Diversity of endophytic nitrogen-fixing bacteria in the roots of *Posidonia oceanica*: Implications for restoration.

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Introduction

- The effect of transplantation on the composition of seagrass' roots endophytes could hold significance in terms of plant health status and its recovery following disturbances.

- The ability of the transplants to effectively acquire N may be a significant factor contributing to the success of transplantation.

> Recovery of endophytes nitrogen-fixing bacteria in *P. oceanica* transplants before and one year after disturbance by transplantation ?
>
> Presence of nitrogen-fixation and integration in plants' tissues ?
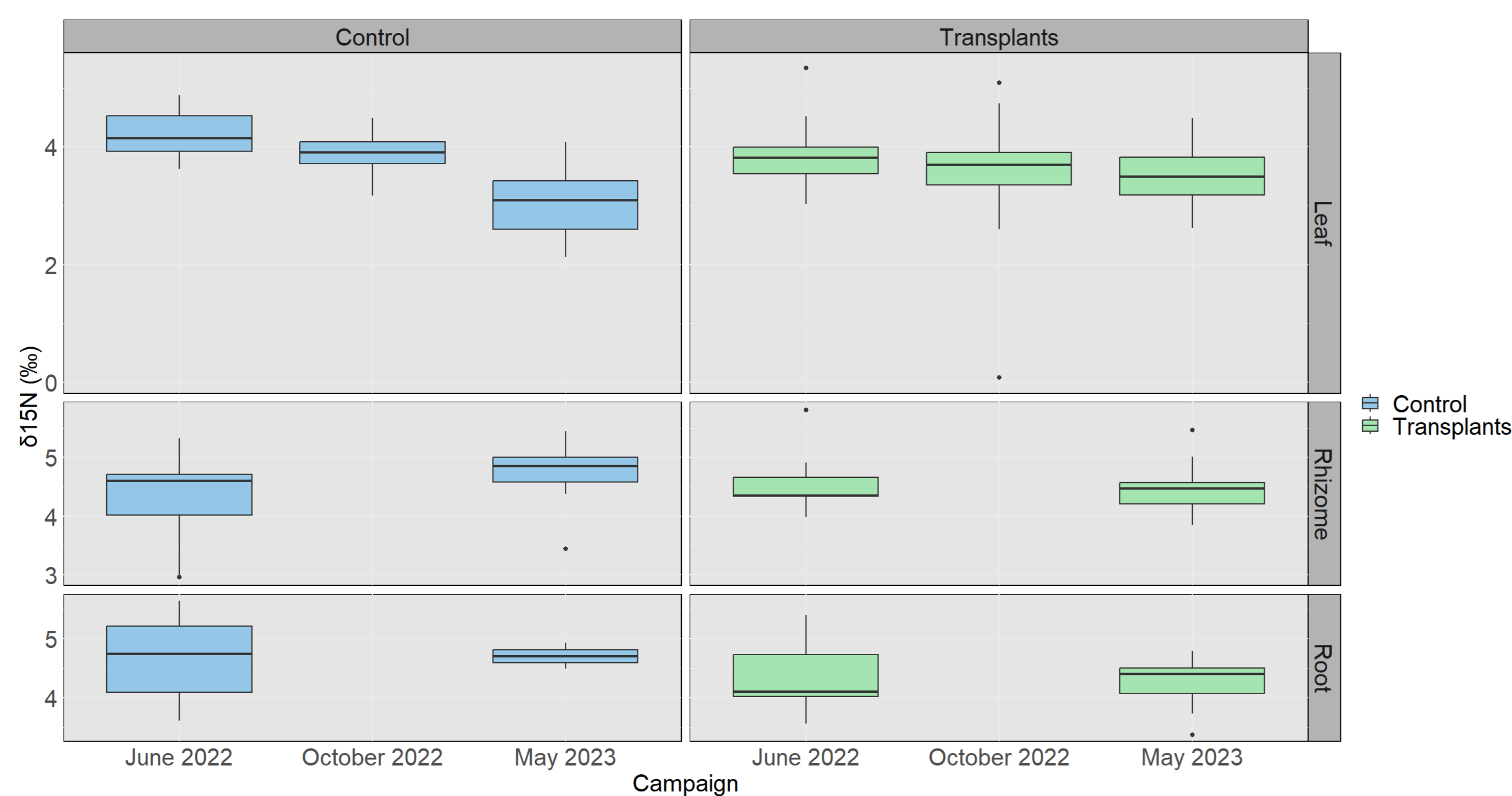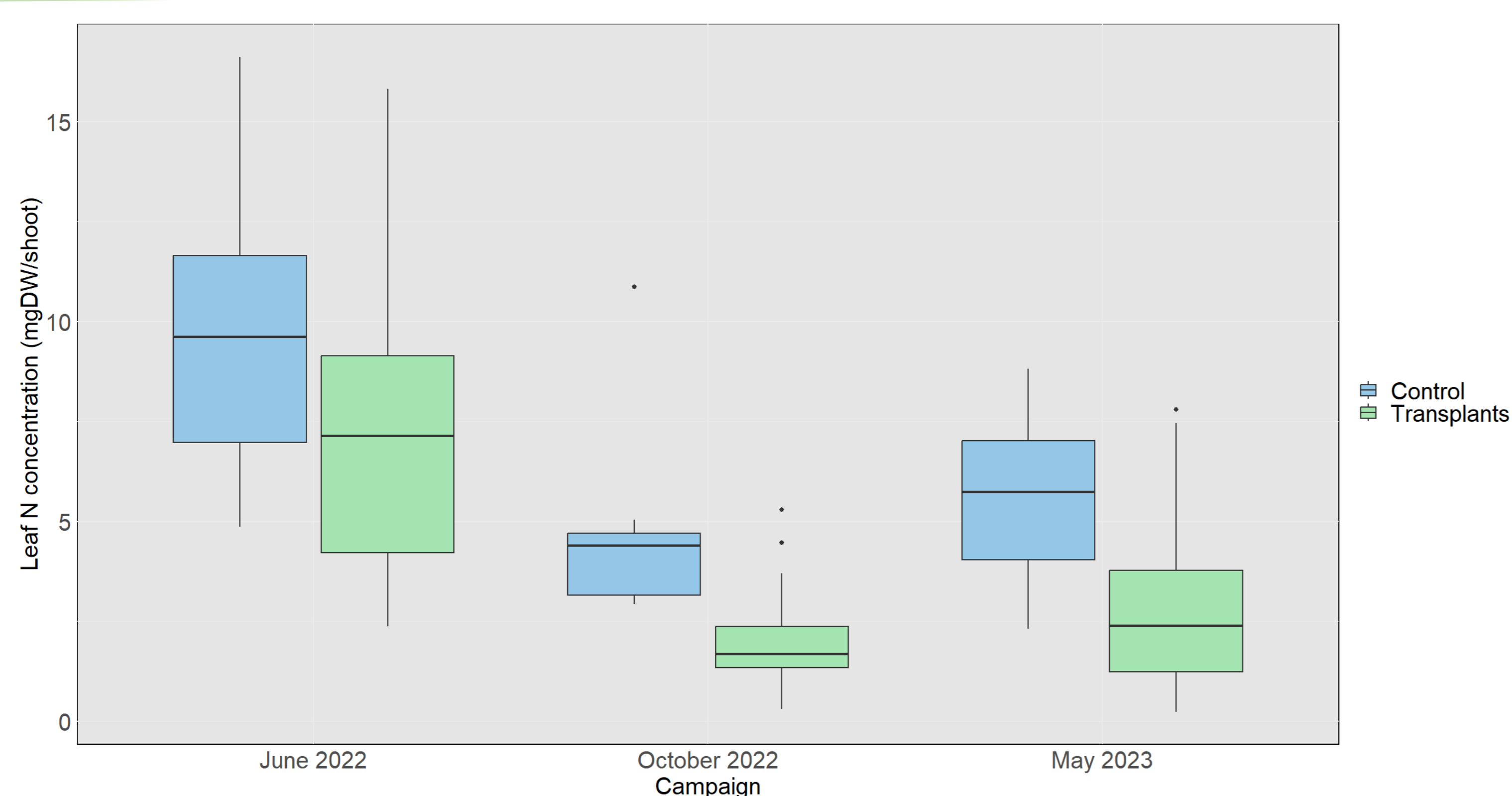
Material & Methods

- Transplantation in Calvi Bay (Corsica) in June 2022. Monitoring transplants survival, biometry and biomass.

- Elemental nitrogen content and stable isotopic ratio (δ15N) in *P. oceanica* tissues.

- DNA extraction in sterilized *P. oceanica* roots' tissues and **nested PCR** for *nif*H gene amplification.
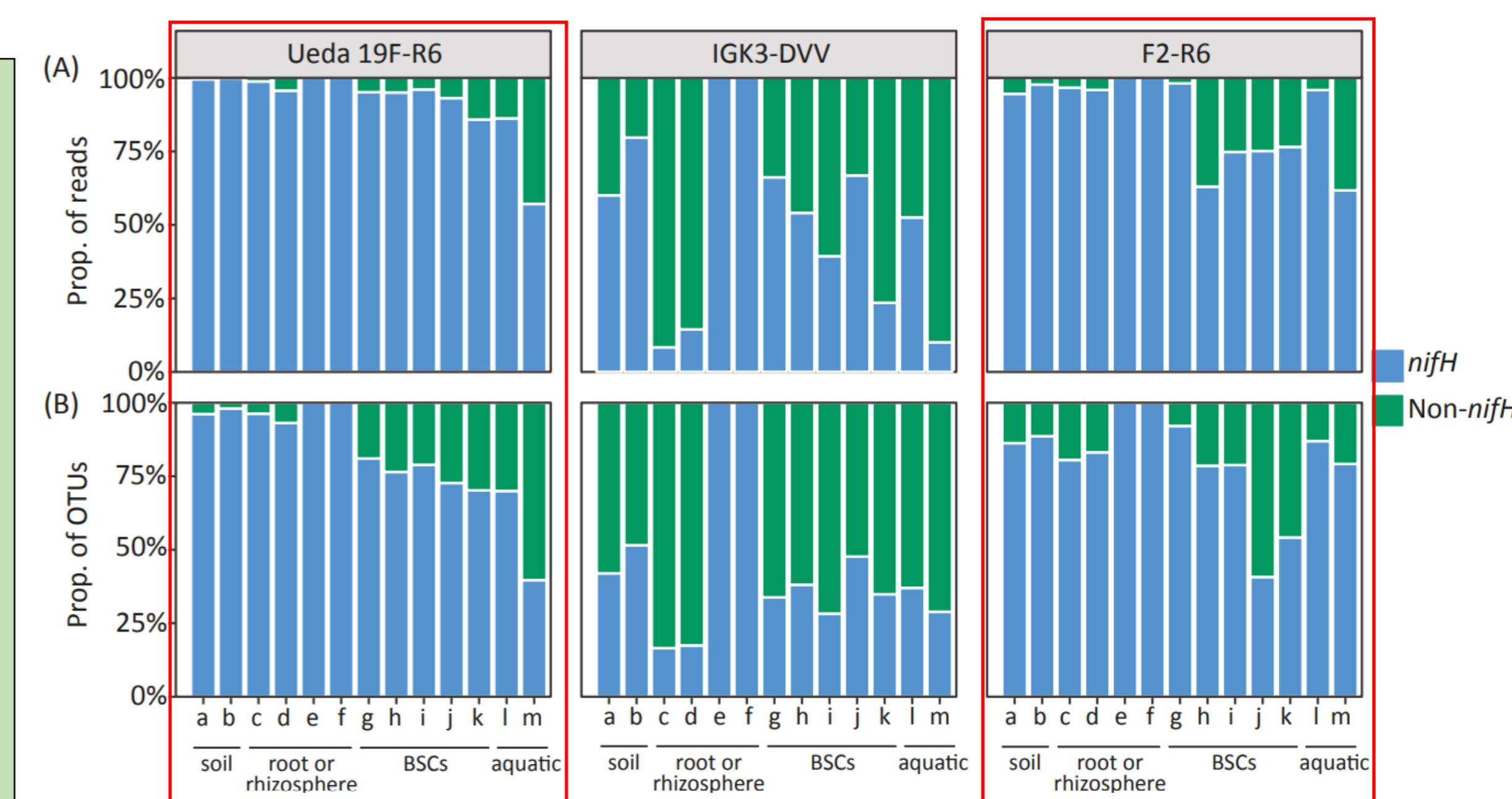
Primers selection

(Angel et al., 2018)

Ueda19F: 5'- GCIWTYTAYGGIAARGGIGG -3'
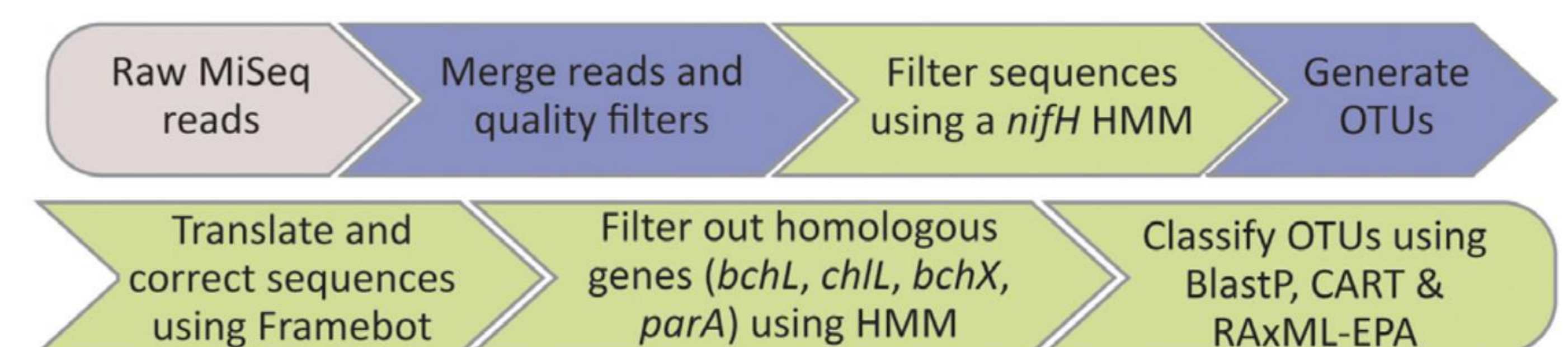R6 : 5'- GCCATCATYTCICCIGA -3'
F2 : 5'- TGYGAYCCI AAIGCIGA -3'
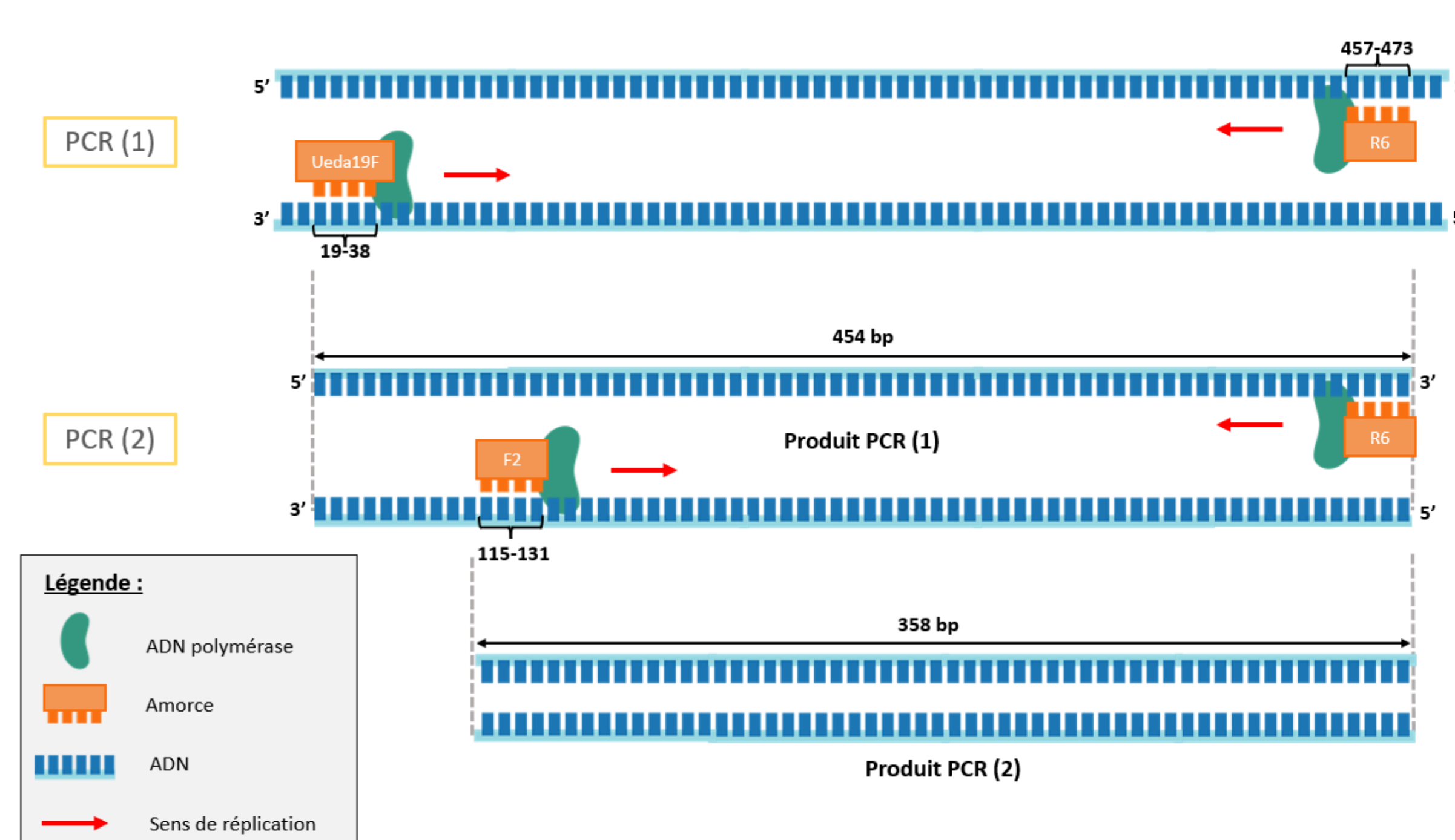
Amplification by nested PCR

Results & Discussion

What's next ?

Bioninformatics part : Analyze *nifH* sequencing (NGS) data

Example from Angel et al. (2018) : Steps shaded in blue represent standard processing steps, while steps shaded in green represent steps specific for processing nifH sequence.

Acknowledgements

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