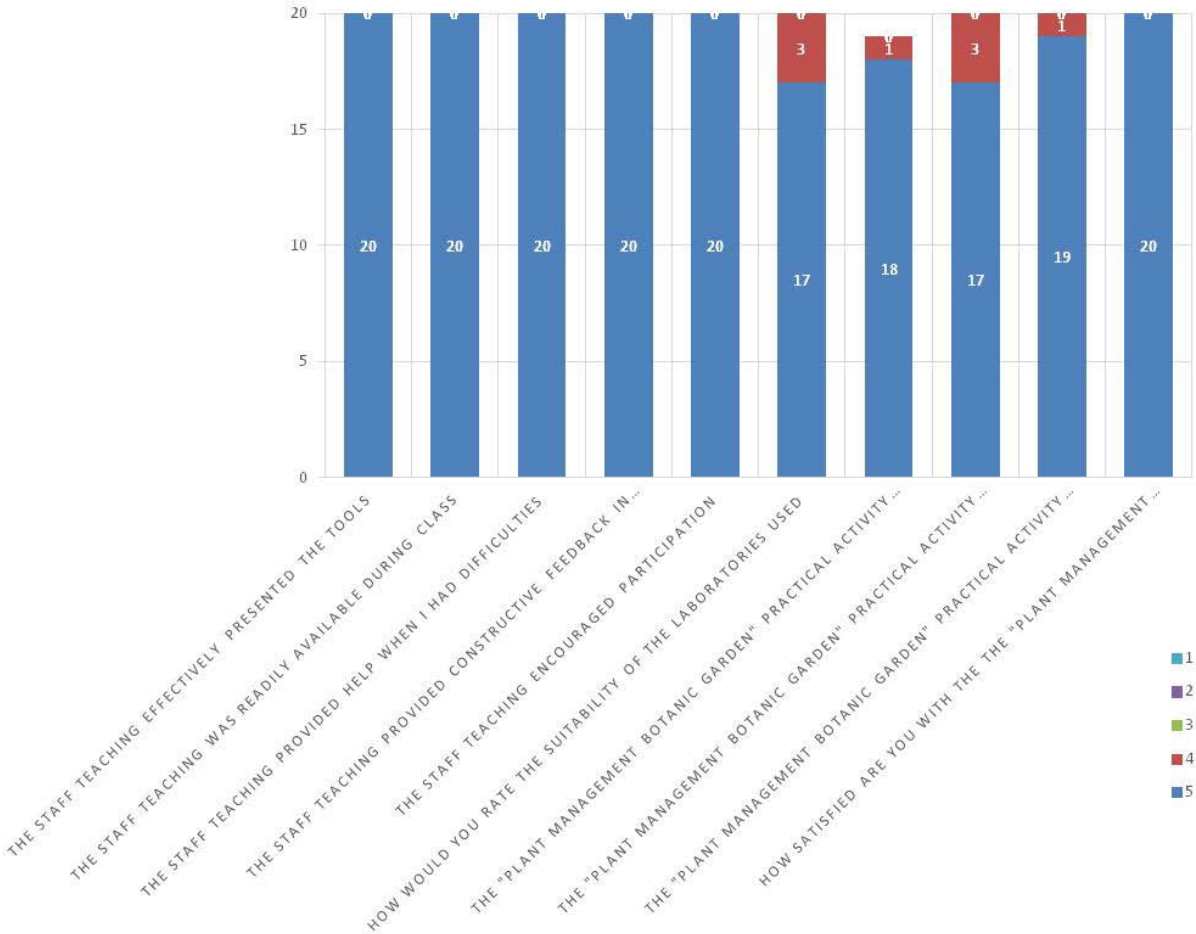
1 2 3 4 5 ☒

The "Plant management botanic garden" practical activity developed my ability to apply theory to practice

1 2 3 4 5 ☒

How satisfied are you with the "Plant management botanic garden" practical activity?

1 2 3 4 5 ☒



First day in Cagliari! **Welcome of participants**



First day in Cagliari!

Presentation of the working teams

Paeonia team



Matteo Frau
Sara Serra
Janet Attard
Mihaela Tuzharova

Gentiana team



Martina Sanna
Ludovica Dessì
Magdalene Baldacchino
Desislava Mantovska

Clematis team



Francesca Spiga
Maria Enrica Boi
Benjamin Joseph Pullicino

Juniperus team



Giacomo Calvia
Chantelle Spiteri
Maria Lakova
Martina Falcione

Opuntia team



Andrea Ambus
Laura Serreli
Yacopo Luigi Baldacchino
Graziano Neri

Anchusa team



Manuela Campus
Sergio Fantini
Benji Fenech Salerno
Alberto di Giorgio

Monitoring team



Laura Scanu
Desislava Ljubomirova
Luca Quaranta

Dune team



Maria Mureddu
Paul Muscat
Mirena Zhelezarova
Giuseppe Di Iorio

First day in Cagliari! EACH MEMBER presented himself



First day in Cagliari!
We visited the

Botanical Garden



Sardinian Germplasm Bank



IN SITU AND EX SITU PLANT CONSERVATION PRACTICAL ACTIVITIES



Second day in Cagliari!

Morning Activities:

Presentation of *in situ* conservation work methods; first part of *in situ* practical activities.



Afternoon activities:

Presentation of *ex situ* conservation work methods; first part of *ex situ* practical activities.



IN SITU AND EX SITU PLANT CONSERVATION PRACTICAL ACTIVITIES



Third day in Cagliari!

Morning field activities:

- 1) Germplasm collection techniques
- 2) Naturalistic-archaeological guided visit.



Afternoon field activities:

***In situ* monitoring of plant diversity.**



Fourth day in Cagliari!

Morning field activities: *In situ* monitoring of alien plants. Monitoring and eradicating the invasive alien species *Carpobrotus* ssp.



**Afternoon activities:
Presentation about “How to write a scientific paper”.**



Last day in Cagliari!

**Morning activities:
Preparation for the exam by the working team**



IN SITU AND EX SITU PLANT CONSERVATION PRACTICAL ACTIVITIES



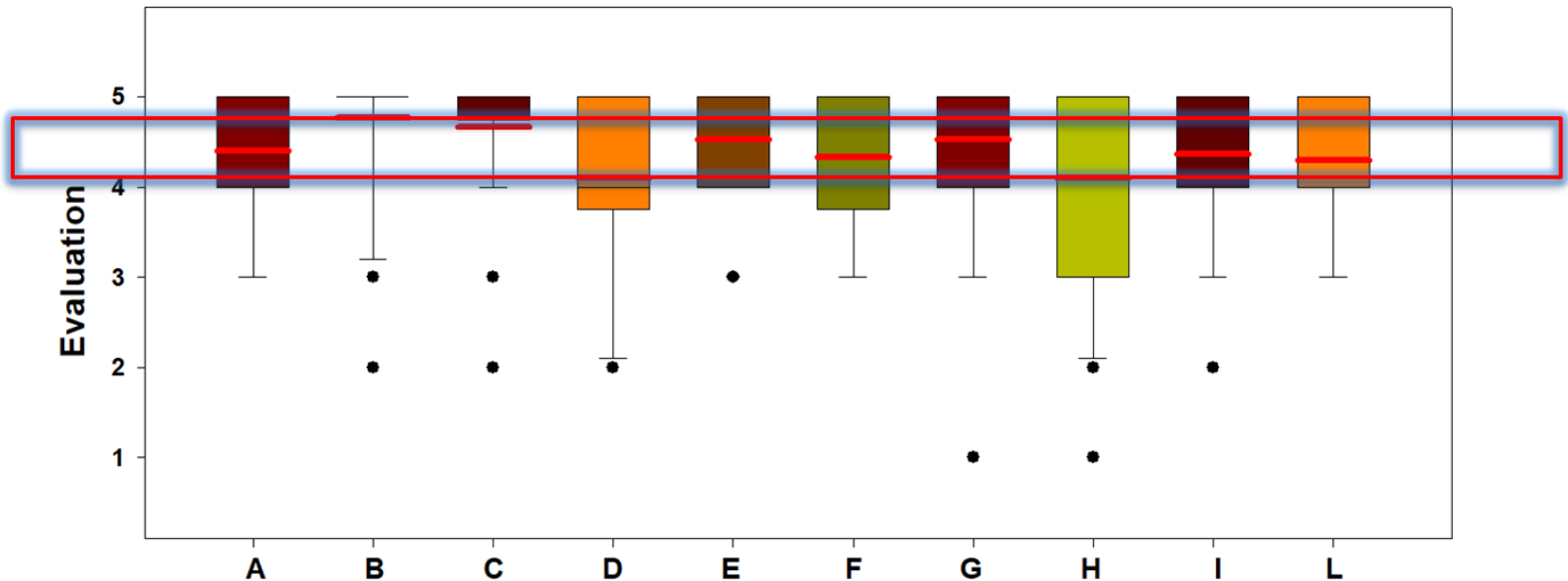
Last day in Cagliari!

Afternoon activities: Oral exposition for the course evaluation (exam)





Satisfaction survey



A_ The staff teaching effectively presented the tools (e.g. materials, skills, and techniques) needed.

B_ The staff teaching was readily available during the class.

C_ The staff teaching provided help when I had difficulties.

D_ The staff teaching provided constructive feedback in response to difficulties with the language.

E_ The staff teaching encouraged participation.

F_ How would you rate the suitability of the laboratories used?

G_ The “In situ and ex situ plant conservation” practical activity developed my ability to interact with diverse groups of people.

H_ The “In situ and ex situ plant conservation” practical activity helped me make progress in my acquisition of the language.

I_ The “In situ and ex situ plant conservation” practical activity developed my ability to apply theory to practice.

L_ How satisfied are you with the “In situ and ex situ plant conservation” practical activity?