



21-22 November 2024

Purslane (*Portulaca oleracea*)-nutritional value and food uses

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Abstract: Throughout history, humanity has used approximately 7000 plant species for food, fodder, medicine, clothing, and shelter, but only about 200 species are used today. *Portulaca oleracea* is one of the most common eight plants worldwide and can thrive in various environments, including flower beds, cornfields, and waste areas. It is mainly used in green salads and vegetable juices. It can be used to treat burns, headaches and diseases associated with the intestine, liver, stomach, cough, breathing difficulties and arthritis. It has important applications in herbal medicine as a laxative, cardiac stimulant, muscle relaxant, and anti-inflammatory and diuretic treatment. Purslane is recognized as a valuable source of nutraceutical compounds such as omega-3 fatty acids, vitamins A and E, essential amino acids, and polyphenols, all of which have a positive impact on human health and nutrition.

Keywords: purslane (*Portulaca oleracea*), portulaca oleracea, chemical compounds, food

• Introduction

Portulaca oleracea L., commonly known as purslane, is an annual, succulent herb from the *Portulacaceae* family, widespread across the globe, especially in temperate and tropical regions, including Europe, Africa, North America, Australia, and Asia, with the highest prevalence in India and the Mediterranean basin. *Portulaca oleracea* is one of the most common eight plants worldwide and can thrive in various environments, including flower beds, cornfields, and waste areas. It is mainly used in green salads and vegetable juices [4-7]

Purslane is an essential element in human nutrition, improving blood circulation and stimulating the cellular repair process, which can reduce the appearance of scars and wrinkles. Furthermore, this plant is studied pharmacologically for its antifungal, anti-inflammatory, antioxidant, antimicrobial, and wound-healing properties [4].



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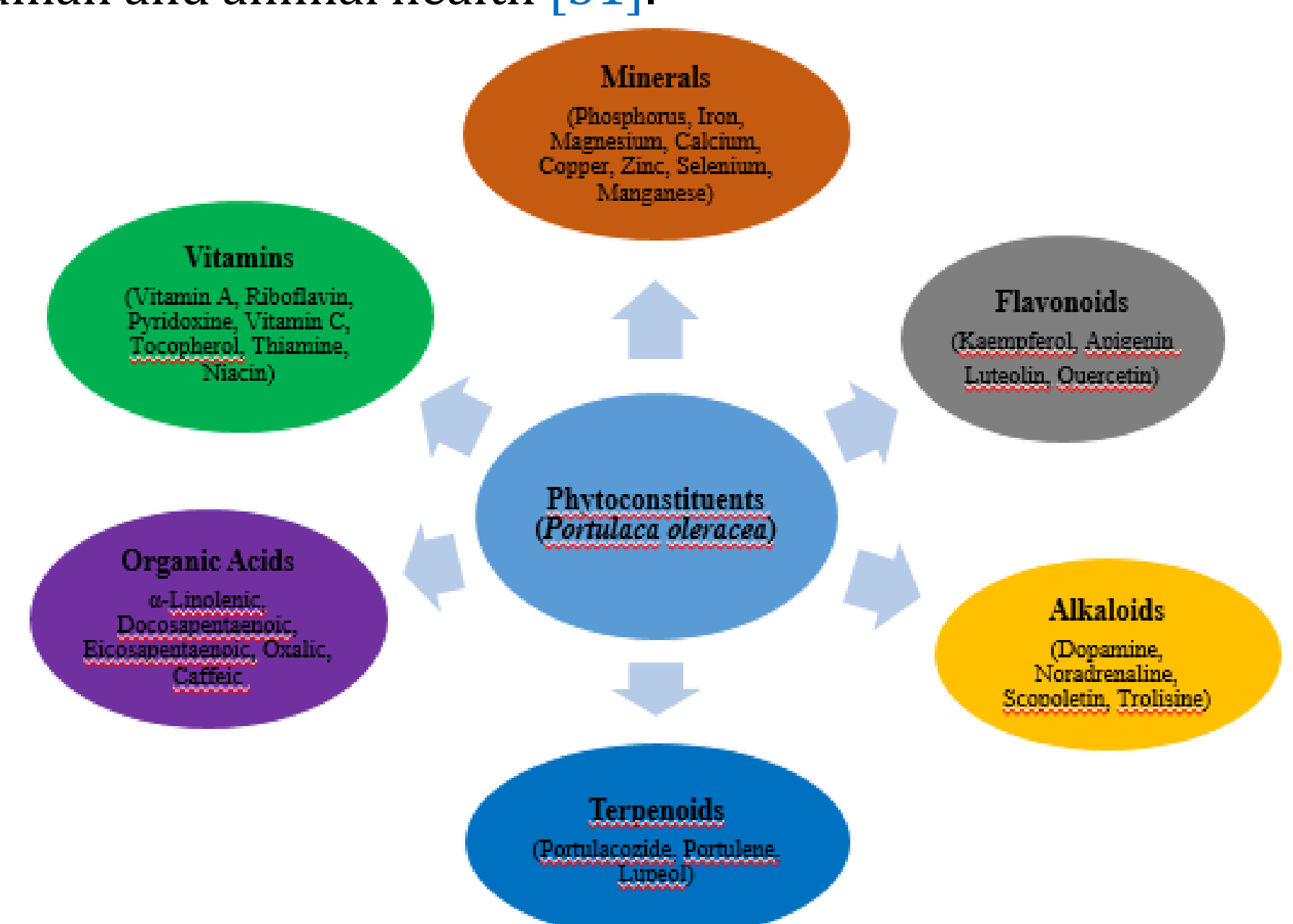
• Material and method

Several specialized electronic databases were consulted in order to identify relevant research on the beneficial effects of purslane on health, but also its use in functional food products. Several key words were used for the literature searches, such as: "purslane in food", "*Portulaca oleracea* L health effects", "purslane and nutritional composition", "Foods with purslane". The databases used for the literature search of the specialty were among the best, such as PubMed, Scopus, Web of Science and Google Scholar.

• Results and discussions

- Portulaca oleracea* has great relevance in the food industry and beyond, having a long history of use for human food, animal feed and medicinal purposes [12].
- The use of *P. oleracea* in food not only improves the content of nutrients and bioactive compounds of functional products, but can also influence their sensory and technological characteristics. Although sensory acceptance by consumers is crucial for the commercial success of a product, there are few studies reporting the application of *P. oleracea* in food products and its sensory performance.

- P. oleracea* is use in: bread flour [17,18], spaghetti [17,19], bread [17,20], based drink [17,21], in yogurt [17,22], in tomato sauce [17,23] and is a valuable food additive [24].
- Purslane is recognized as a valuable source of nutraceutical compounds such as omega-3 fatty acids, vitamins A and E, essential amino acids, and polyphenols, all of which have a positive impact on human health and nutrition [24,25].
- The abundance of these essential nutrients in purslane allows it to become a new source of nutritious food for both humans and animals. *Portulaca oleracea* has remained one of the most abundant plant sources of omega 3 fatty acids and other essential nutrients potentially beneficial to human and animal health [31].



• Conclusions

- Portulaca oleracea* holds significant potential in the pharmaceutical industry due to its wide spectrum of pharmacological properties attributed to its various phytoconstituents.
- Portulaca oleracea* possesses remarkable nutritional, functional, and medicinal value.
- Purslane has the capacity to be used as an ingredient in the production of several food products.
- The mineral values of Ca, Mg, K, Fe, and Zn vary depending on the maturity stage of the plants.
- Purslane represents a valuable source of essential fatty acids, particularly omega-3 fatty acids.