



University of Belgrade
Institute of Chemistry, Technology and Metallurgy
National Institute of the Republic of Serbia



INRAE



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Acronym: BIOLAWEB Boosting Institute of
Chemistry, Technology and Metallurgy
in Water Biomonitoring

Grant No: 101079234

Type of action: HORIZON Coordination and
Support Actions (HORIZON - CSA)

Duration: 36 months



eDNA Workshop

*Sampling of eDNA of aquatic macrophytes (Charophytes)
Belgrade, October 2023*

BIOLAWEB
presentation



Funded by
the European Union

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eDNA samples parallel to traditional macrophytes sampling,

Advantages

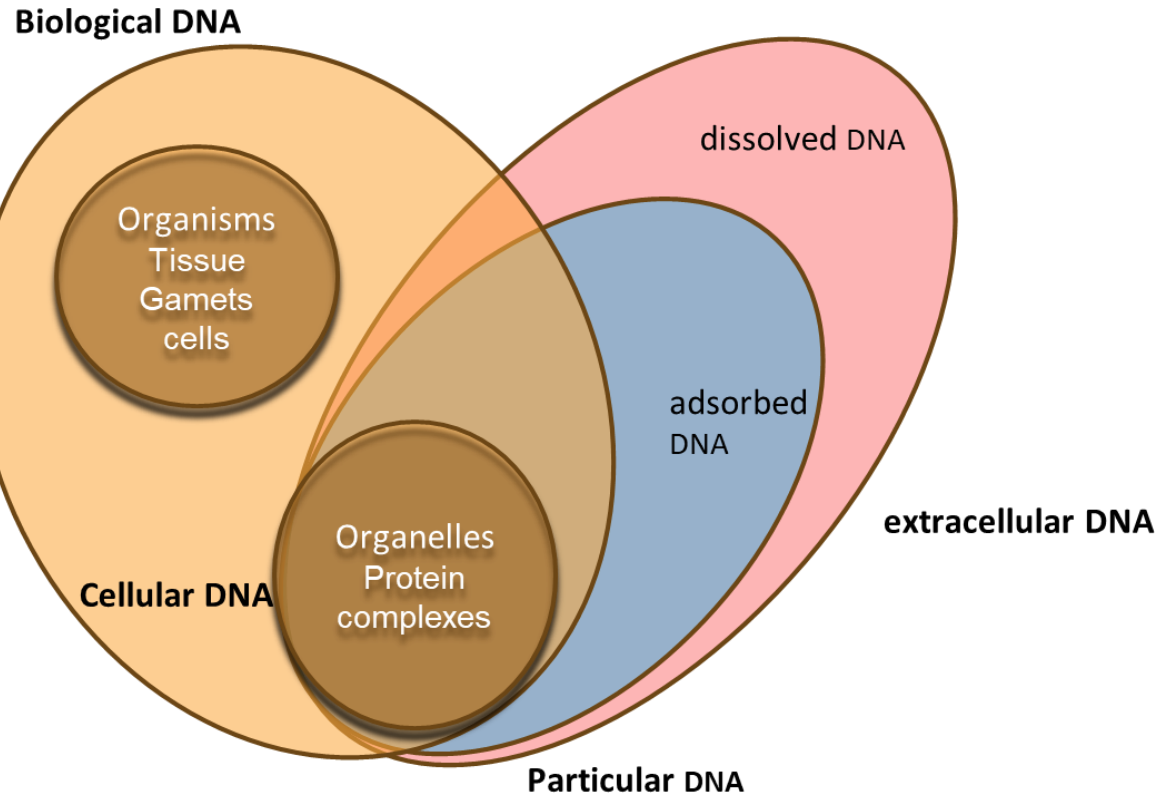
- Identification of a higher taxa number, compared to LM
- Detection of rare species (invasive species, rare species)
- Potentially cheaper than traditional methods



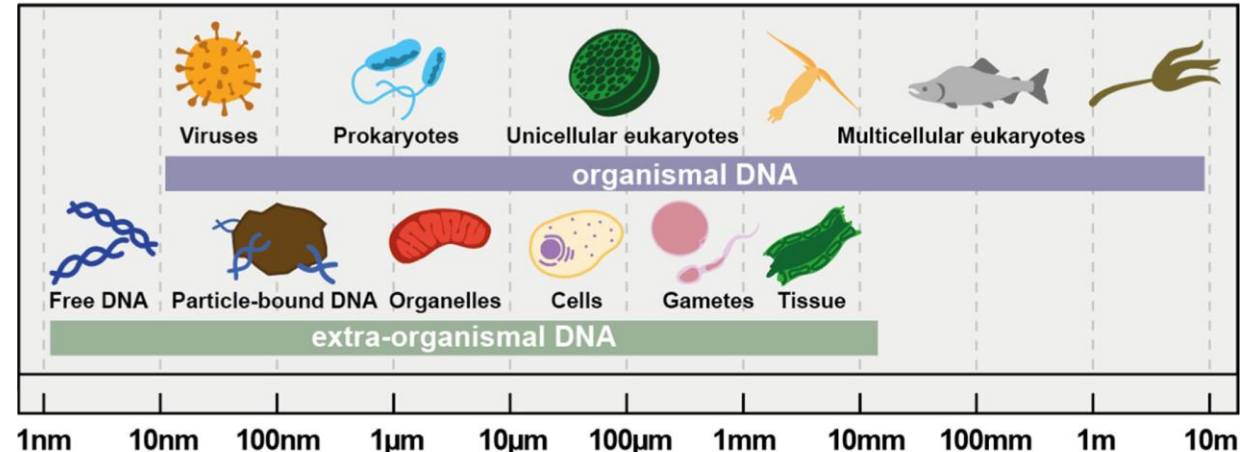
Sampling of environmental DNA = eDNA

Environmental DNA = eDNA

- In a broader view all DNA in a sample
- In a strict view extracellular DNA only



(a)

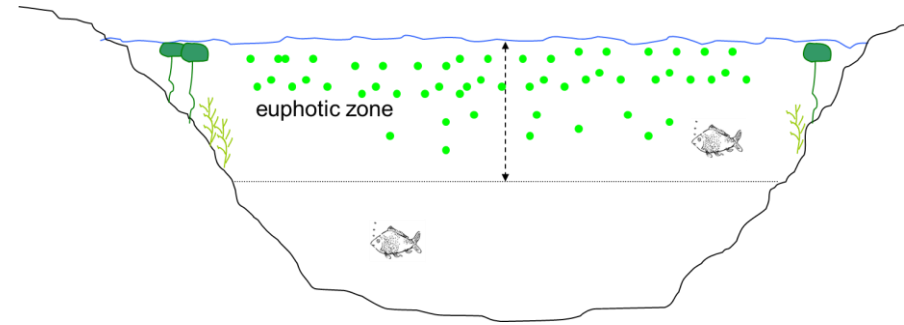


(b)

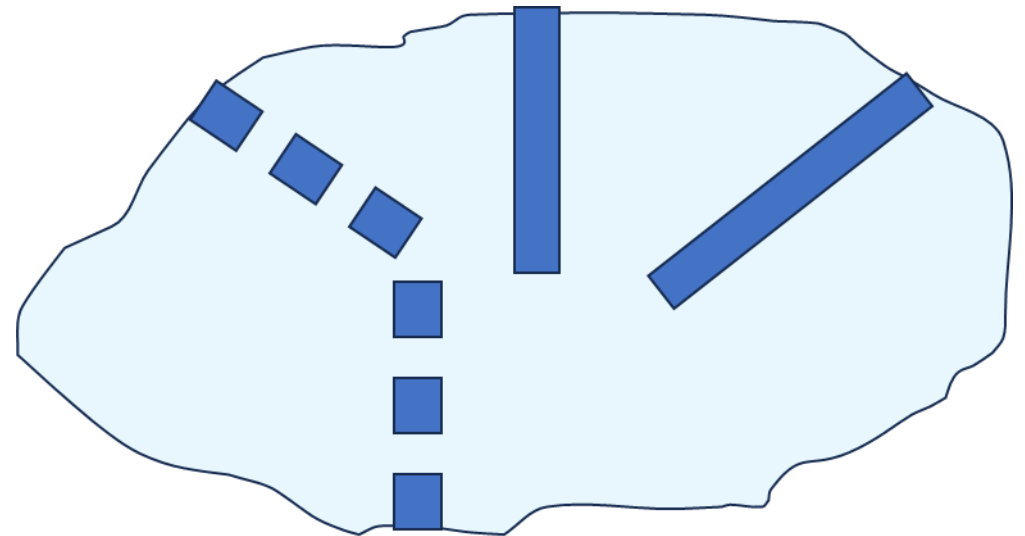
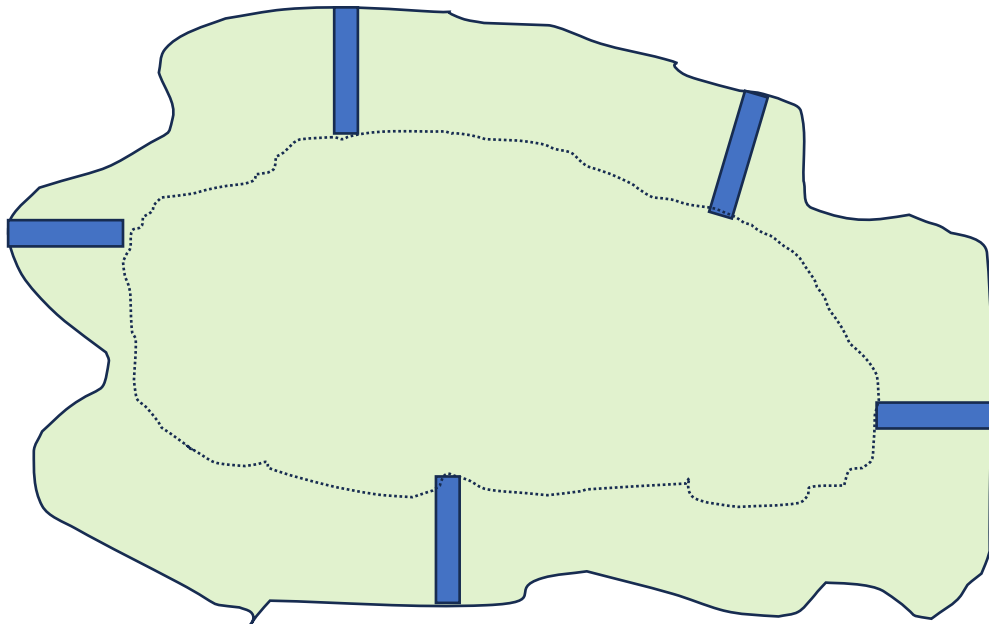
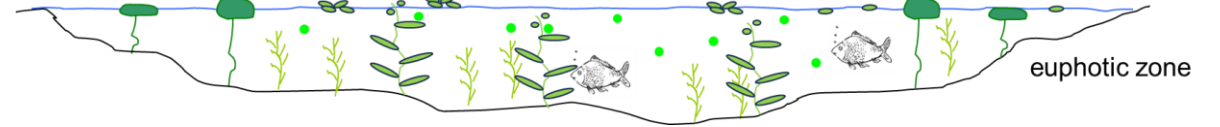


Sampling of eDNA of aquatic macrophytes

deep lakes



shallow lakes



Sampling of eDNA of aquatic macrophytes

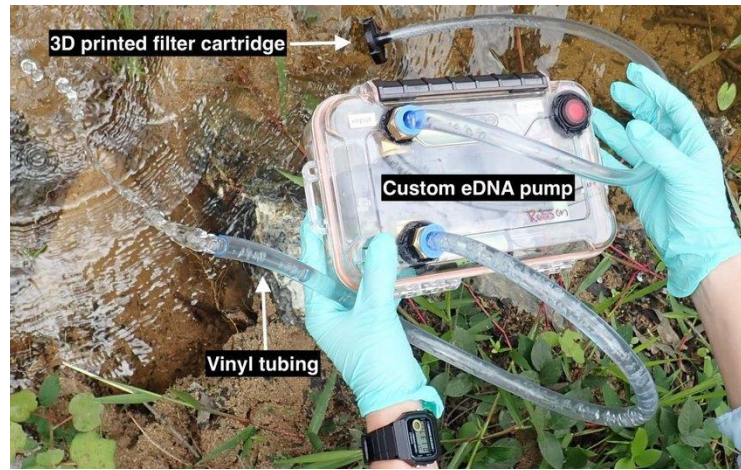


A sterile method to take a water sample!

1.



2.



Sampling of eDNA of aquatic macrophytes

3.





Important: sterilizing equipment for taking eDNA samples

Materials needed:

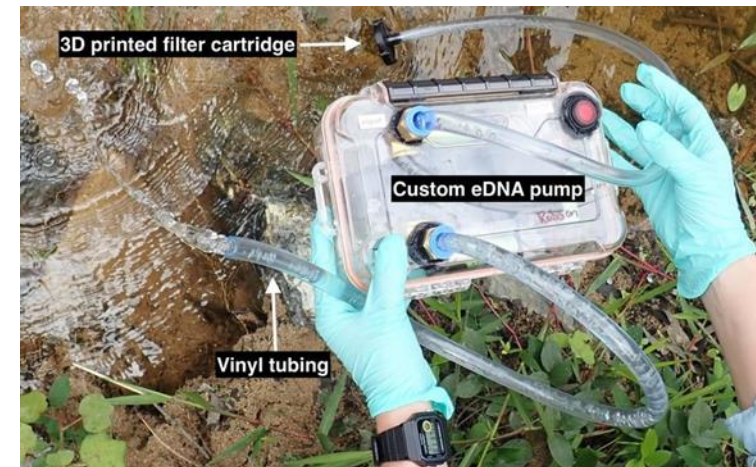
- Tap water
- 20% household bleach solution (mixed with tap water)
- Deionized water in wash bottle
- 70% ETOH in wash bottle

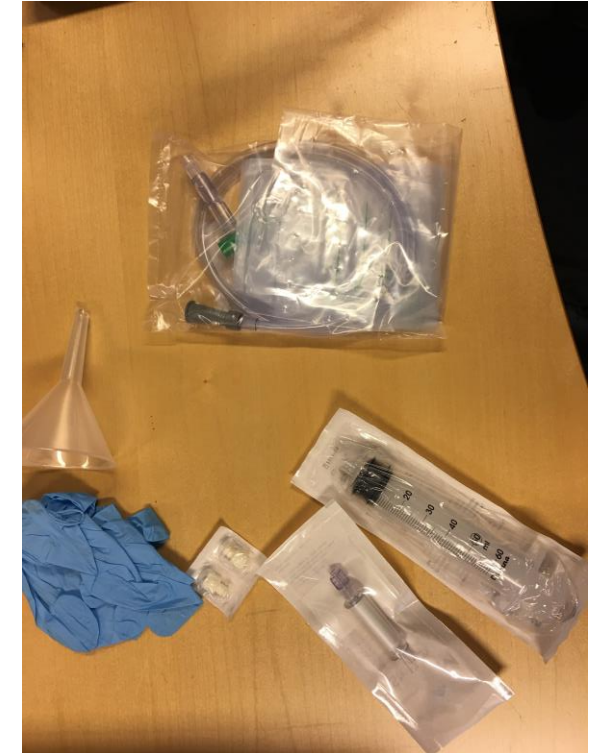




To avoid loss of DNA:
filtering on the spot

No transport between sites
No storage of water sample





Sterivex filter: 0.22 μm pore size, polyethersulfone membrane



30 minutes







Advantages:
- filtering of a bigger volume
- less exhausting



Advantage:
- cheaper





note down the filtered water volume !!!!

Remove the water



Add buffer



Storage until further treatment at -20 - -80°C



Storage until further treatment at room temperature or fridge

Thank you very much for your attention



Acknowledgement



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Thank you for your attention!

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