

Eating Wild Edible Plants Can Be A Good Alternative?

Zouari N*

High Institute of Applied Biology of Medenine, University of Gabes, Medenine, Tunisia

*Corresponding author: Zouari N, High Institute of Applied Biology of Medenine, 4119 Medenine, University of Gabes, Tunisia, Tel: 21675633919; Fax: 21675633918; E-mail: znacim2002@yahoo.fr

Received date: Oct 17, 2015, Accepted date: Oct 20, 2015, Published date: Oct 23, 2015

Copyright: © 2015 Zouari N. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Editorial

Wild plants have always been part of human life and several of them were used for the preparation of traditional food recipes. We can find a large number of species where we live and some of them are likely to be plentiful. Nevertheless, we do not find spontaneous vegetables at retailers that usually sell only cultivated species, which seem more desirable. For long period the consumption of these plants have been forgotten or neglected in our food and their harvesting becomes symbol of poverty. By contrast, our diet is oriented towards a “modern” mode where hamburgers, fries and coca attract much more than the nature products. “Eating wild vegetables”, it sounds a silly idea. However, these plants possess varied flavors and remarkable nutritional properties, and may be a source of diversification of our diet. Indeed, they are rich in vitamins, minerals, fiber, phenolic compounds, enzymes, enzyme inhibitors and other bioactive substances. Furthermore, wild plants have interesting medicinal properties and they were used in folk medicine. In fact, many extracts or compounds from these plants have shown interesting pharmacological properties and which may be used as potential agents for natural health and/or human nutrition.

For example, *Diplotaxis simplex* (Viv.) Spreng (vernacular name: Jarjir) is a wild crucifer, which is largely distributed in North Africa (Figure 1A).



Figure 1 (a): *Diplotaxis simplex* (Viv.) Spreng. (Brassicaceae).

This herb is appreciated by local population for its strong pungent flavour and it is consumed raw or cooked, in salads and soups. *D. simplex* leaves and flowers contain several important nutrients and valuable bioactive compounds with interesting biological properties. Recently, it was shown that this species suppresses postprandial hyperglycemia in mice by inhibiting key-enzymes related to type 2 diabetes [1] as well as it presents strong anti-inflammatory activity [2]. *Malva aegyptiaca* L. (vernacular name: khoubbiza) is also a wild plant of the mallow family, widespread in North Africa and edible for the local population (Figure 1B).



Figure 1 (b): *M. aegyptiaca* L. (Malvaceae).

This species is consumed cooked in boiling water and then mixed with a spicy sauce. *M. aegyptiaca* seems to be a good source of several important nutrients such as essential minerals, fatty acids and other valuable lipid components known for their interesting biological properties. Furthermore, this vegetable possesses an important antioxidant activity and thus has the potential to be used as a cheap natural source for reducing cellular oxidative damage [3]. *Allium roseum* L. (vernacular name: lazoul) is another North African endemic species from the Liliaceae family (Figure 1C).



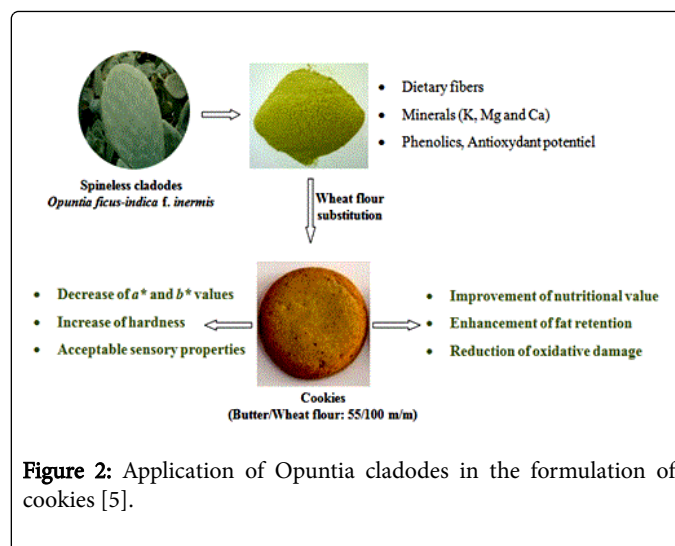
Figure 1 (c): *Allium roseum* L. (Liliaceae).

This plant is characterized by sulphur-carrying flavour compounds, which are responsible for its smell and taste characteristics. *A. roseum* shows an interesting antibacterial activity and may be considered as a potential condiment with good flavour [4].

In recent years, there has been a global trend towards the use of the natural substances as a source of antioxidants, antimicrobials and techno-functional ingredients. Wild vegetables may present interesting technological properties in terms of hydration properties described by swelling and water holding capacity, emulsifying, foaming, and oil binding properties. Thus, the various potentially active nutrients and the multifunctional properties make the wild vegetables among other agro-resources important elements for the production of health-promoting food and dietary supplements. So if we include them in our diet through innovation and reformulation of new food products it might be a good thing?

Both industry and researchers are involved in optimizing food production technology by changing the composition of processed foods through food fortification in natural functional ingredients. On the one hand, the reformulation of new foods may be an interesting approach that contributes to better health. In fact, processed functional foods may present a much more tractable vector for bioactive compounds delivery and could become a “preventive model” for disease prevention. On the other hand, for technological purpose natural antioxidants and antimicrobials could be considered as interesting alternatives to the chemical and synthetic additives used for food preservation, since several questions about their safety were raised. Indeed, these chemicals were suspected to have negative effects on consumer’s health. As a consequence, natural antioxidants and antimicrobials are receiving a good deal of attention for the control of spoilage micro-organisms and oxidative degradation in food.

For example, cladodes (stems) from prickly pear (*Opuntia ficus-indica*) are important candidates for the production of health-promoting food and food supplements. The prickly pear cactus is endemic to America and it is widely distributed in North Africa and the Mediterranean basin. In Mexico, freshly harvested cladodes (nopalitos) are widely consumed as vegetables. In folk medicine, the prickly pear cactus stems have been used to treat several diseases. The *Opuntia* cladodes are known as a source of a varied number of nutritional compounds and they could be commercially exploited by food manufacturing industries as potential source of dietary fiber, minerals, and antioxidants. Figure 2 shows an application of *Opuntia* cladodes in the formulation of cookies, containing high content of butter. In fact, addition of cladodes powder was found to be promising in terms of fat retention and reduction of oxidative damage, resulting in more stable product [5].



References

- Jdir H, Khemakhem B, Chakroun M, Zouari S, Zouari N, et al. (2015) *Diplotaxis simplex* suppresses postprandial hyperglycemia in mice by inhibiting key-enzymes linked to type 2 diabetes. *Rev Bras Farmacogn* 25:152-157.
- Oueslati S, Ellili A, Legault J, Pichette A, Ksouri R, et al. (2015) Phenolic content, antioxidant and anti-inflammatory activities of Tunisian *Diplotaxis simplex* (Brassicaceae). *Nat Prod Res* 29:1189-91.
- Zouari, N, Fakhfakh, N, Zouari, S, Sellami, M, Abid, M, et al. (2011) Volatile and lipid analyses by gas chromatography/mass spectrometry and nutraceutical potential of edible wild *Malva aegyptiaca* L. (Malvaceae). *Int J Food Sci Nutr* 62:600-608.
- Najjaa H, Neffati M, Zouari S, Ammar E (2007) Essential oil composition and antibacterial activity of different extracts of *Allium roseum* L., a North African endemic species. *C R Chim* 10:820-826.
- Msaddak L, Siala R, Fakhfakh N, Ayadi MA, Zouari N, et al. (2015) Cladodes from prickly pear as a functional ingredient: Effect on fat retention, oxidative stability, nutritional and sensory properties of cookies. *Int J Food Sci Nutr*.