

Current status of the charophytic flora in a Biosphere Reserve site (*Lagunas de Ruidera* Natural Park)

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High diversity under the water

Family **Characeae**
Order **Charales**
Class **Charophyceae**
Division **Chlorophyta**

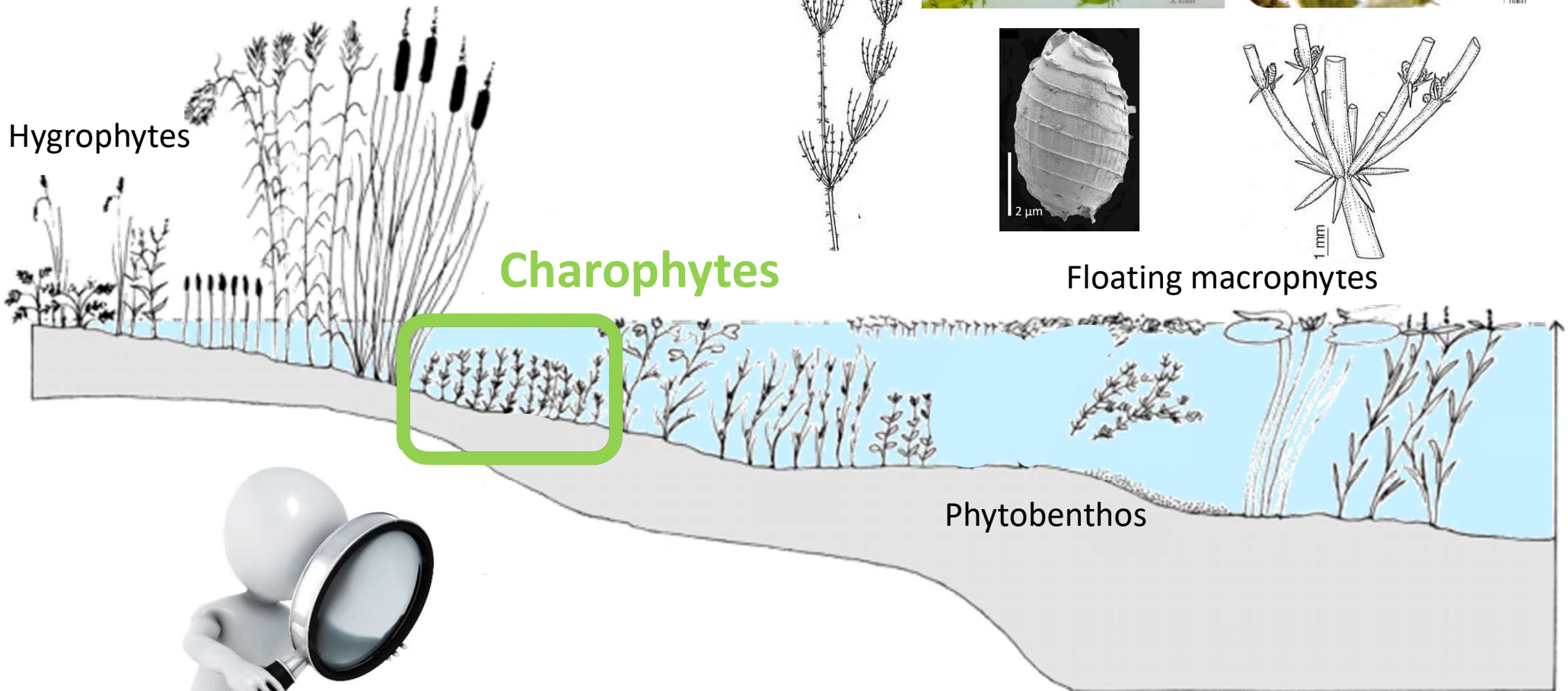
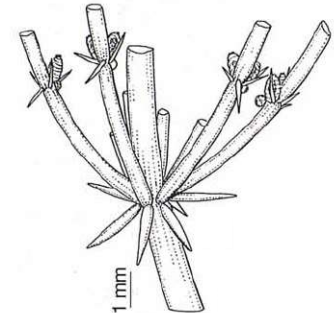
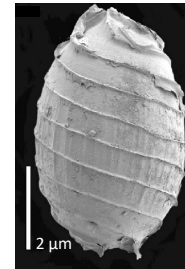
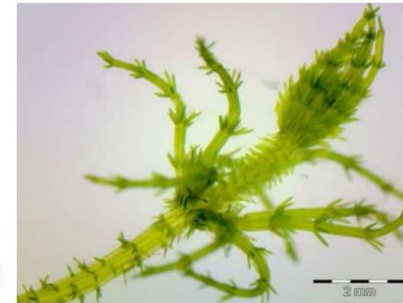
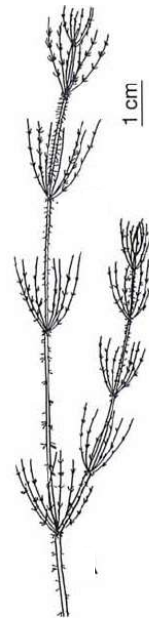
Helophytes

Hygrophytes

Charophytes

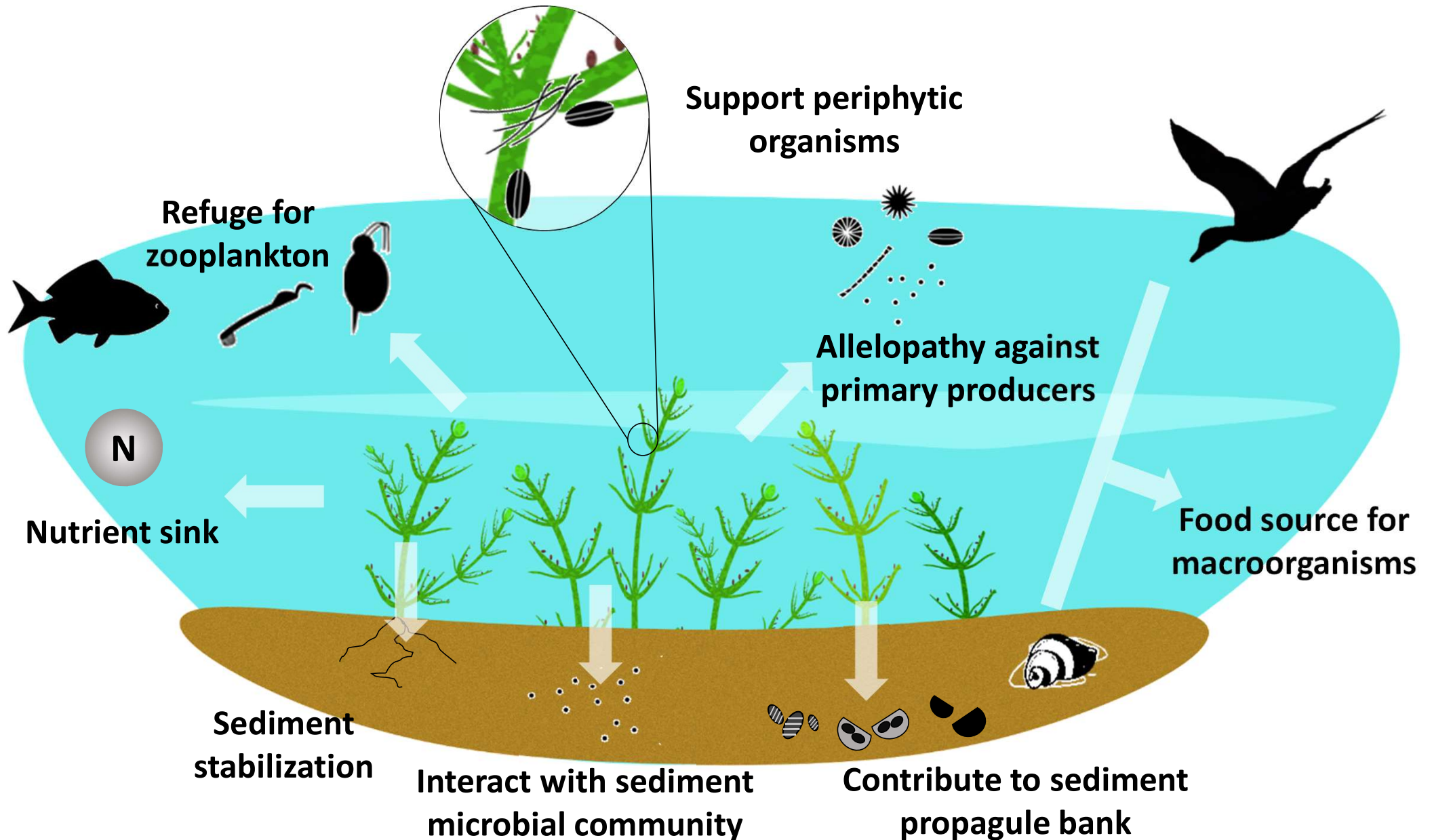
Floating macrophytes

Phytobenthos

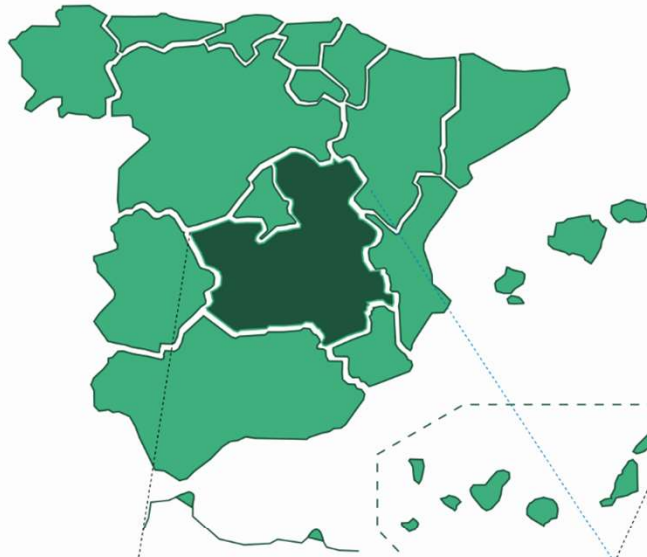


Modified from Cirujano et al. 2002

The importance of charophytes

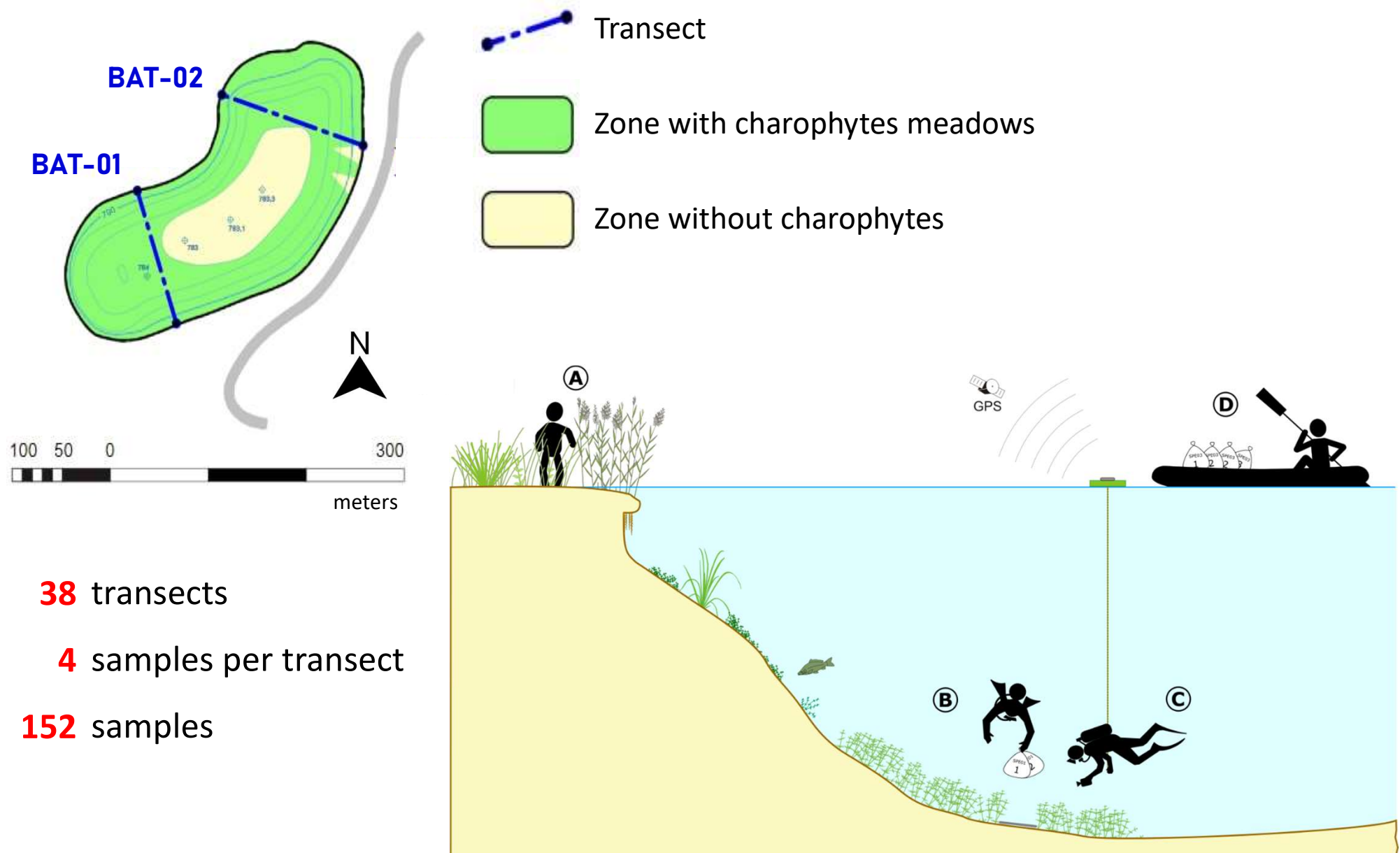


Lagunas de Ruidera Natural Park



Provided by Gemosclera

Work under the water



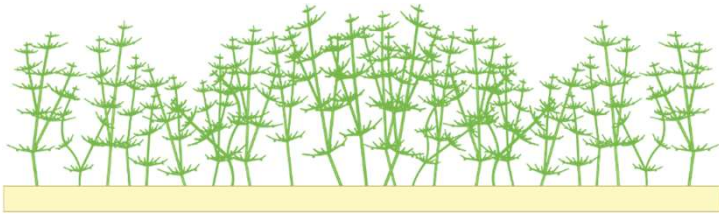
38 transects

4 samples per transect

152 samples

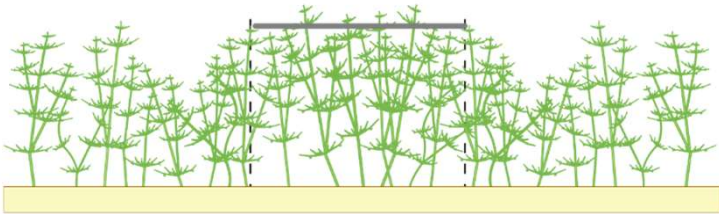
Work under the water

1



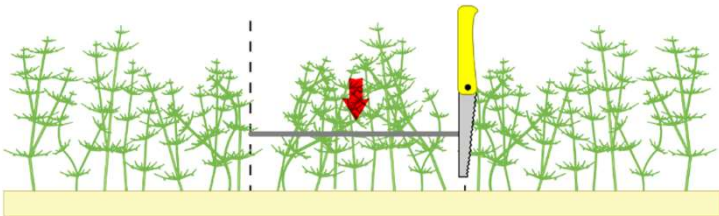
Stablising the sampling area

2



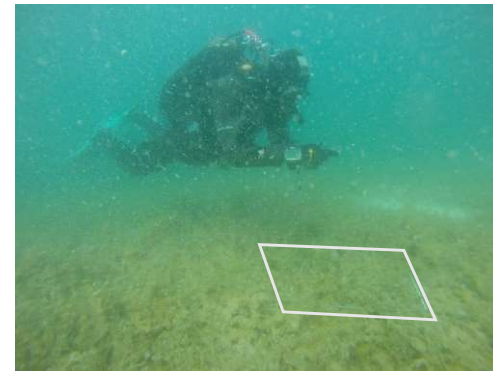
Collecting the charophytes

3



Returning to the surface

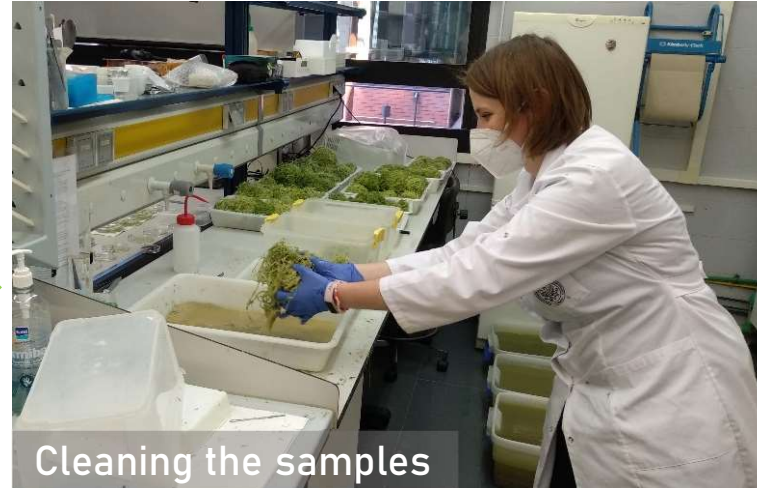
4



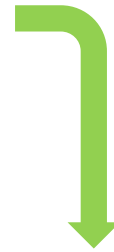
Work out of the water



Taking the samples



Cleaning the samples

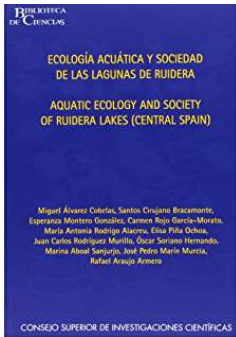


Biomass determination
(dry weight)



Sub-samples for identification

Main outcomes



2007

	Navalcaballo	Blanca	Conceja	Tomilla	Tinaja	San Pedro	Redondilla	Lengua	Salvadora	Santos Morcillo	Batana	Colgada	Rey	Cueva Morenilla	Coladilla	Cenagosa	Fuente de la Tienta
<i>Chara hispida</i> var. <i>major</i> (Hartm.) R.D. Wood		●	●	●	●	●	●	●	●	●	●	●	●	●			
<i>Chara hispida</i> f. <i>polyacantha</i> (A. Braun) R.D. Wood		●	●	●	●		●	●	●		●	●	●	●			●
<i>Chara hispida</i> L. var. <i>hispida</i>		●					●	●	●	●		●					
<i>Chara vulgaris</i> L. var. <i>vulgaris</i>		●							●	●							
<i>Chara vulgaris</i> var. <i>contraria</i> (A. Braun ex Kütz.) J.A. Moore										●							
<i>Chara vulgaris</i> var. <i>crassicaulis</i> (Schleicher ex A. Braun) Kütz.									●								
<i>Chara aspera</i> Deth. Ex Willd. var. <i>aspera</i>		●							●	●							
<i>Nitella hyalina</i> (DC.) C. Agardh		●	●	●		●	●	●	●	●	●						
<i>Nitella confervacea</i> (Bréb.) A. Braun ex Leonhardi							●	●	●	●							



Unification of taxonomic criteria for charophytes classification

Chara hispida
var. *major*

Chara hispida
var. *polyacantha*

Chara hispida
var. *hispida*

Chara vulgaris
var. *vulgaris*

Chara vulgaris
var. *contraria*

Chara vulgaris
var. *crassicaulis*

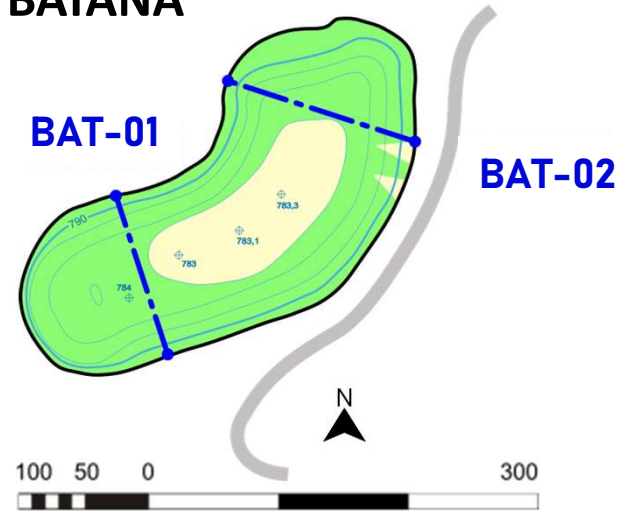
Chara aspera
var. *aspera*

Nitella
hyalina

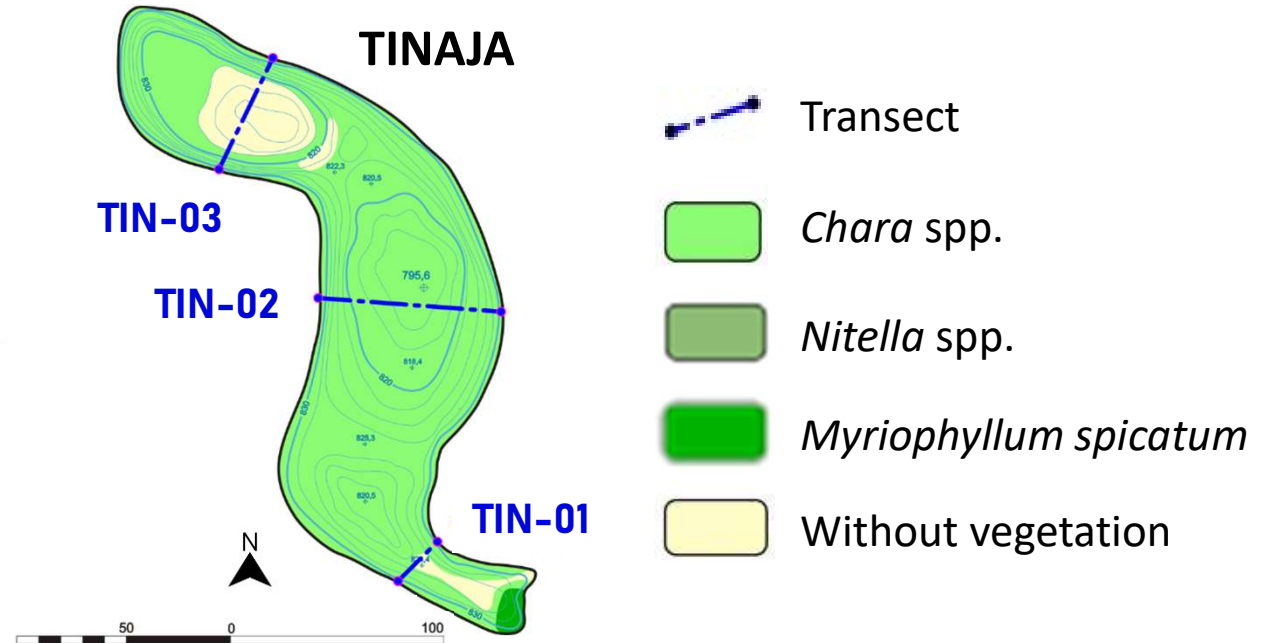
Nitella
confervacea

Main outcomes

BATANA



TINAJA



Transect



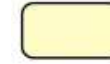
Chara spp.



Nitella spp.

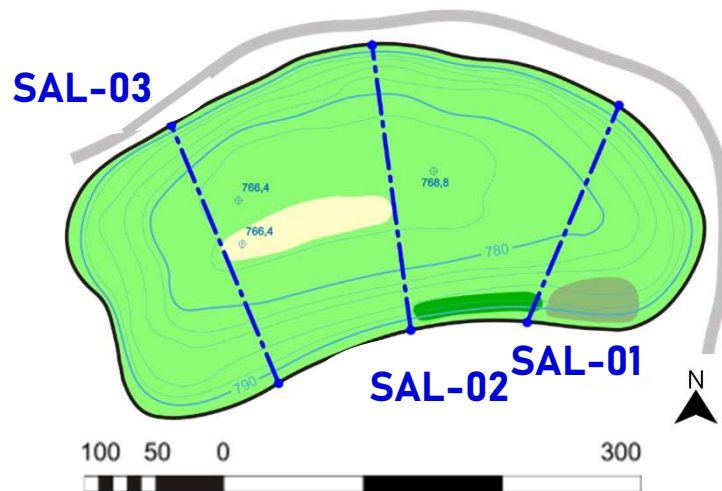


Myriophyllum spicatum

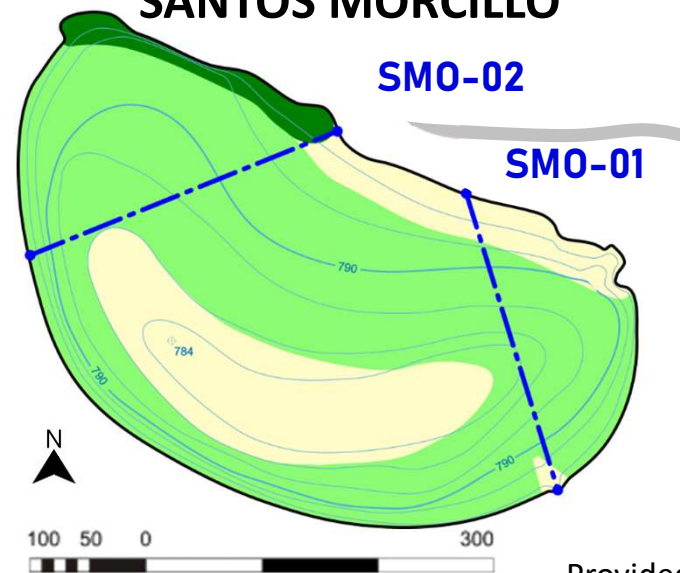


Without vegetation

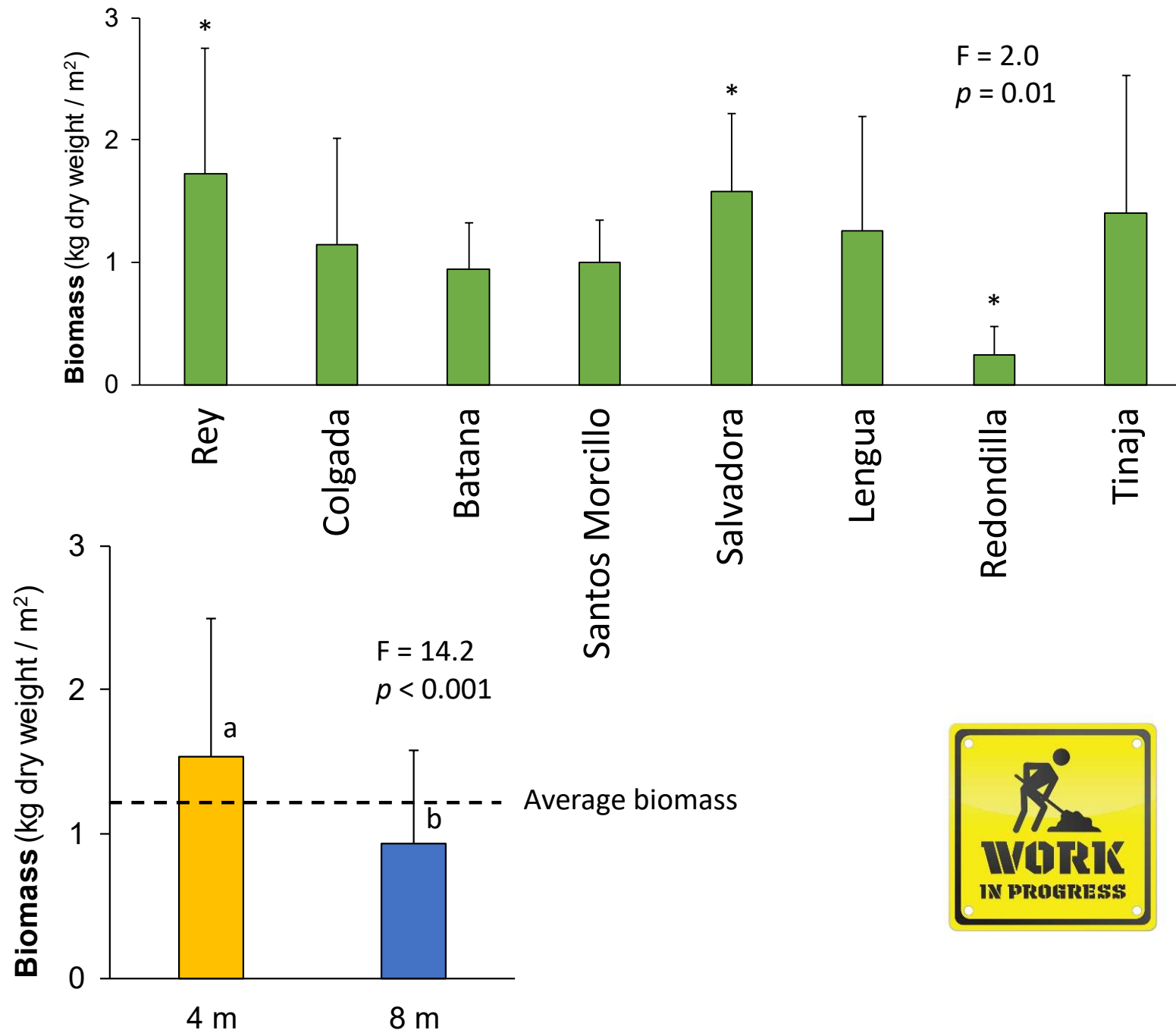
SALVADORA



SANTOS MORCILLO

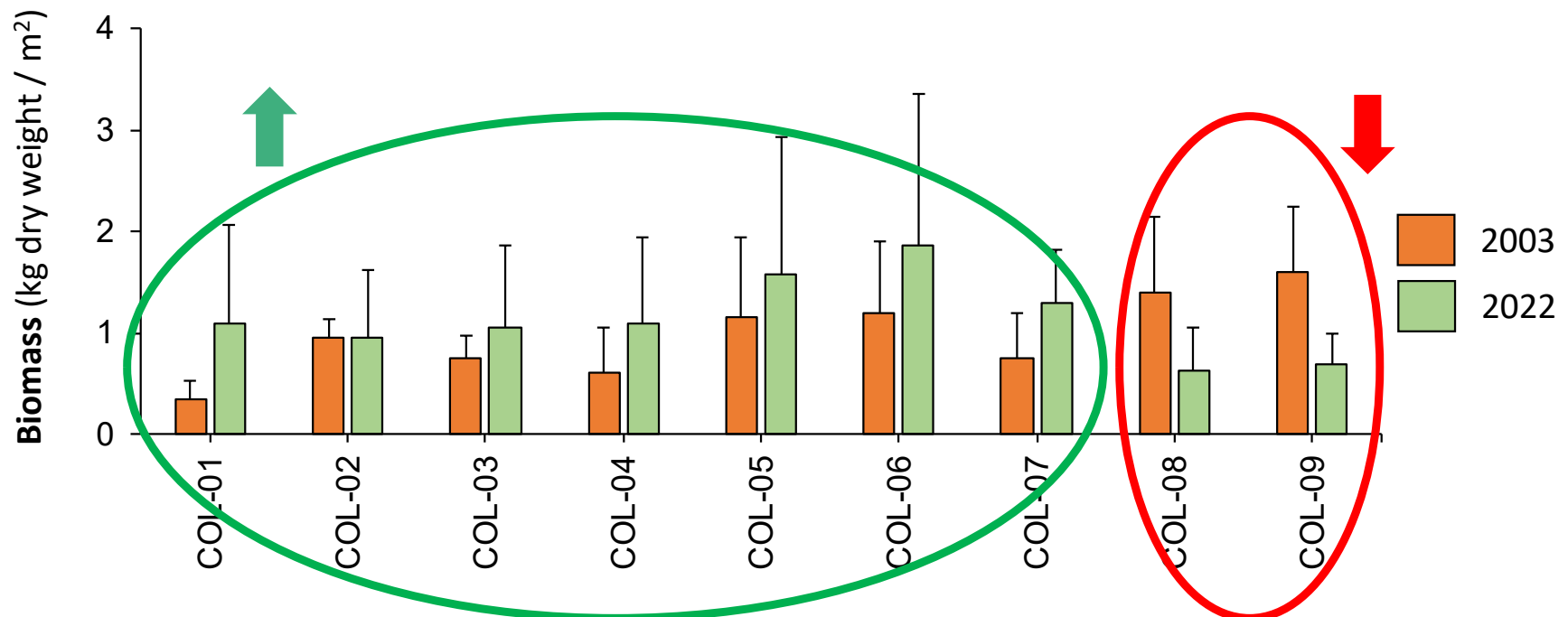
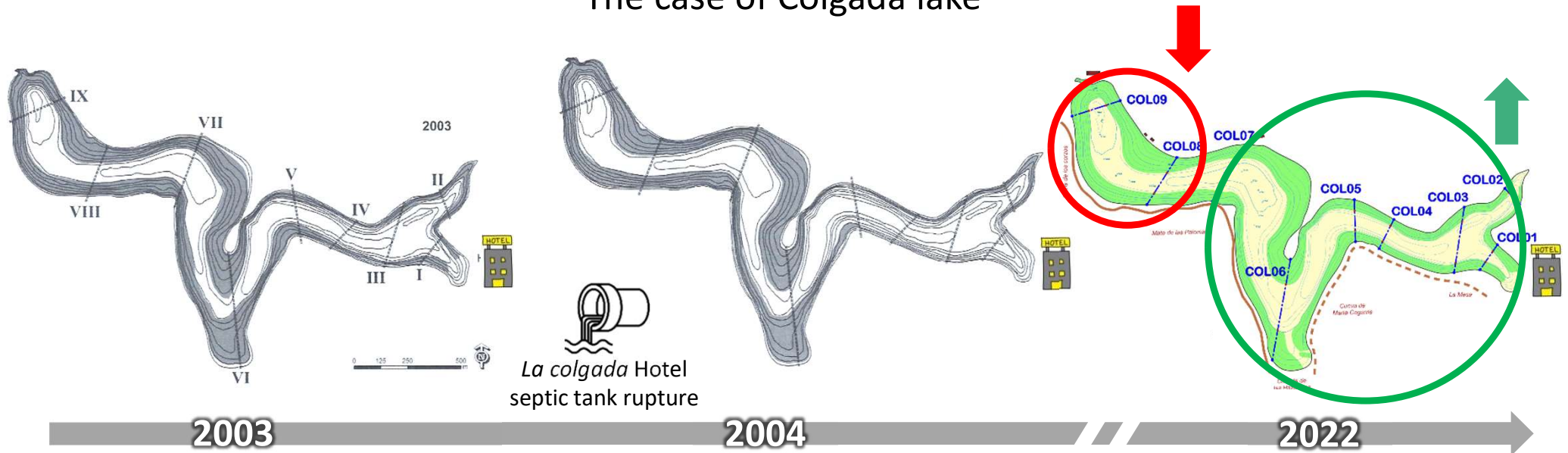


Main outcomes

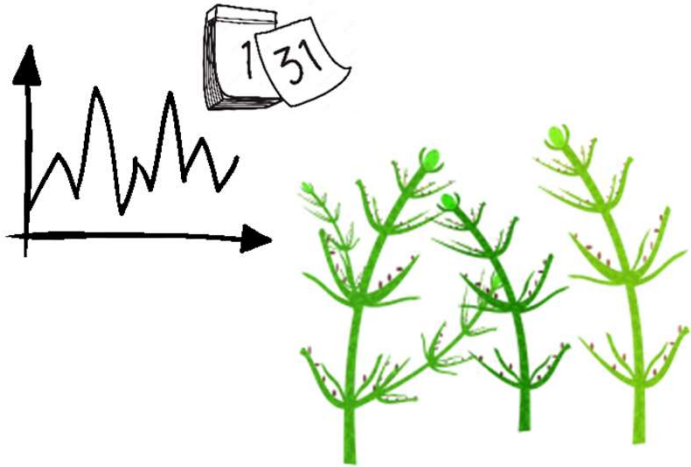


Main outcomes

The case of Colgada lake

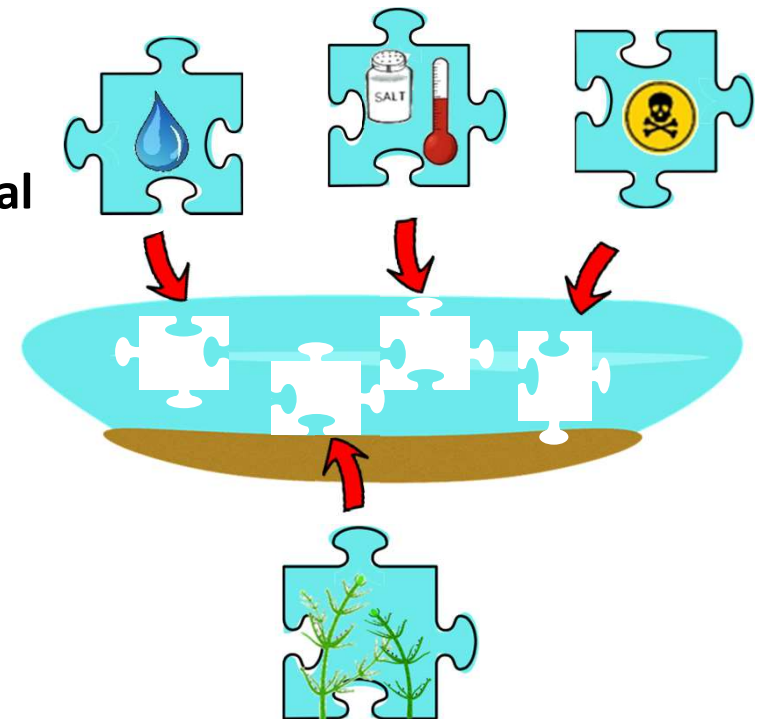


And from now on... what?



This study must become the **basis** for the continuous and exhaustive **monitoring** of the **charophyte meadows**, as a crucial element for the good **ecological status** of the lagoons that comprise it.

The results of **this study**, linked to the studies of the **physical and chemical conditions** of the water, the mapping of the **springs** in the lakes, and the study of **potentially toxic substances** in the water will help to have a more complete vision of the reason for the **recession of the charophyte meadows** and the consequences on the park in general.



Acknowledgements



Gemosclera (Dani, Pilar, Victor y Javi) for their **hard work** collecting the samples and for providing the **information, vegetation maps** and **methodology graphics**.



The **staff of the Lagunas de Ruidera Natural Park** for their help in the **access to the lakes**.



The **staff of the Hotel Matías** (Ruidera) for providing us with all the **facilities** to preserve the samples and to set up a **field lab** on their premises.



Castilla-La Mancha

The **Junta de Castilla la Mancha** and the **Direction of the Natural Park** (Ignacio Mosqueda) for **funding** this project.



THANKS FOR YOUR ATTENTION

