



4th Mediterranean Plant
Conservation Week

VALÈNCIA | 23-27 OCTOBER | 2023

6th Thematic session:
**Experiences of Cryptogam
conservation in the
Mediterranean**



ProPartS

Rare or common? Developing protection schemes for bisexual-parthenogenetic species

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Hendrik Schubert

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UNIVERSITÀ
DEGLI STUDI
DI PALERMO



Universität für Bodenkultur Wien
University of Natural Resources
and Life Sciences, Vienna

Universität
Rostock



25/10/2023





Rare or common? Developing protection schemes for bisexual-parthenogenetic species

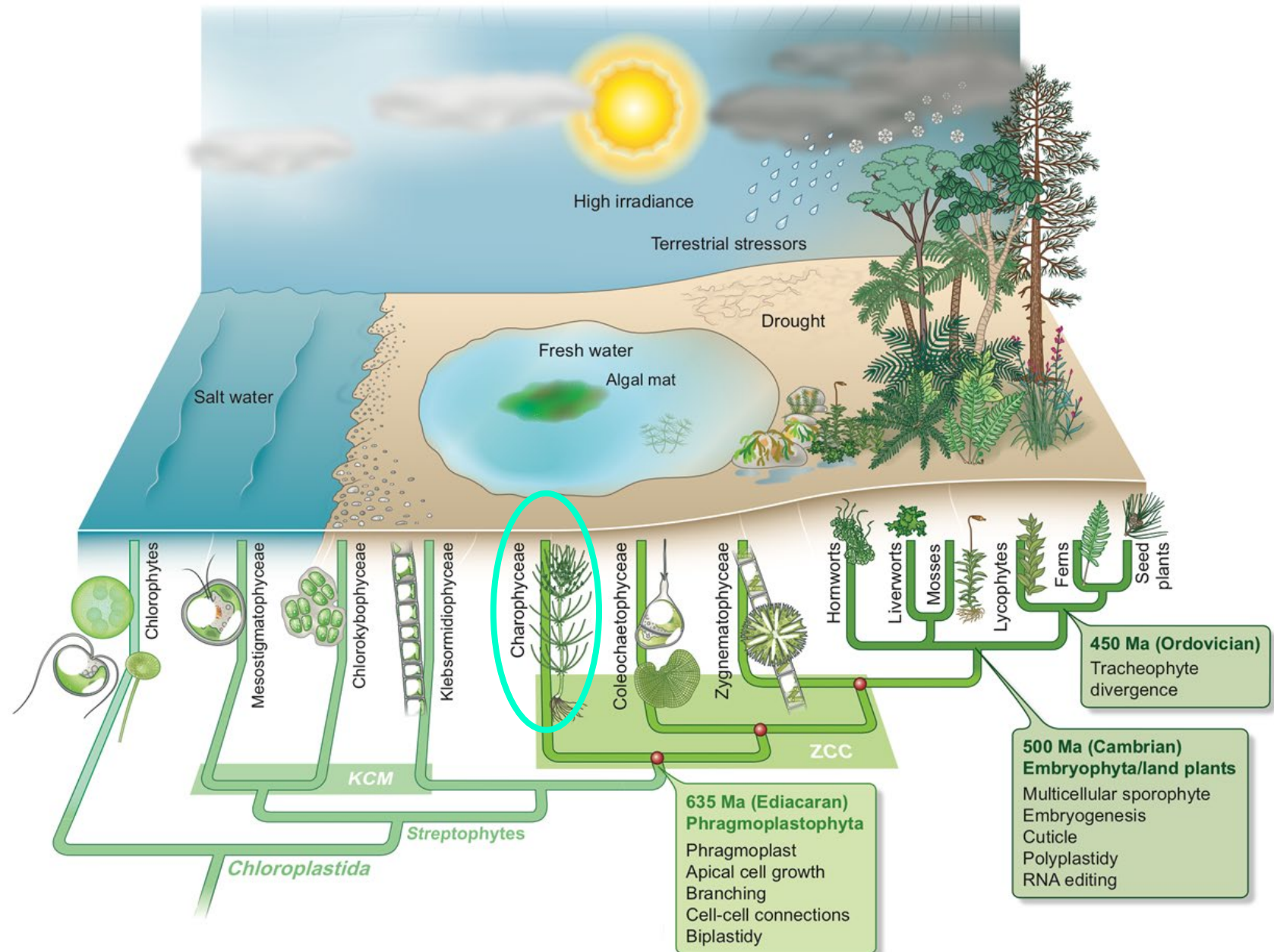


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Experiences of Cryptogam conservation in the Mediterranean

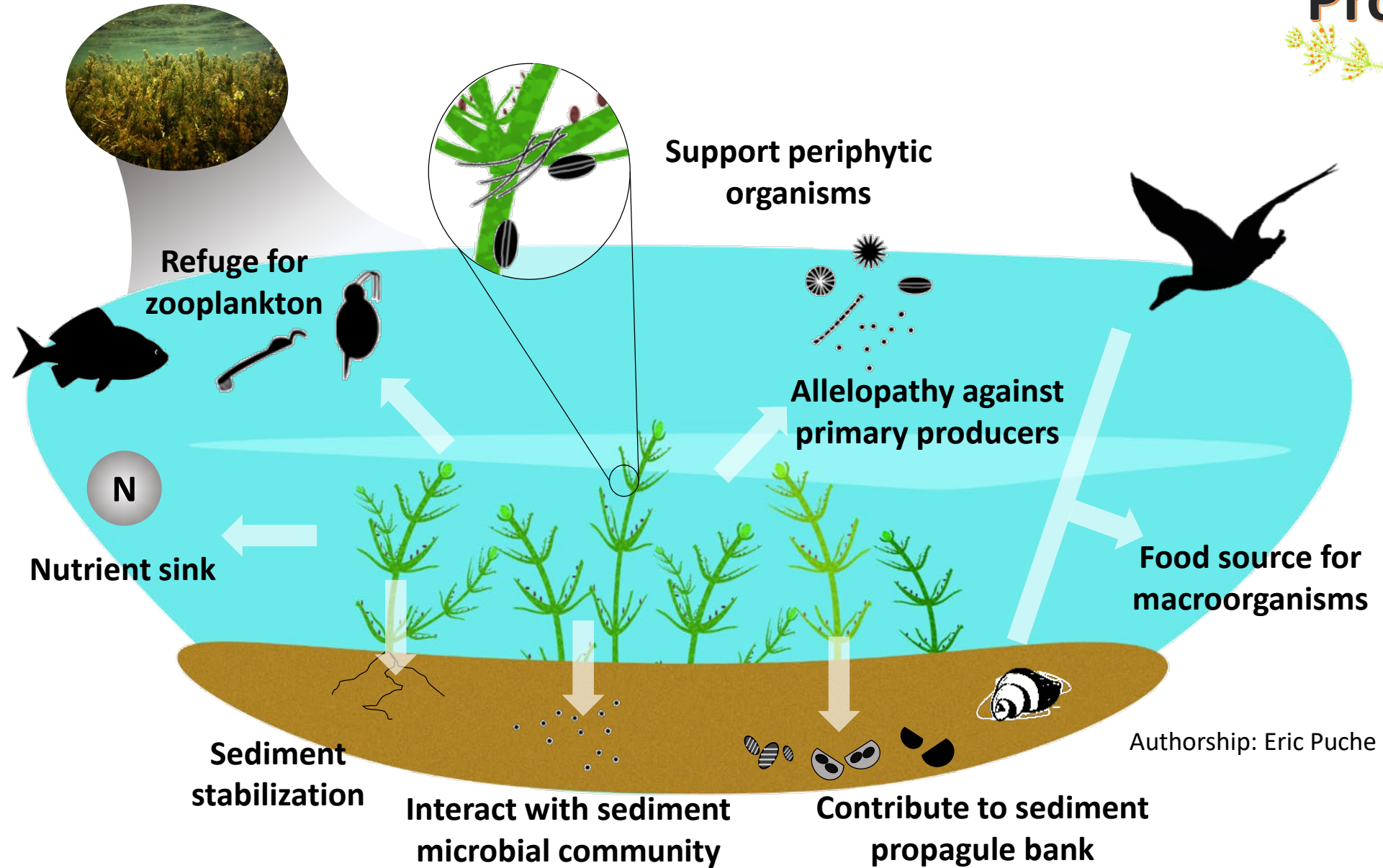
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Source: <https://madland.science/>

Experiences of Cryptogam conservation in the Mediterranean

Rare or common? Developing protection schemes for bisexual-parthenogenetic species



Authorship: Eric Puche

***Chara canescens* Loisel., 1810**

=Chara crinita, karelinii, sphagnoides, pusilla



***Chara canescens* Loisel., 1810**

=*Chara crinita*, *karelinii*, *sphagnoides*, *pusilla*

Annual species



Author: Klaus van de Weyer

Chara canescens Loisel., 1810

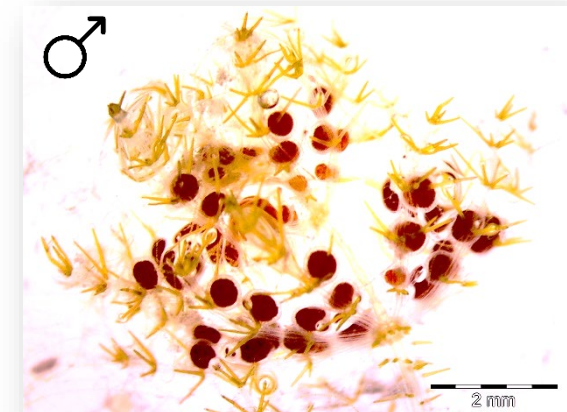
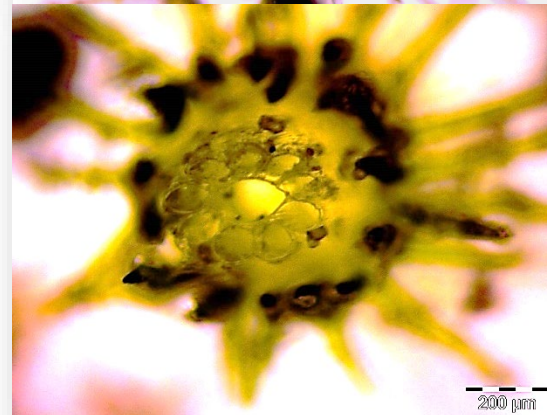
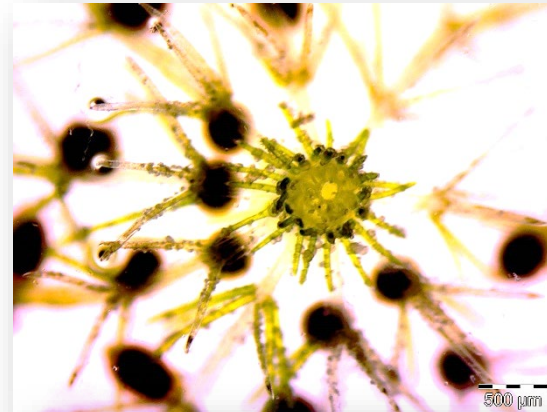
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Annual species



Author: Klaus van de Weyer

Haplostichous-Dioecious





Chara canescens Loisel., 1810

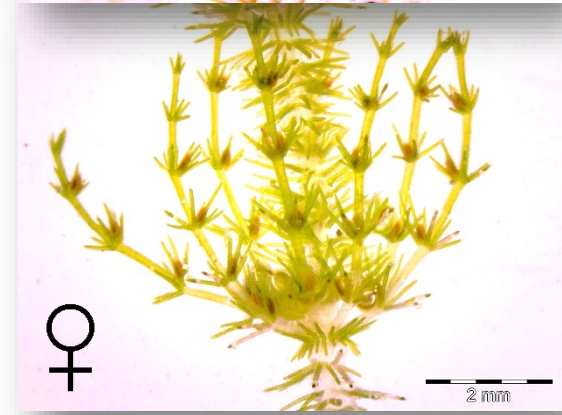
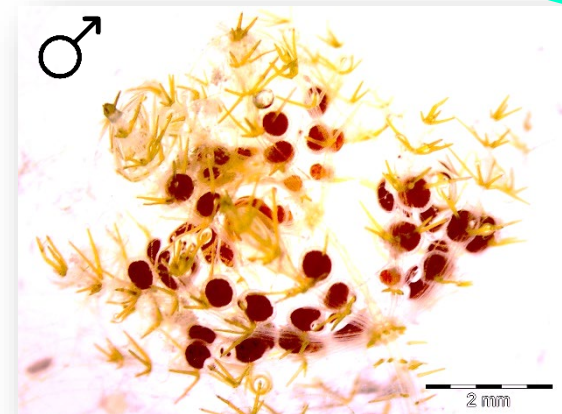
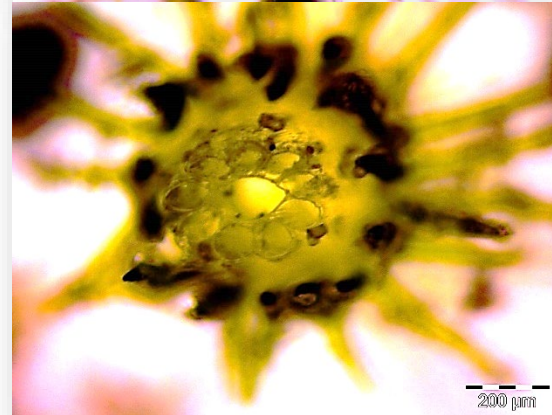
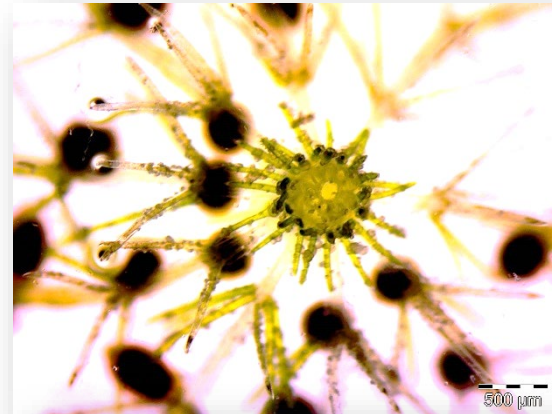
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Annual species

Haplostichous-Dioecious



Author: Klaus van de Weyer

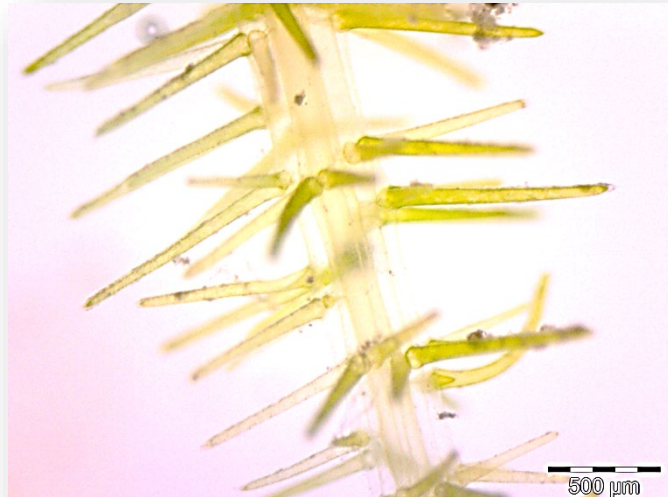


THE ONLY ONE IN EUROPE

Chara canescens Loisel., 1810

=*Chara crinita*, *karelinii*, *sphagnoides*, *pusilla*

“Brush-like appearance”



Non-corticated terminal cell

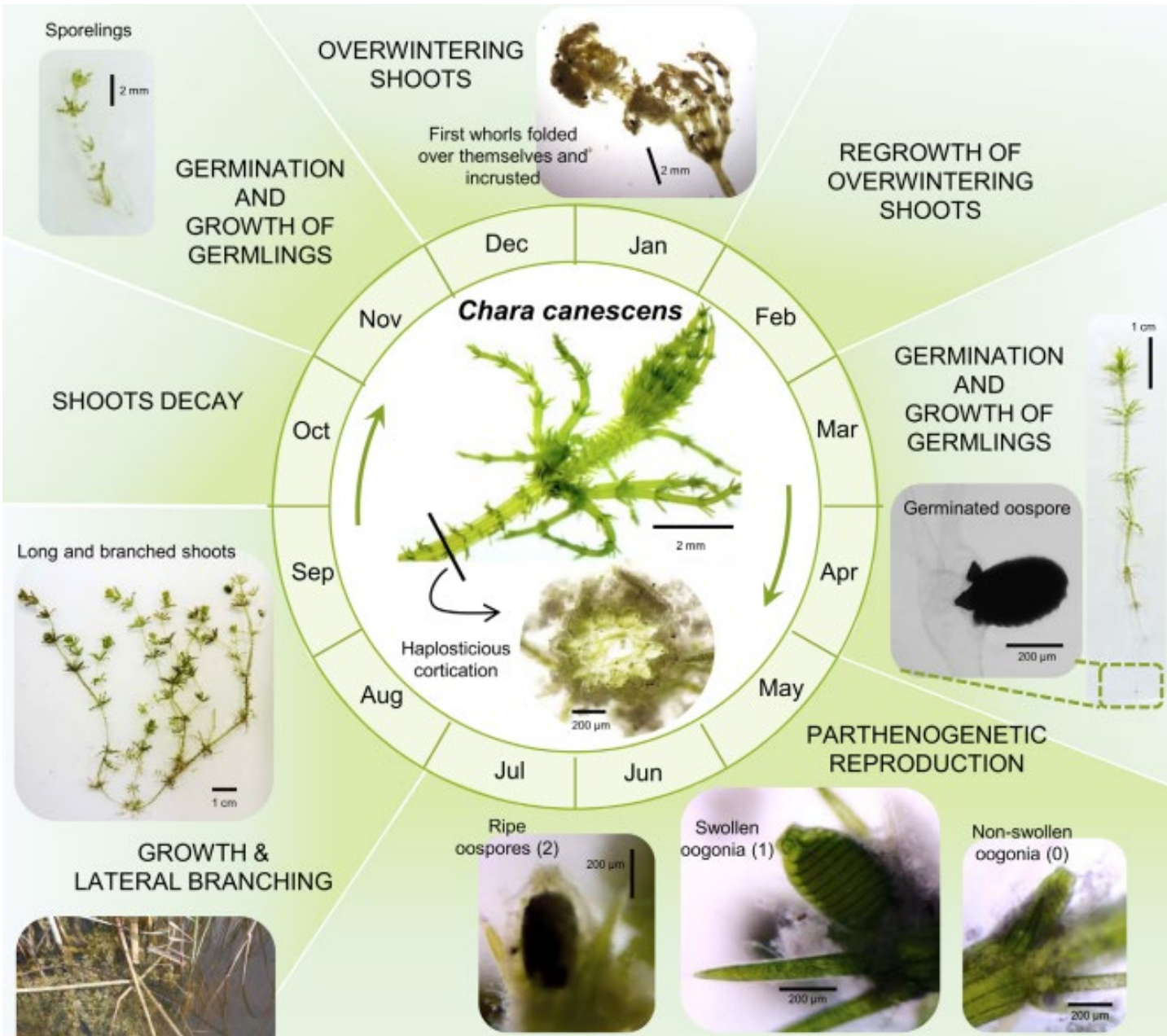


Diplostephanous



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It possesses 2 reproductive strategies:
Sexual and
 Parthenogenetic (Non-Sexual)

The only known species of the family Charophyceae which can reproduce by parthenogenesis

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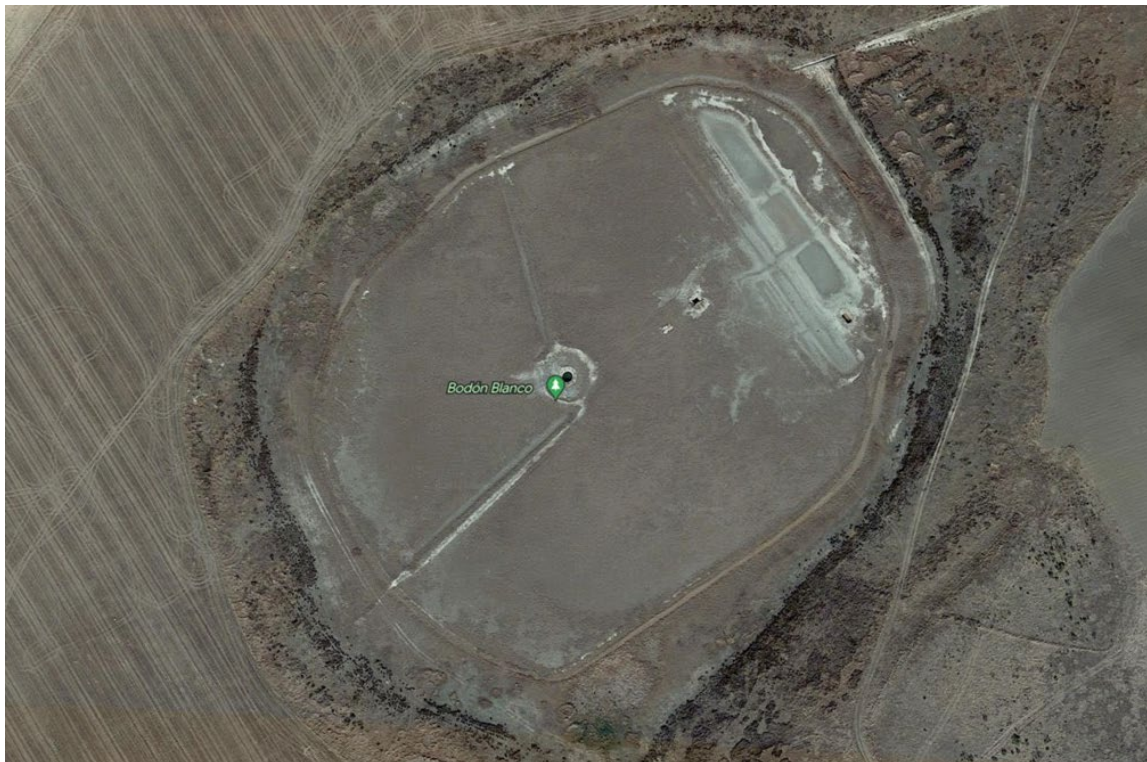
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HABITAT

**SEXUAL
POPULATIONS**

INNER-BRACKISH WATER SITES



**NON-SEXUAL
POPULATIONS**

COASTAL-BRACKISH WATER SITES

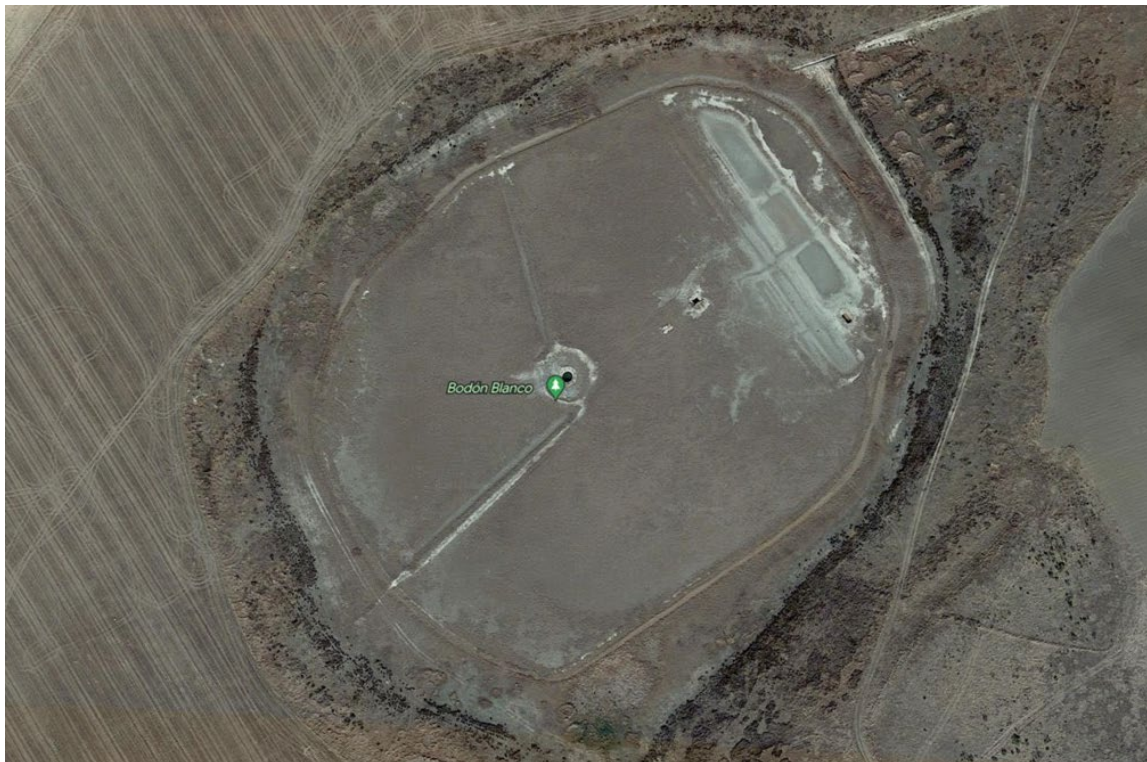
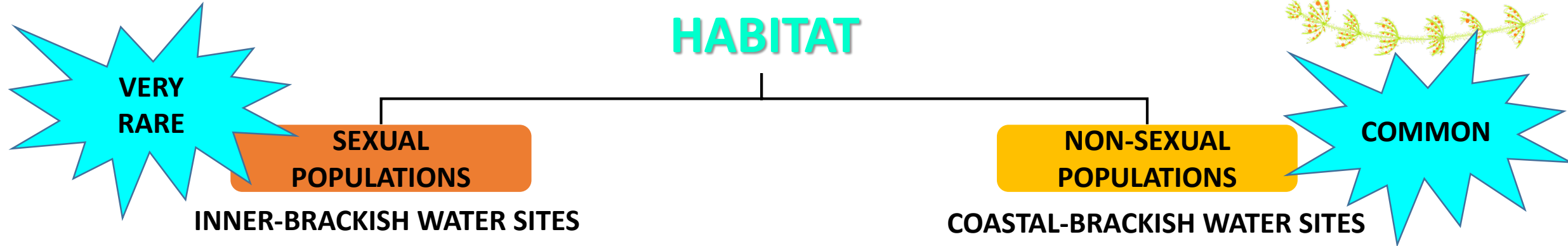


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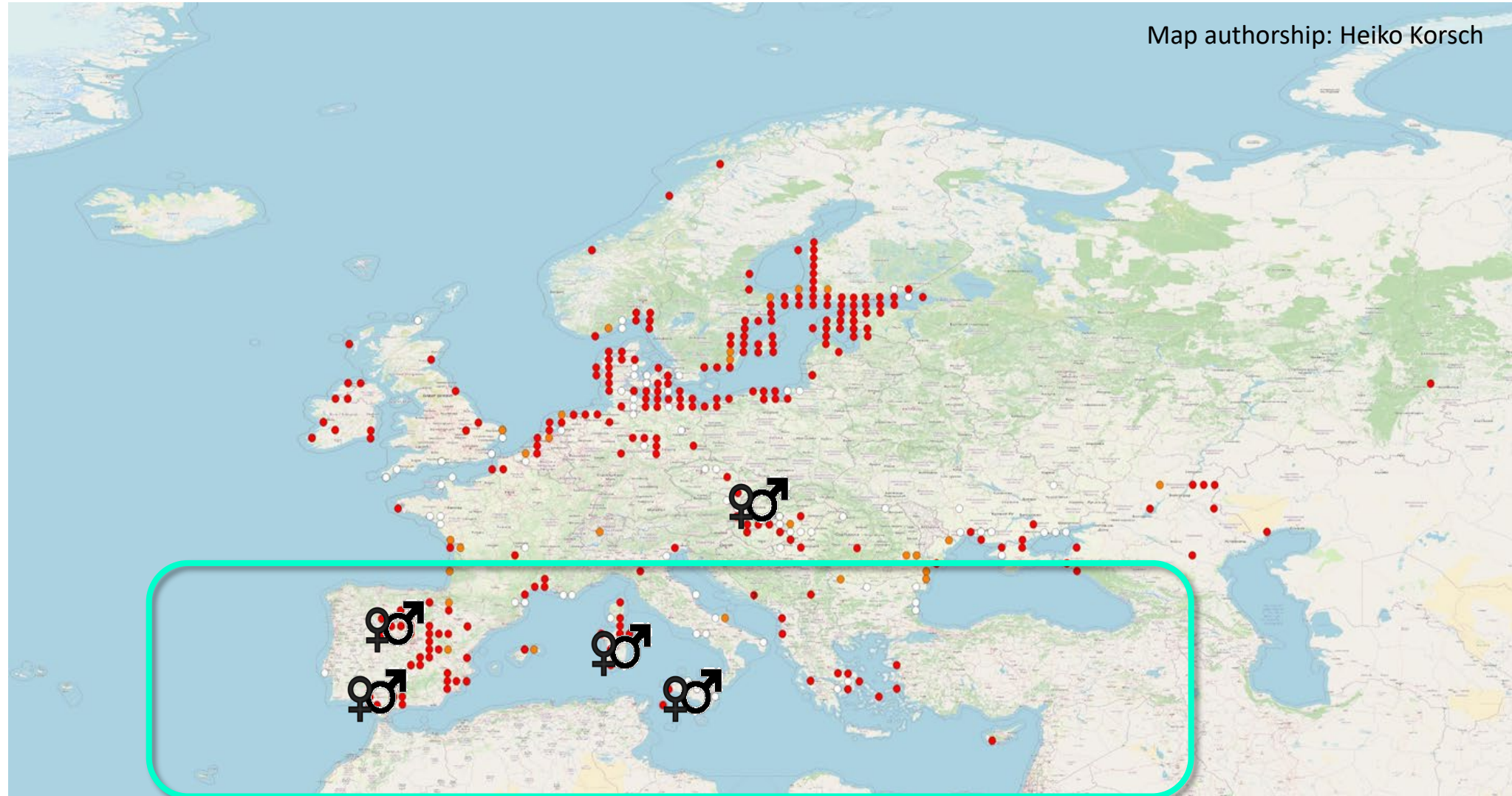


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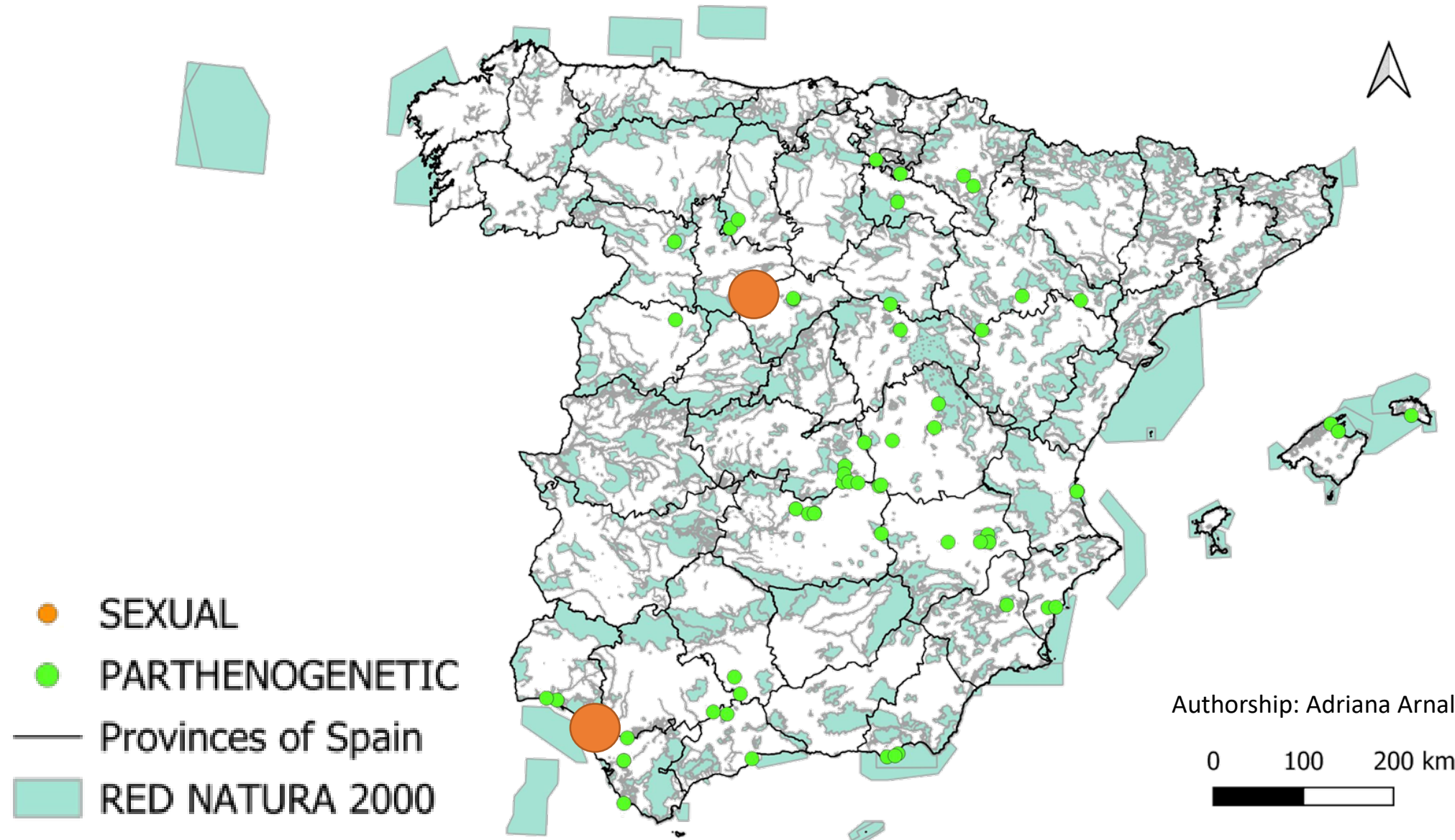
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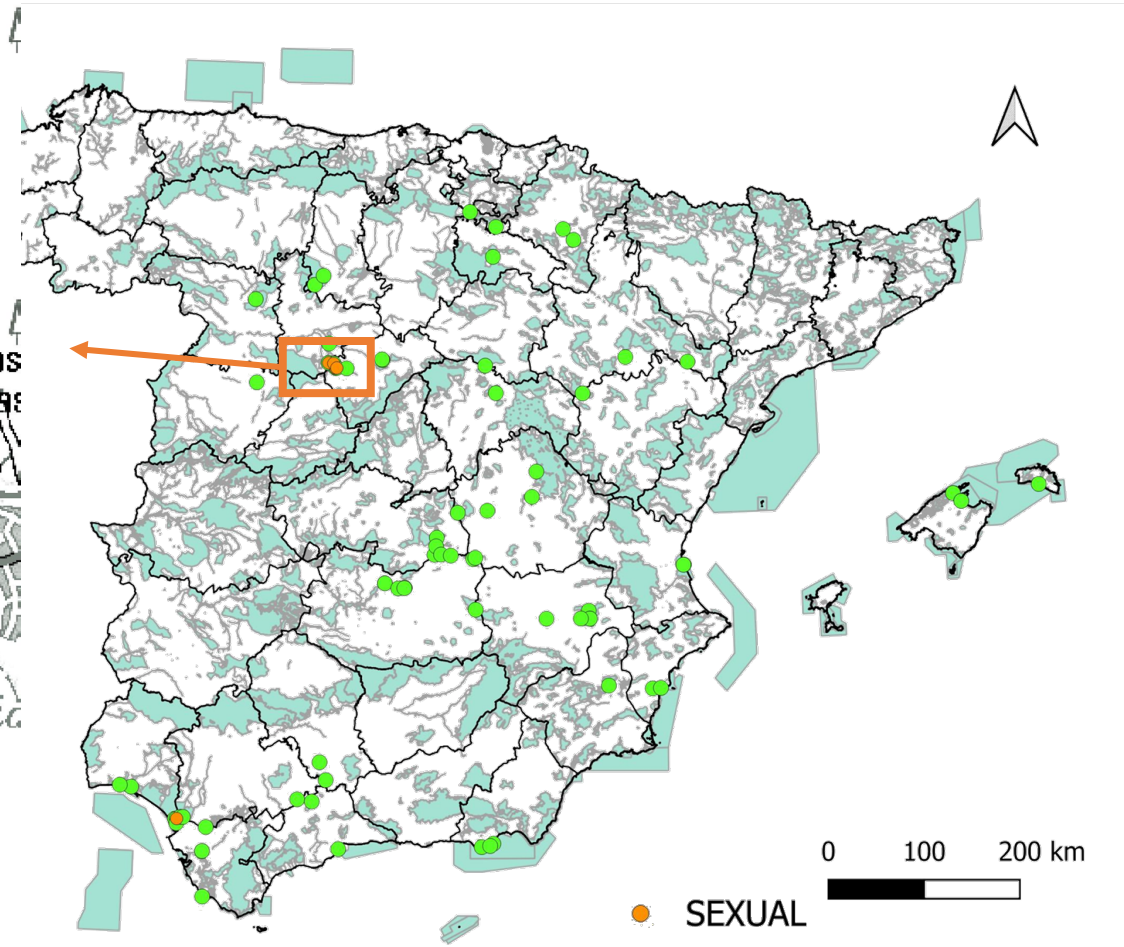
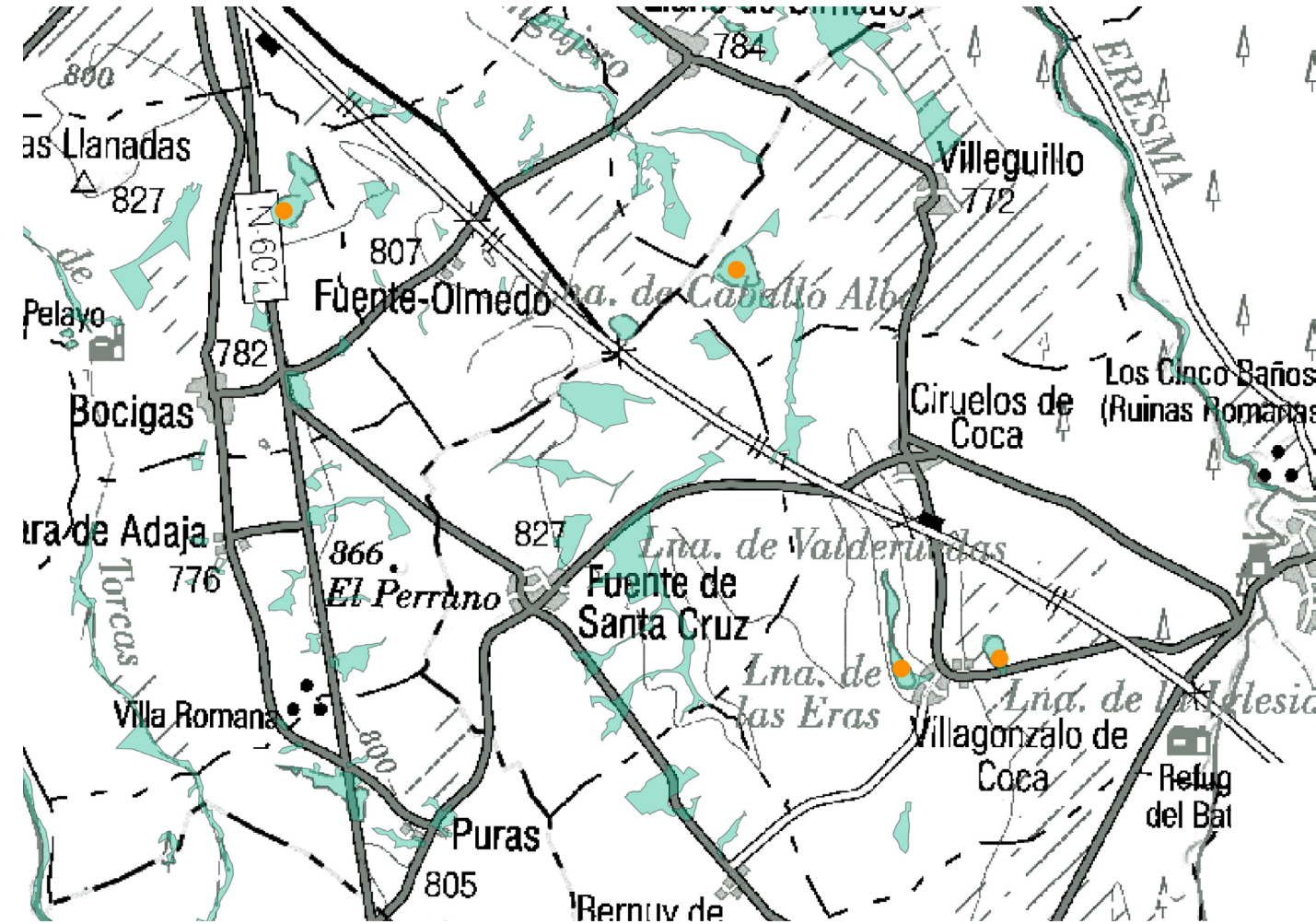
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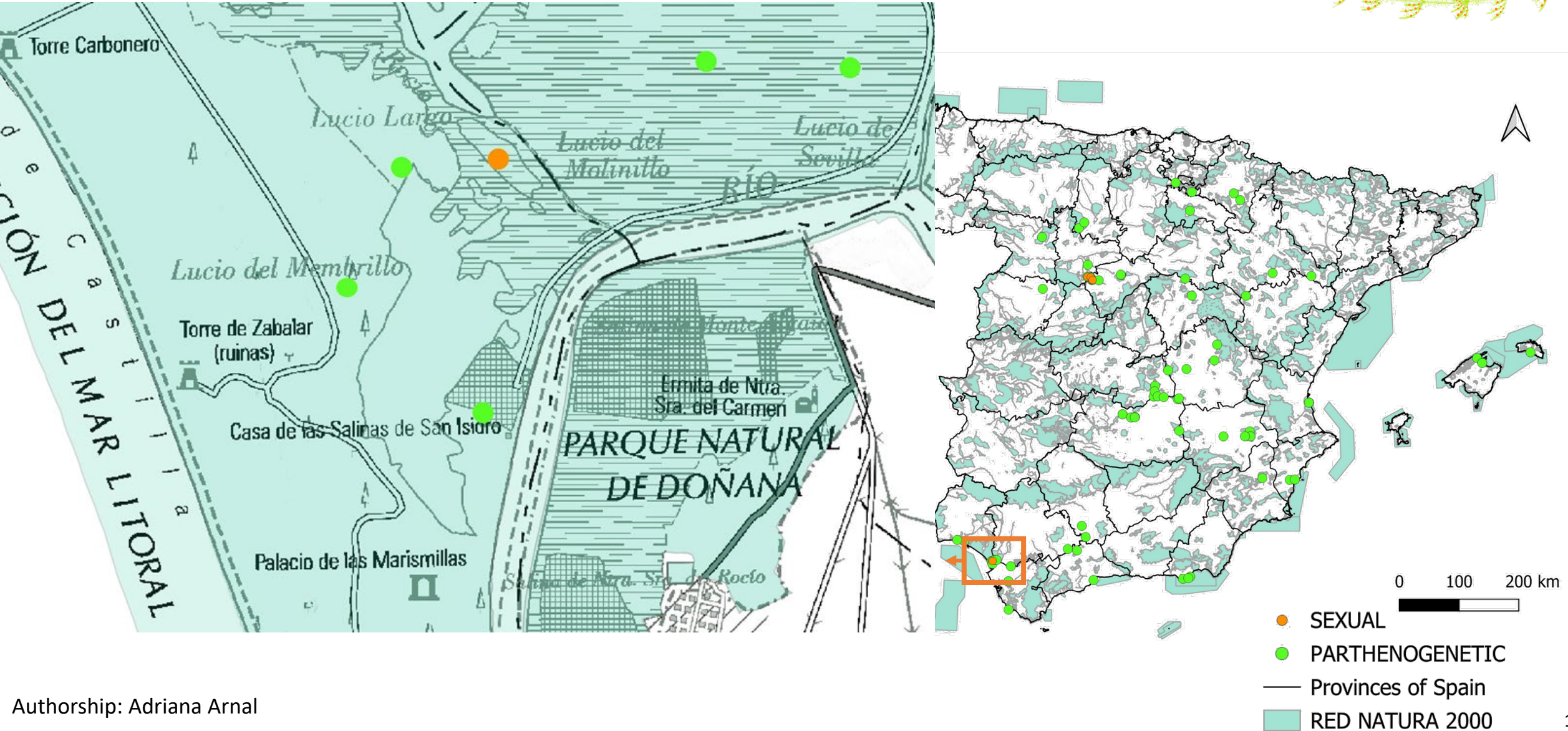
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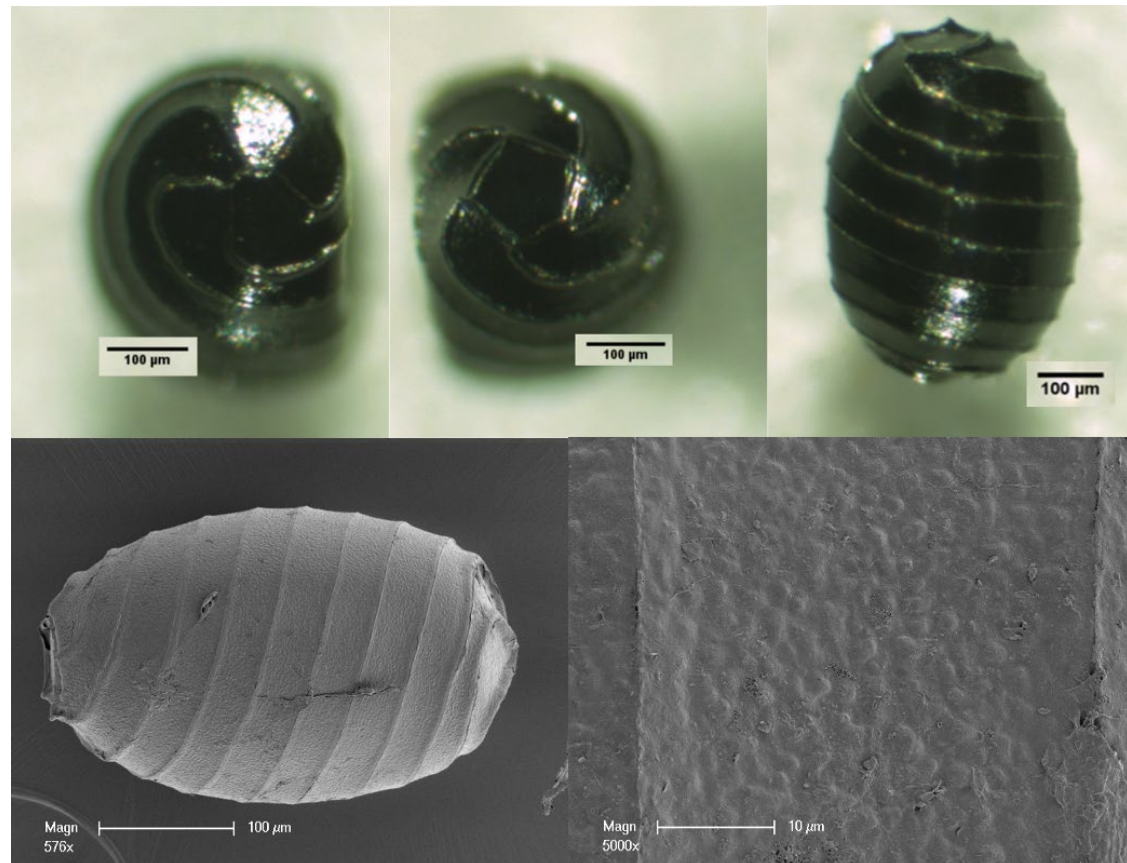
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WP 3: DIASPORE ASSESSEMENT

OOSPORE AND VITALITY ANALYSIS

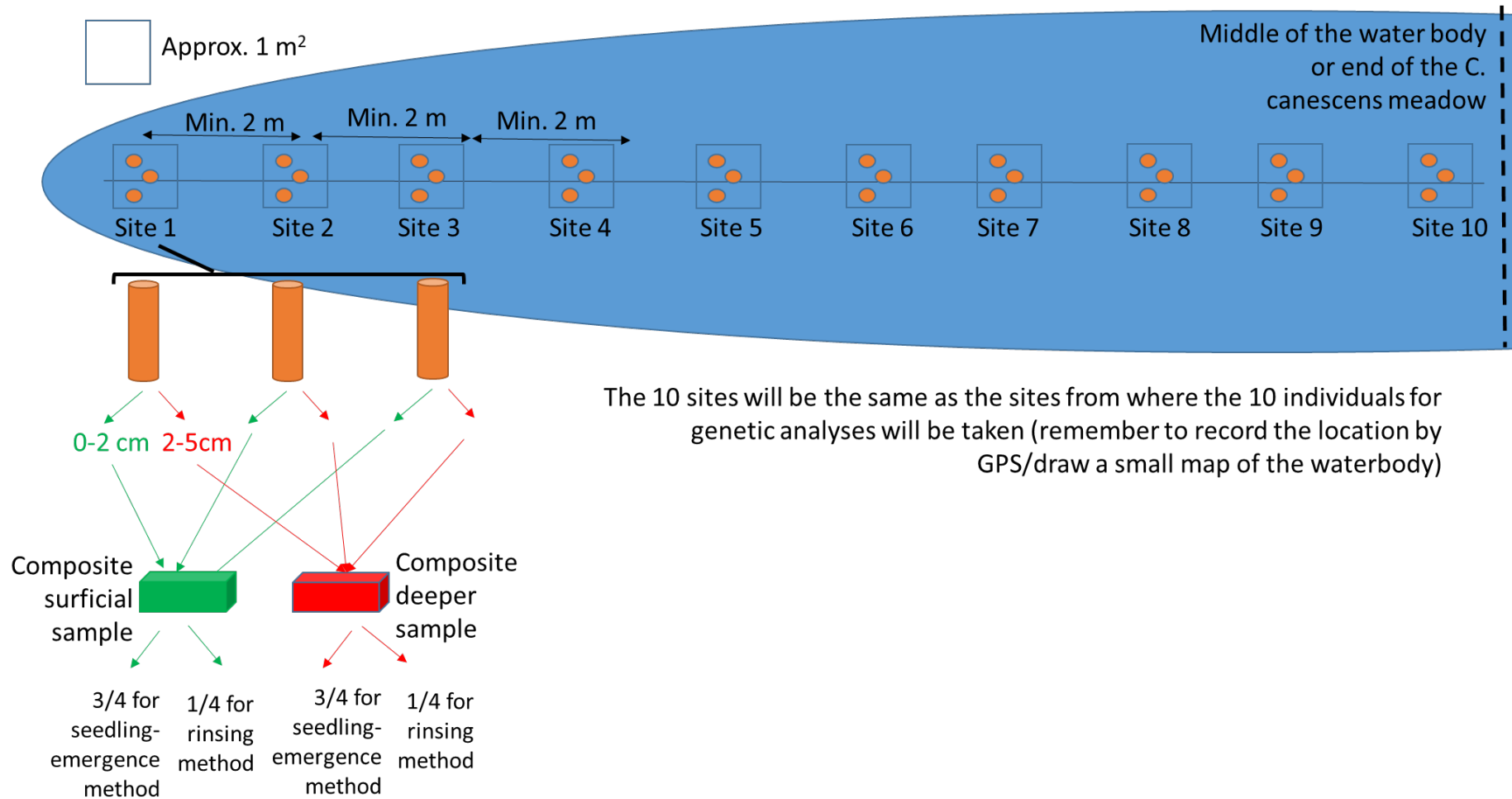
Oospores=
"seeds" of
charophytes



Authorship: upper row - Anja Holzhausen; lower row – Michelle Casanova.

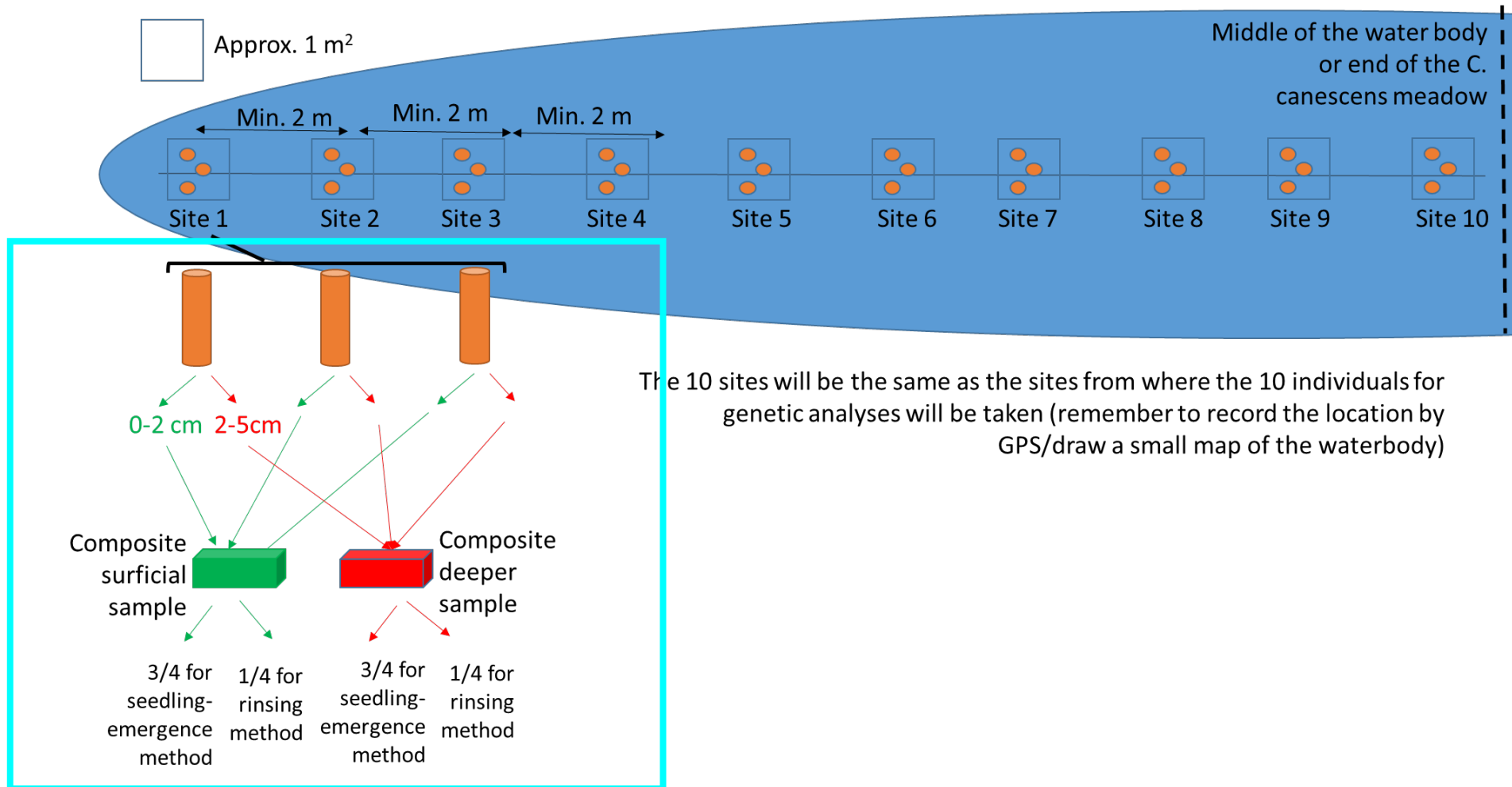
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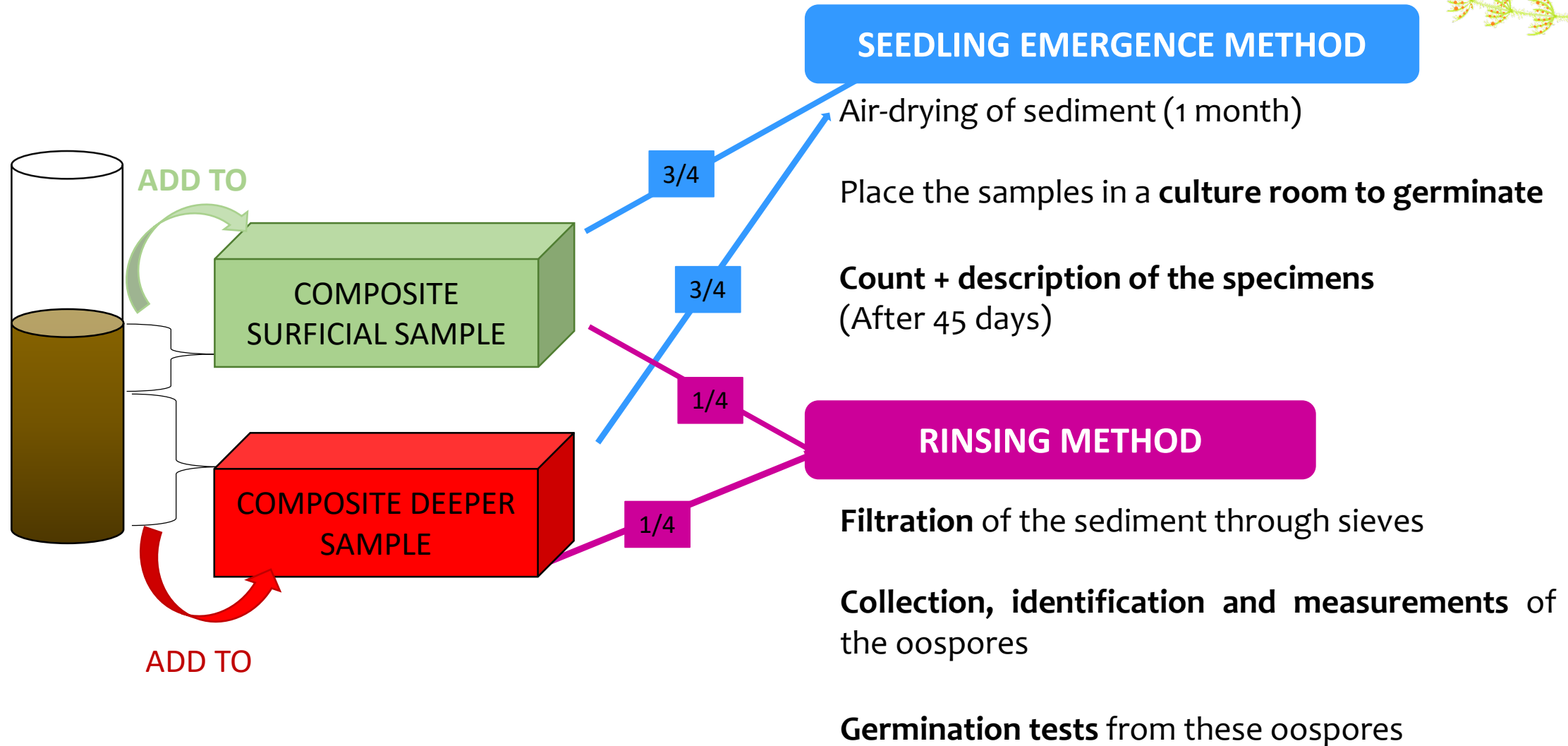
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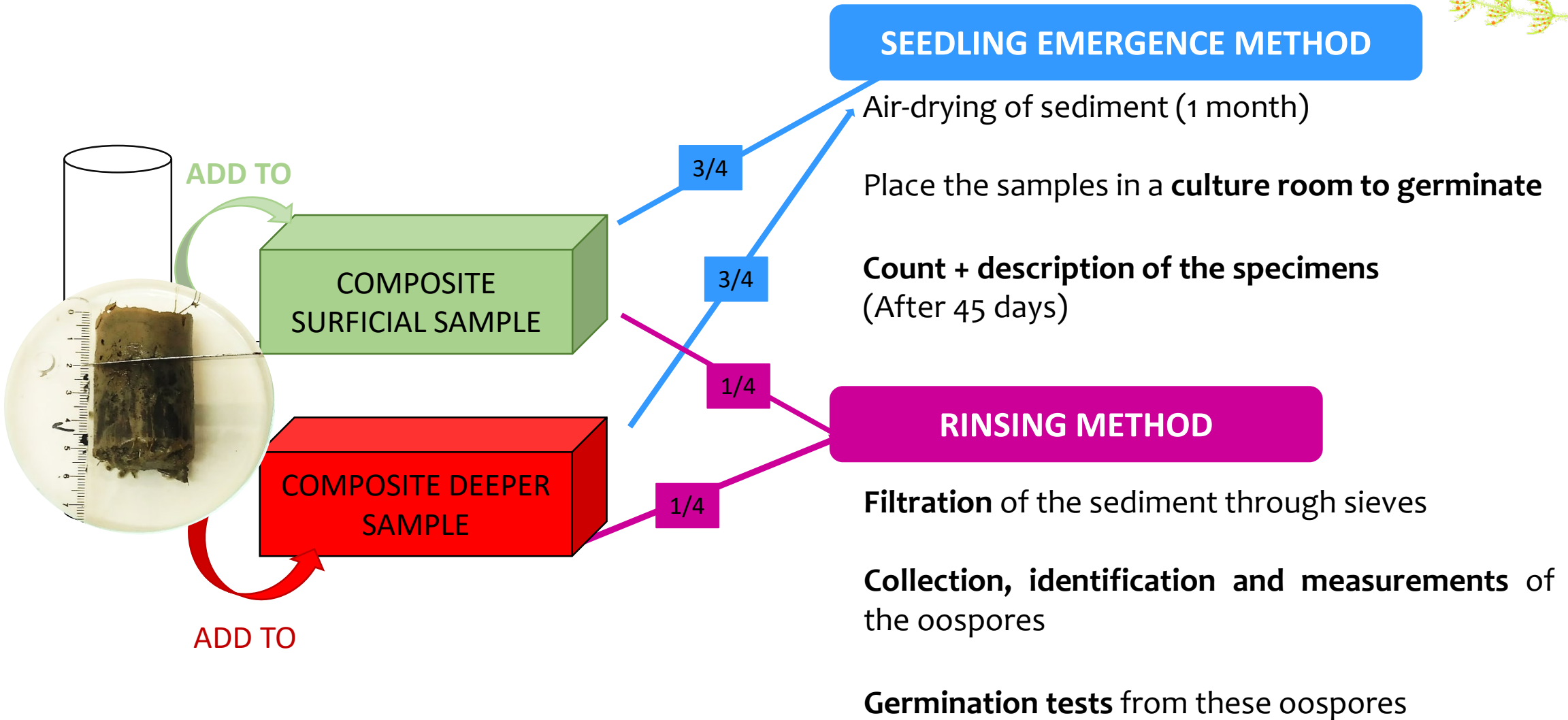
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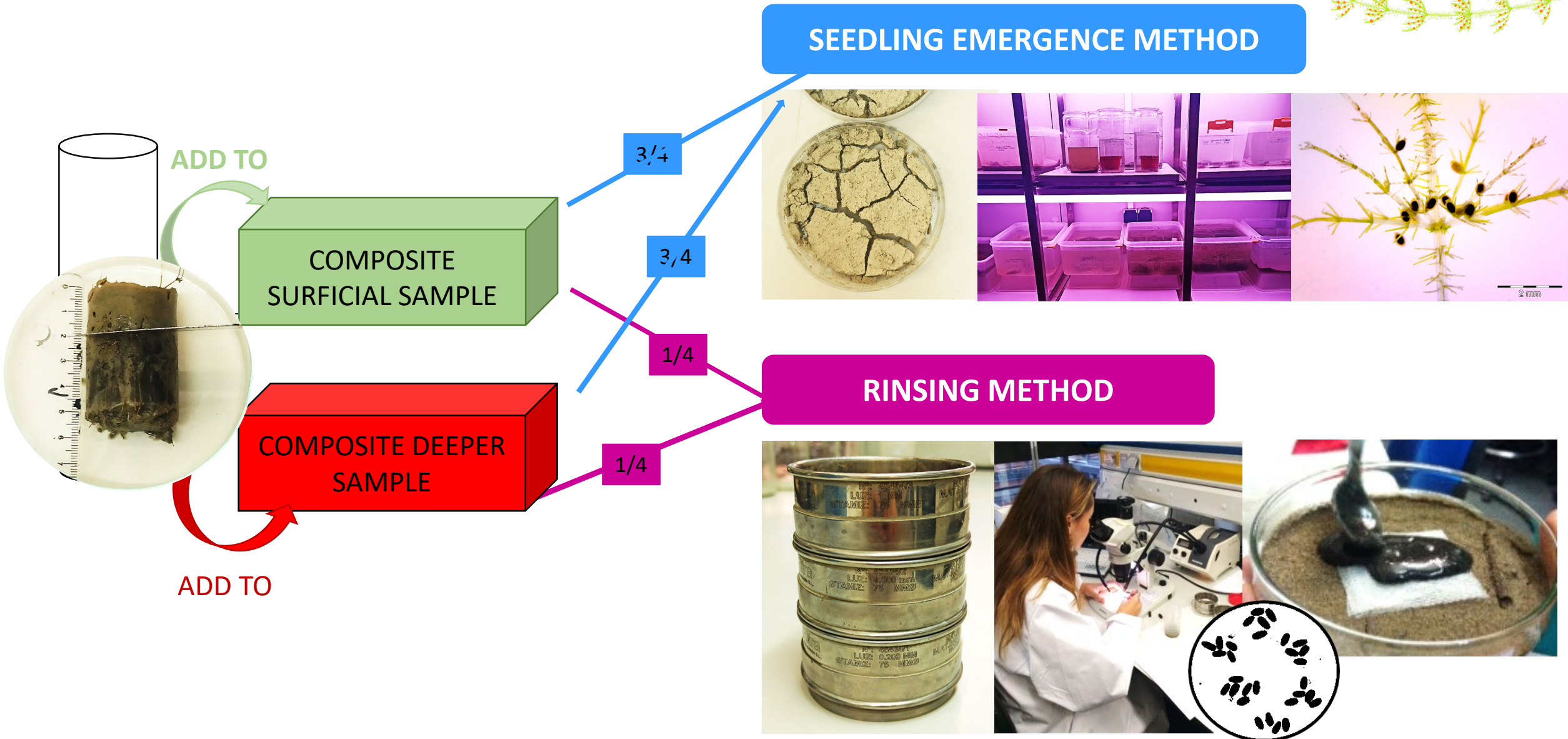
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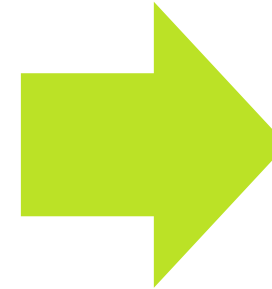
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All of these analysis will provide us data of:

SEEDLING EMERGENCE METHOD:

- Number of specimens grown from viable oospores present on sediment
- Information about this specimens (sex, presence or absence of oospores, in which node...)
- Information about the optimal conditions to germinate



**Knowledge to
develop
protection
schemes**

RINSING METHOD

- Number of viable oospores / g
- Number of total oospores / g
- % viable/total
- Size of the oospores (length, width...) and other features
- Vitality of these oospores

**Are the asexually
produced
oospores
different to the
sexual ones?**





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THANK YOU
FOR YOUR
ATTENTION!

Shield cells
of an opened
antheridium
Authorship:
Adriana Arnal



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de Biodiversitat i Biologia Evolutiva



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