Evaluation of the biological activities of natural extract from some species of Portulaca grown in Tunisia

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Context
Purslane is a cosmopolitan herb. It belongs to the family of Portulacaceae. This plant grows mainly in North Africa, Middle East, South Asia Europe, America and Australia. It is used as vegetable or spice, raw or cooked. It has various medicinal uses and it is employed mainly as natural remedies for headache, bowel diseases, cardiovascular diseases (Uddin M. K. et al., 2014) and burn treatment. To determinate the best biological activity, various parameters were compared between different Tunisian provenances.

Objective
Purslane is known for her gastronomic and medicinal excellences effects. It is considered a miraculous plant with healing properties (Hwess.H et al., 2017). It is very used in traditional medicine, but not well exploited in the pharmaceutical industry. In order to raise awareness also on this wild plant, we have decided to compare many provenances of purslane, using maceration extraction.
**Results**

Phytochemical analysis revealed that this plant has a wide range of phyto contents including flavonoids, polyphenols, and proteins. Evaluation of phytochemical and biological activities showed that:

1. Total polyphenol content differs from one provenance to another
2. Total flavonoids content differs from one source to another
3. It was also reported that the flavonoids and polyphenols vary in different aerial parts of the plant (stem and leaves)
4. The plant has many pharmacological activities including antioxidant activity

**Recommendations**

This plant is highly consumed as natural remedies especially among elder people and for veterinary care activities. This plant is over-harvested in Tunisian forest areas which leads to the destruction of an important source of bioactive molecules with various uses and benefits for human consumption.

**Impacts and weaknesses**

The water content of *Portulaca oleracea* is 90%. A very important quantity can be dried to get the needed quantity of dry matter.

**Future developments**

Roots Portulaca valorization is very interesting because there are studies which have shown their role in phytoremediation (Yadegari, M. 2018).
Further information


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About INCREDIBLE Project

INCREDIBLE project aims to show how Non-Wood Forest Products (NWFP) can play an important role in supporting sustainable forest management and rural development, by creating networks to share and exchange knowledge and expertise. "Innovation Networks of Cork, Resins and Edibles in the Mediterranean basin" (INCREDIBLE) promotes cross-sectoral collaboration and innovation to highlight the value and potential of NWFPs in the region.

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