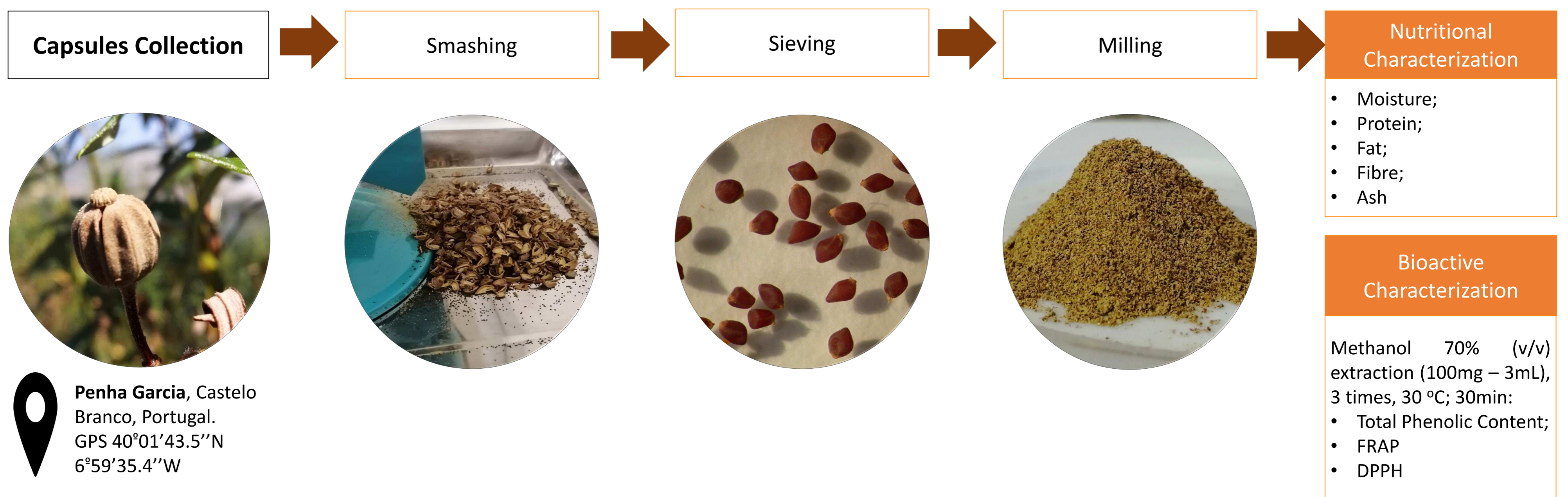




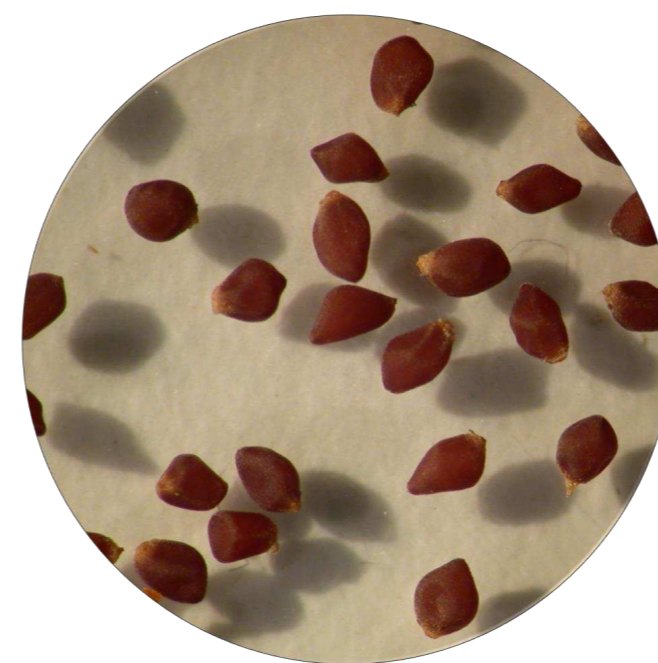
## Introduction

The rockrose *Cistus ladanifer* L. is a vast and underexploited resource mainly throughout the Iberian Peninsula. In addition to biomass, labdanum resin and essential-oil, this plant produces capsulated seeds, after flowering, in late spring till summer. Ethnobotanical studies and surveys report the use of such seeds eaten whole or grounded into flour for bakery. During the summer of 2019, capsules were harvested from a 5-year-old *Cistus ladanifer* subsp. *ladanifer* shrubland divided in experimental fields. After harvesting, seeds were removed from the capsules and grounded into flour and a nutritional and bioactive characterization were performed.

## Materials and Methods



**Penha Garcia**, Castelo Branco, Portugal.  
GPS 40°01'43.5"N  
6°59'35.4"W



## Results and Discussion

Table 1. Nutritional composition of *C. ladanifer* seeds

Nutritional Parameter	Mean ± Standard Deviation
Moisture (%)	5.56 ± 0.27
Protein (% d.w.)	16.20 ± 0.43
Fat (% d.w.)	13.92 ± 0.31
Fibre(% d.w.)	20.16 ± 1.46
Ash (% d.w.)	3.77 ± 0.05
Carbohydrate (% d.w., calculated)	45.95 ± 1.93
Energetic Value (kcal/100g f.w., calculated)	391.21 ± 3.06

### Regulation (CE) Nº 1924/2006 Claims

- High source of Fibre;
- Source of Protein

Table 2. Bioactive potential characterization of *C. ladanifer* seeds

Bioactive Parameters	Mean ± Standard Deviation
Extract yield (%dw/fw)	19.03 ± 2.91
Total phenolic content (mg GAE/mg dry extract)	0.06 ± 0,01
Ferric Reducing Antioxidant Power, FRAP (mg trolox equivalents/mg dry extract)	0.20 ± 0,06
DPPH•+ scavenging activity, DPPH (mg trolox equivalents/mg dry extract)	0.13 ± 0.04

- Presence of phenolic compounds;
- Potential antioxidant activity

Potential Additional Health Promoting Activity

## Conclusion

Overall, the seeds from *C. ladanifer* presented an equilibrated composition in what regards macronutrients, showing itself as a sustainable source of protein and fibre. In addition, the presence of phenolic compounds and antioxidant activity of their hydro-methanolic extract show the potential health promoting activity, as widely addressed for several nuts and seeds. These preliminary results together with the knowledge of the ancient edible use, justifies future efforts to study this potential resilient food resource.

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