

ENVIRONMENTAL DNA (eDNA)

– A NEW SUPPORTING MOLECULAR-BIOLOGICAL APPROACH
FOR BIODIVERSITY MONITORING

ENVIRONMENT AGENCY AUSTRIA - PROJECT ON - eDNA

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Astatic Water body
type – „Sutten“
(puddles)



Result

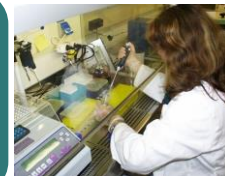
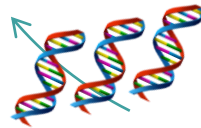
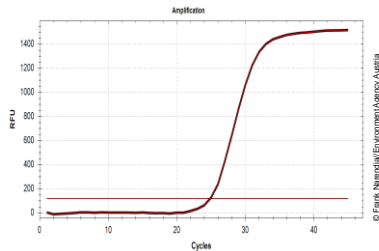
Laboratory processes established for:

- On Site water sampling - water body type „Sutten“ (shallow, stagnant and turbid water)
- Extraction of DNA
- Detection of the rare and very hidden living fish Weather loach (*Misgurnus Fossilis*)

eDNA-Sampling

DNA Analysis

DNA Extraction



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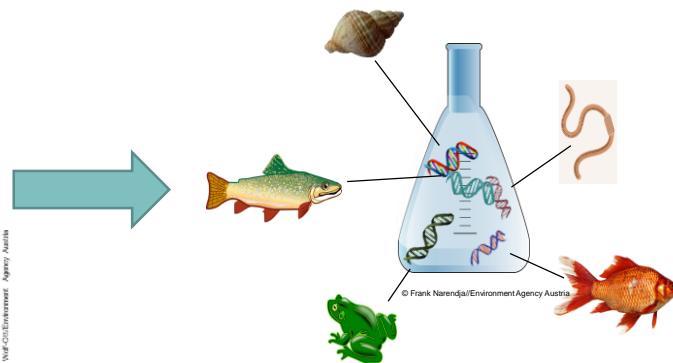
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Advantages compared to traditional morphotaxonomy-based methods

- Very sensitive (detection of low abundant species)
- Efficient (all taxa in one sample) – „Metabarcoding“
- Non invasive
- Fast (time saving) – expanding areal coverage
- Lower costs

Further developments:

- Potential to complement the „classical“ field work (Water Framework Directive)
- (Quality-) Standardisation in progress (CEN)
- Detection, Sampling & Cost optimization (Simplification/Efficiency of Sampling Equipment, PCRs, Primer Design,...)
- Further research ongoing (e.g. eRNA, Abundance,...)



CONTACT & INFORMATION

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SEIS and the environmental dimension of the SDGs –
Webinar No. 5 “Informing biodiversity restoration policies”

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