

# Selection and isolation of Sicilian microalgal species for industrial applications and cultivation in pilot plant

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## Introduction

Sicily, in the heart of Mediterranean Sea, is a favorable location for outdoor cultivation of microalgae for industrial usage. We exploited the biodiversity of the Mediterranean Sea to select several strains of microalgae suitable for their cultivation in pilot plants. We also built a pilot plant in PMMA tubes at the University of Palermo.

## Procedures

### I. Sampling



in several location in Sicilian coastline

### II. Isolation



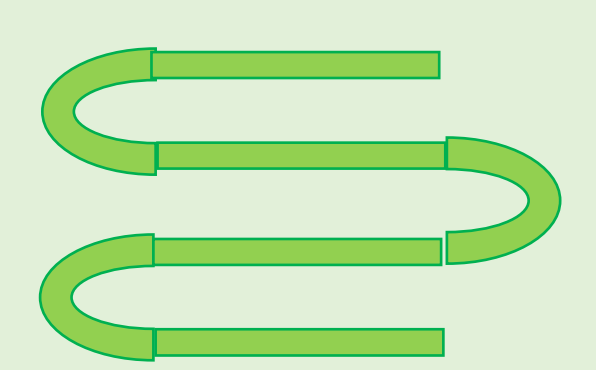
of single strain to create monoalgal culture

### III. Cultivation in lab-scale



to investigate productivity and biochemical content of the strains identified

### IV. Cultivation in pilot plant

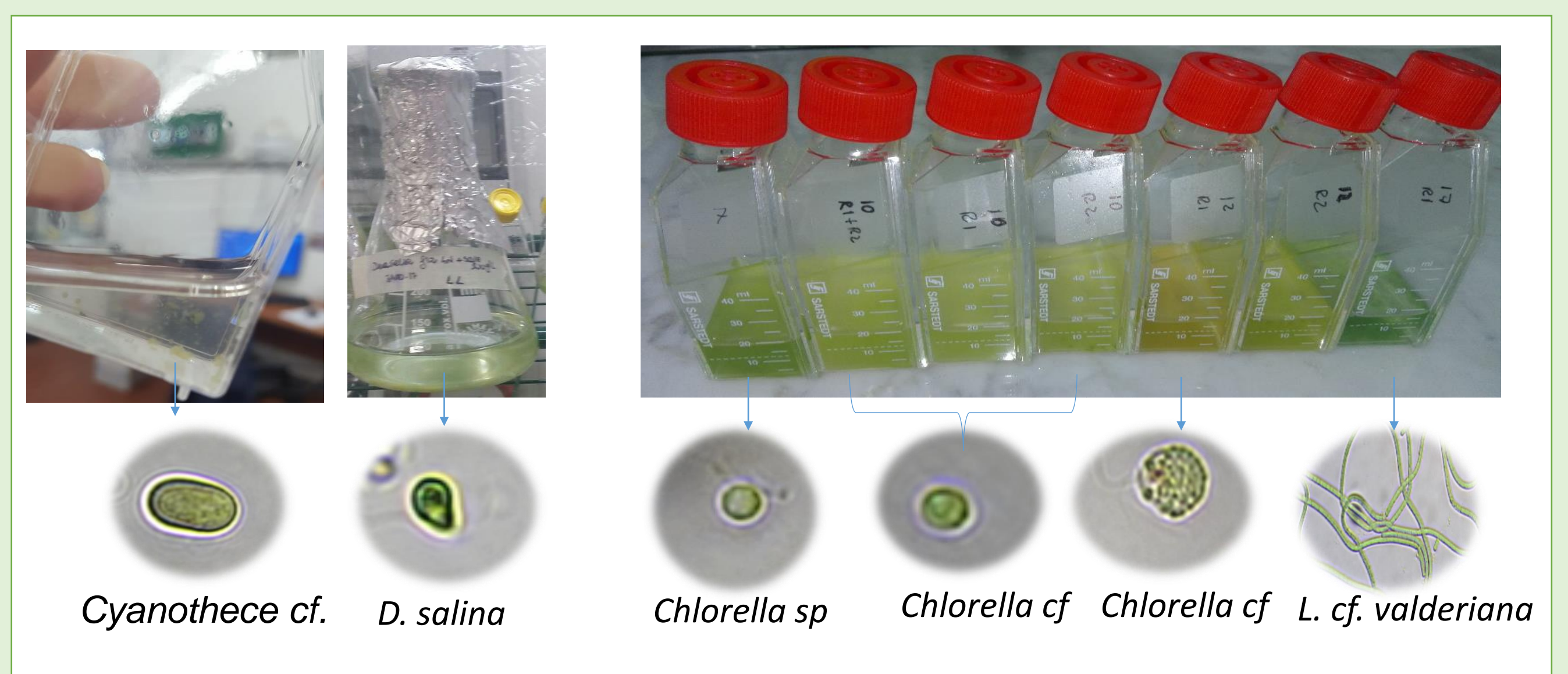


of the most promising strains

## Results



I. Sampling was done in different Sicilian costal areas



II. Monoalgal species were isolated with different approaches



III. The most promising strains were selected via cultivation in lab-scale



IV. A pilot plant with PMMA tubes was built at UNIPA and autochthonous strains will be cultivated in it

## Conclusions

- The autochthonous microalgae are promising for biomass production in local industry because they are already well adapted to that environment.
- Isolation of local species and optimization of pilot plant are key points to provide the needed know-how for the expansion of the microalgal industry in Sicily.