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Journal of Ethnopharmacology

journal homepage: www.elsevier.com/locate/jep

A hundred years of change in wild vegetable use in southern Herzegovina

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ARTICLE INFO

Article history:

Received 30 December 2014

Received in revised form

4 February 2015

Accepted 10 February 2015

Keywords:

Ethnobotany

Wild food plants

Wild edible plants

Balkans

Mediterranean diet

Historical ethnobotany

ABSTRACT

Ethnopharmacological relevance: Wild vegetable mixes used in southern Europe are interesting from the pharmacological point of view, as they contain many species which have considerable nutritional and medicinal value, but some are potentially toxic to humans. Although many ethnobotanical studies document the rich tradition of using wild vegetables at the turn of the 20th and 21st century in the Mediterranean region, there is a dearth of older historical studies which could help us to assess the extent of Traditional Knowledge loss.

Material and methods: The aim of this study was to document the use of wild foods in an area of southern Herzegovina (in Bosnia–Herzegovina) and to compare it with a list of 27 taxa of wild green vegetables used there, compiled in 1913 by Vejsil Ćurčić. We carried out 49 interviews in the same area to estimate the current use and knowledge of wild foods.

Results: Eighty-two species of wild food and herbal tea plants were recorded in the study. This includes 44 species whose wild leaves are used as salads or cooked side dishes, 17 species with edible fruits and 24 species whose leaves, shoots or flowers are used for everyday herbal teas. On average, 14.2 species (median=16.5) were listed by per interview, including 9.0 species of wild vegetables. Out of 27 plant names mentioned 100 years ago – five remain unidentified. Out of the 22 species or species groups, which were identified, 18 are still used as wild vegetables (including five species used very rarely and known by very few people or only by one person).

Nowadays, the most commonly used wild vegetables are: *Dioscorea communis*, *Sonchus* spp., *Allium* spp., *Papaver rhoeas*, *Rumex pulcher*, *Silene latifolia*, and *Taraxacum* spp.

Conclusions: Although we observed some changes in the names and uses of plants compared to the list from a hundred years ago, around three quarters of the taxa are still used to some extent nowadays.

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1. Introduction

Wild green vegetables form a part of the food-medicine spectrum (Etkin and Ross, 1982; Etkin, 1986; Pieroni et al., 2006; Łuczaj, 2010a, 2010b; Leonti, 2012). They were used in most human populations, at least in times of famine, but nowadays their consumption has survived only in some parts of the world, mainly in places where they are regarded as healthy food (Etkin and Ross, 1982; Leonti et al., 2006; Pieroni et al., 2006; Etkin, 2008; Leonti, 2012; Łuczaj et al., 2012; Dogan, 2012; Turner et al., 2011). Wild vegetables, consumed, e.g. as side-dishes, can be seen as beneficial

healthy food supplying the body with microelements, vitamins, flavonoids, antioxidants and fiber. One of the areas in the world where the use of non-cultivated wild vegetables is common and incorporated into local food-medicine systems is the circum-Mediterranean region. However, even in this region this use is declining in popularity among younger people (Pieroni et al., 2005; Leonti et al., 2006; Hadjichambis et al., 2008; Łuczaj et al., 2013a, 2010b; Dolina and Łuczaj, 2014).

A particularly interesting feature of the wild vegetable mixes found in the Mediterranean is the use of the leaves of numerous species regarded in many countries as toxic or at least not suitable for consumption due to their strong taste and large content of bitter agents (Compositae), tannins (Rosaceae), cyanogenic glycosides (Leguminosae, Rosaceae), essential oils (Lamiaceae), saponins (Caryophyllaceae, Primulaceae, Amaranthaceae), oxalates (Amaranthaceae, Polygonaceae), etc. Thus, documentation of the

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<http://dx.doi.org/10.1016/j.jep.2015.02.033>

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use of wild vegetables is important also from the toxicological point of view.

The increasing gradual loss in Traditional Ecological Knowledge is associated with an increasing interest in studies documenting the remaining scraps of this heritage. However, it is very difficult to estimate the exact change in plant uses which have occurred over the last decades or centuries, due to the lack of older ethnobotanical studies. In Europe, in some countries, the 19th and early 20th century use of plants by peasants, both for food and medicine, was well-documented, e.g. for the territory of the present day Poland, Estonia, Hungary and Slovakia (Łuczaj, 2010a, 2010b, 2012; Kalle and Sõukand, 2012; Dénes et al., 2012; etc.). In these countries, ethnographic works concerning plant use were usually accompanied by Latin scientific names of plants. In some cases even voucher specimens were collected. On the other hand in the Mediterranean Basin and in the Balkans, in spite of their incredibly rich plant folklore, fewer such studies were made and it has been only over the few past decades that ethnobotanists have started documenting this domain (Pardo-de-Santayana et al., 2014; Pieroni and Quave, 2014a, 2014b).

It is very valuable for ethnobotany to have older records from places where plant use has changed considerably, e.g. due to modernization. However, it is even more interesting to go back to these places and assess the changes. The first author of this work undertook this challenge on several sites in Poland to look at the changes in the blessing of plants in churches (Łuczaj, 2011a, 2011b, 2013a, 2013b). Pieroni et al. (2013) compared information on plant use among Macedonian Albanians using some notes on plant use recorded a century earlier. Turner and Turner (2008) assessed changes and the mechanism of change in the use of selected wild foods of the western Canadian First Nations. Changes can also be assessed using a whole set of studies from different periods and slightly different sites scattered over the same country. Such comparisons were made for wild green vegetables in Poland (Łuczaj, 2010a) and medicinal plant use in Estonia (Sõukand and Kalle, 2011) and Switzerland (Abbet et al., 2014).

Wild food and medicinal plant use in Bosnia–Herzegovina was documented in several studies made a few years ago, mainly by the late Sulejman Redžić and colleagues (Redžić, 2006, 2010; Redžić et al., 2010; Redžić and Ferrier, 2014) and by Šarić-Kundalić et al. (2010, 2011). All these studies, however, encompassed the territory of Bosnia, neglecting Herzegovina, which is nonetheless fortunate to have one very interesting ethnobiological study from the early 20th century written by Vejsil Ćurčić (1868–1959), a prominent ethnographer and archeologist from Sarajevo. In one of his works he described traditional fishing in the Neretva Valley, including the lakes and marshes called Hutovo Blato, near Čapljina (Ćurčić, 1913). Ćurčić was amazed by the large number of wild green vegetables used by the villagers. He stated that, “nowhere in Bosnia and Herzegovina do people use so many wild vegetables”. He listed 27 species and provided Latin names for most of them. As this is the only such comprehensive historical ethnobotanical note from this part of the Balkans, the authors decided to revisit the area in order to assess the present use of wild greens in the region and compare it with Ćurčić’s note. We also decided that it would be valuable to record the use of all the wild food categories in the area, not only wild vegetables.

2. Material and methods

2.1. Study site: vegetation and climate

The research site is located around the town of Čapljina in the southernmost part of Herzegovina. The southern part of Bosnia–Herzegovina belongs to the Dinaric karstic region. The study area is located in the Eurosiberian Region, Alpino–Caucasian Subregion, Apennino-Balkan Province, and Illyrian Sector (Lasić et al., 2014). The studied villages lie in the estuary of the river Neretva and its tributary,

Trebižat. The geological substrate mainly consists of Cretaceous and Eocene limestone, and partly of dolomite. Sub-Mediterranean rocky meadows (the *Scorzonera villosa*-*Chrysopogon etalia grylli* Horvatić et Horvat 1963 order) are developed on these shallow soils, and in some places oriental hornbeam forests (*Carpinus orientalis* Mill.) have been preserved. Phytogeographically, this area belongs to the sub-Mediterranean vegetation zone of the *Ostrya carpinifolia*-*Carpinion orientalis* alliance. Summers are warm and dry, while winters are mild and rainy. Precipitation is relatively high (ca. 1500 mm/year) but falls mainly in the colder part of the year. The mean annual air temperature is 14.6 °C, maximum in July (23.4 °C) and minimum in January (5 °C) – data from the neighboring station in the town of Ljubuški, on the western border of the study area, for the period 1971–2000, after Lasić et al. (2014).

One of the most prominent features of the study area is the presence of extensive carstic marshes and lakes, now protected in the Hutovo Blato Nature Park (Jasprica and Carić, 2002; Jasprica et al., 2003). These wetlands used to be important for human populations as a source of food (fish, frogs etc.), and the fertile land surrounding them provided attractive areas for growing crops. The vicinity of these lakes and the valley of river Neretva made this spot the main freshwater fishing site in Herzegovina, and that is why Ćurčić devoted his monograph to this place.

2.2. Field study and studied population

The research was carried out following the American Anthropological Association Code of Ethics (2009) and the International Society of Ethnobiology Code of Ethics (2006). Data were collected mainly using the free listing method, accompanied by informal walks with selected key informants, in March and June 2013. Interviews were carried out in Croatia. The interviews were performed in 16 villages: Bovan, Brštanica, Čeljevo, Cerovica, Dračevo, Dretelj, Gnjilišta, Grabovine (suburb of Čapljina), Kozarica, Kruševo, Prćavci, Prebilovci, Sjekose, Svitava, Trebižat and Zvirovići (Fig. 1). Most of the population is Croatian (Roman-Catholic), apart from the inhabitants of the Serbian (Orthodox) village of Prebilovci (six interviews). A considerable Bosniak/Muslim population lives just north of the study area, south of Mostar, but this region, adjacent to the Croatian border, is predominantly of Croatian ethnicity.

Participants were approached outside, during their farm work, or were selected based on recommendation as the most knowledgeable people in the village. Altogether, 49 free listing questionnaires were obtained, mainly from middle-aged and elderly inhabitants. This included 39 single informants and 10 couples (altogether 59 people: 45 women, 14 men). Both the mean and median age of informants was 65, with the oldest informant aged 93. The youngest informant, a local man both the owner of an ethnic style restaurant *Etnoselo* (located between Međugorje and Čapljina) and a chef interested in preserving the local tradition of



Fig. 1. Distribution of the studied villages (smaller circles).

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