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## 2.1 = Misidentification of wild plant cooked in soup and sold as traditional gastronomy

Arianna Marengo<sup>1</sup>, Cecilia Cagliero<sup>1</sup>, Stefano Acquadro<sup>1</sup>, Barbara Sgorbini<sup>1</sup>, Maria Laura Colombo<sup>1</sup>, Patrizia Rubiolo<sup>1</sup>

<sup>1</sup>Department of Drug Science and Technology, University of Turin, Via Pietro Giuria 9, 10125 Torino, Italy

In the North eastern Piedmont region, Ivrea town and surroundings, the soup made with wild spring herbs is very much appreciated. Many people gather wild plants and in particular ajucca *Phyteuma spicatum* L. (Campanulaceae family), to prepare a soup, whose recipe is linked to popular tradition (1).

In this context, a case of a misidentification of *Phyteuma spicatum* young leaves with poisonous plants was responsible for the access to the hospital Emergency Department, at Ivrea Hospital (Torino province), of a female subject who ingested the soup.

A complication, from a legal point of view, was due to the fact that the soup was sold in a store of prepared and cooked foods.

The Istituto Zooprofilattico of Torino, responsible for food emergency and intoxication for the Piedmont region, provided the sample of the soup for the botanical and phytochemical identification of the poisonous plant material.

Considering the reduced size of the plant material in the soup, it was not possible to identify the poisonous plant, while the presence of some leaves of ajucca was confirmed; therefore a chemical evaluation of the constituents potentially responsible for the intoxication was mandatory. The phytochemical analyses revealed the presence of tropane alkaloids in particular atropine (+/- Hyoscyamine) in the soup, confirming the possibility of a contamination with species from Solanaceae family since species belonging to *Phyteuma* genus don't biosynthesize tropane alkaloids (2, 3). The presence of atropine supported also the clinical outcomes on the hospitalized woman (i.e. marked pupillary dilation). The erroneous collection can be related to the morphological similarity between *Phyteuma spicatum* L. young leaves in spring time and those of other poisonous plants, in particular Solanaceae species growing in the same environment.

The case here described can be considered as an emblematic example of the lack of cultural knowledge of many people collecting wild plants for human consumption and sale. It especially draw the attention to the importance of the identification of wild plants, since not all the natural products are necessarily safe.

1) P.M. Guarrera, V. Savo (2016) J. Ethnopharmacol. 185, 202-234

2) C. Abbet, I. Slacanin, M. Hamburger, O. Potterat (2013) Food Chem.. 136, 595-603

3) J. Marin-Sàez, R. Romero-Gonzàles, A. Garrido Frenich J. Chromatogr. A 1518, 46-58