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## JUNIPER BEER IN POLAND: THE STORY OF THE REVIVAL OF A TRADITIONAL BEVERAGE

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*Low-alcohol beverages made of juniper pseudo-fruits were once common in parts of northern and northeastern Poland. The aim of this article is to investigate the history of juniper beer production, its role in local communities, changes in recipes, and signs of revival of the tradition. Archival ethnographic sources from all over the country were reviewed, and field research was carried out in two juniper beer producing areas in the Northeast region: (1) Kurpie, and (2) Podlasie. Juniper beers were made in central and northeastern Poland, mainly for weddings, holidays, or other special occasions. The tradition gradually declined throughout the twentieth century and has now practically disappeared. Juniper beer, however, recently has been popularized in the Kurpie region as a regional specialty, aimed at visitors to the area since the 1990s. The beverage is gaining increasing media attention, not only in the region but across Poland, and it is now produced in a large proportion of households in Kurpie (either for sale or for domestic use). In Podlasie, juniper beer is still mainly remembered as a drink from the past, with very few individuals still making it. Juniper beer is an example of a tradition revival combining a few emerging trends, among which are the use of wild foods and attention to local recipes and home-fermented dishes. The changing role of juniper berries in the history of the drink should also be noted. Originally, the berries were the richest local source of sugar, and thus they naturally became the main ingredient of fermented beverages. With time, the composition of the drink evolved and sugar and honey were added. The original juniper components now serve mainly as flavoring, giving the drink its characteristic resinous taste and fragrance.*

**Keywords:** *herbal beers, beverages, fermentation, traditional knowledge revival, Juniperus communis*

*Niskoalkoholowe napoje z jałowca były kiedyś często przyrządzane w Polsce północnej. Po okresie ich zapomnienia zaczynają gdzieś odżywać. Celem tego artykułu jest przedstawienie historii tego napoju w Polsce, jego roli w społecznościach oraz dynamiki przepisów na jego przyrządzanie. Cennym źródłem okazały się badania Polskiego Atlasu Etnograficznego i inne dane archiwalne. Wykorzystaliśmy także własne materiały terenowe zebrane na Kurpiach i Podlasiu. Według zebranych danych piwo jałowcowe, którego głównym składnikiem były szyszkojagody jałowca, a opcjonalnie także miód, cukier i chmiel, było dawniej przyrządzane w różnych częściach Pomorza, Mazowsza, Podlasia i przyległych obszarów. W połowie XX w. prawie zupełnie o nim zapomniano. Odkryto je ponownie na Kurpiach w latach 90-tych XX w., kiedy uzyskało duże zainteresowanie wśród turystów, którym serwowane je pod nazwą psivo kozicowe na imprezach folklorystycznych. W tej chwili coraz więcej osób na Kurpiach znów je wytwarza. Ciągłość wyrobu tego piwa nie została nigdy co prawda przerwana, gdyż kilka osób wytwarzało je stale przez całą II poł. XX w. Sukces piwa jałowcowego wynika zapewne z rosnącej popularności dzikich produktów, domowych alkoholi i z ogólnej mody na reaktywację zapomnianych potraw. Należy podkreślić zmienną rolę piwa jałowcowego. Pierwotnie szyszkojagody jałowca były najbogatszym źródłem cukru na ubogich glebach porośniętych przez bory sosnowe, a samo piwo napojem ubogich chłopów. Pamięć o nim została zachowana dzięki serwowaniu go na*

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uroczystościach, np. weselach. Z czasem jego skład się zmienił – zaczęto dodawać coraz więcej cukru i miodu, a sam jałowiec stał się jedynie przyprawą nadającą ‘psiwu’ charakterystyczny smak.

## Introduction

Food security is commonly associated with solid foods, particularly staples supplying carbohydrates, fats, and proteins. However, some beverages can also be an important part of food safety in traditional agricultural food systems. For example, wine making constitutes the transformation of sugar-rich, difficult to store grapes into a calorie-rich beverage (wine), which can be stored for months. Another major kind of ancient alcoholic beverage is beer, made of fermented cereals, probably since the beginnings of the Neolithic revolution, first in the Middle East, and then in other parts of the world (McGovern 2009). Not only grapes and cereals, but a variety of other fruits and plant parts (tree sap, flowers, tubers, etc.) have been, and are, used to make fermented wines, beers, and other alcoholic beverages; such beverages have been an important part of human everyday nourishment for a very long time (e.g., Arnold 2005 [1911]; Behre 1999; Henderson et al. 2007; Katz 2012; Łuczaj 2008; Maurizio 1926; McGovern 2009; Nelson 2005). The variety of ingredients used is well-illustrated by the oldest alcoholic beverage chemically attested, from ca. 9,000 yrs BP, discovered in China, made from a mixture of rice, honey and fruits (probably hawthorn and grapes), thus “combining” beer, wine, and mead (McGovern et al. 2005).

A variety of plant products have been fermented for millennia. For example, one of the most important beverages in Eastern Europe used to be derived from tree sap (mainly from birches, *Betula* spp., and maples, *Acer* spp.). The excess of fresh sap was stored in barrels, and was often kept from early spring until cereal harvest time in late summer. During storage it underwent fermentation and acquired a sour taste (Svanberg et al. 2012). Fresh birch sap contains glucose and fructose while maple sap contains mainly sucrose (Łuczaj et al. 2014). During fermentation the sugars are converted into alcohol and/or organic acids. In Great Britain a drink called *dandelion and burdock beer* was commonly made in the nineteenth century along with other herbal beers, e.g., made with nettles (Burnett 1999).

Many fermented drinks using wild foods appeared along with the wider availability of sugar in Europe throughout the nineteenth century and the beginning of the twentieth century, due to the production of sugar made of sugar beet (Dumanowski 2011; Kujawska and Łuczaj 2011). The use of extra sugar enabled the production of drinks with more alcohol, mainly non-grape fruit wines, such as elderberry (*Sambucus nigra* L.), dog rose (*Rosa canina* L.), hawthorn (*Crataegus* spp.), currants (*Ribes* spp.), and raspberry and blackberry (*Rubus* spp.), which were preserved more effectively and less susceptible to turning sour (Burnett 1999; Dénes et al. 2012; Łuczaj et al. 2012; Phillips 1983). Flowers have also been used to make fermented alcoholic beverages. Here we should mention elderflower (*Sambucus nigra* L.) lemonade, popular in Hungary, Sweden and the United Kingdom, and cornflower (*Centaurea cyanus* L.) petal wine, which was commonly made in twentieth century Poland (Burnett 1999; Dénes et al. 2012; Łuczaj et al. 2012; Phillips 1983).

The history of beer has been marked, since medieval times, by a gradual decrease in the number of both ingredients and preparation methods. This was caused initially by the purity laws, introduced at the turn of the fifteenth and sixteenth centuries in Germany and then in many other countries, and later by industrialization and a general decrease in the production of homemade beverages in the nineteenth and twentieth centuries (Behre 1999; Katz 2012; Maurizio 1926). The production of other fermented foods, such as hogweed (*Heracleum sphondylium* L. s.l.) sour soup (Behre 1999; Łuczaj 2010; Łuczaj and Szymański 2007; Maurizio 1926), lacto-fermented mushrooms (Łuczaj and Nieroda 2011), and tree saps (Svanberg et al. 2012) also decreased in Eastern Europe between the eighteenth and twentieth centuries. After decades of decline in wild plant use in European cuisine, the beginning of the twenty-first century brought a resurgence of interest in reviving the use of forgotten ingredients and recipes involving wild plants and old cultivars (Łuczaj et al. 2012). By contrast, there is the parallel opposing trend of a decrease in the numbers of cultivated varieties grown in intensive agriculture as EU regulations impose restrictions on the trade and exchange of traditional plant varieties (e.g., see the Campaign for Seed Sovereignty website [2013]). A fermented drink made of juniper cones (pseudo-fruits), commonly called 'juniper beer' is experiencing a revival in Poland and some other northern European countries; accordingly we present here the field data and the available literature on the preparation and use of this beverage.

Common juniper (*Juniperus communis* L., Cupressaceae) is a coniferous, evergreen shrub, sometimes growing to a tree. It has the largest range of any woody plant, throughout the cool temperate Northern Hemisphere from the Arctic south in mountains to around 30°N latitude in North America, Europe, and Asia (Adams 2004). It usually grows in dry habitats, both on acidic sandy soils and chalky substrates. Due to its high resistance to grazing it is often a frequent or even dominant component of pastures.

A juniper "berry" is the female seed cone produced by all members of the genus *Juniperus*. That is, it is not a true berry but a cone with unusually fleshy and merged scales that give it a berry-like appearance; hence it is classified as a fruit or berry in folk taxonomies and by gastronomists. It may be referred to as a "cone berry" or a "pseudo-fruit" (or "*pseudo-fructus*") [European Pharmacopoeia Commission 2011; Łuczaj 2008]. Further in the text, we will use the terms berries or pseudo-fruits.

Dried berries of *J. communis* contain 30–40% sugars (mainly glucose and fructose), 1.2–10% resin, and considerable amounts of organic acids and essential oils (Muszyński et al. 1959). The berries and needles are rich in essential oils, particularly  $\alpha$ -pinene, which exhibit mild antibacterial activity (Angioni et al. 2003; Filipowicz et al. 2003). Juniper berries contain terpine-4-ol in the volatile oil fraction, which may cause kidney irritation and damage when used in excess (Singh and Prakash 2008).

*J. communis* has been an important plant in the culture of many ethnic groups of Eurasia, particularly in northern and northeastern Europe. It was primarily used as medicine and spice. The parts which are mainly used are berries. Sometimes branches are also used for flavoring or smudging. In Polish

Table 1. General characteristics of juniper use in Poland.

Use	Parts used	Number of use reports
General	any parts	230
“beer”*	berries	69
“wine” **	berries	14
Vodka flavoring	berries	19
Health care (human)	berries	131
Health care (animal)	berries	25
Smudging (house/home, following illness or death within)	twigs	20
Smudging (ill people)	twigs	22
Smudging (ill animals)	twigs	11
Smudging (as harm prevention)	twigs	2

Source: Bohdanowicz (n.d.):  $n = 430$  reports, including 342 from the *Polski Atlas Ethnograficzny* (the Polish Ethnographic Atlas) and 88 from other sources.

\* Berries used to make weaker alcoholic beverages with short fermentation periods.

\*\* Berries added to flavor fruit wines or fermented longer with large amounts of sugar.

ethnomedicine, juniper has most often been used in cases of edema or gastrointestinal problems, more rarely in the treatment of asthma, cough, urinary problems, tuberculosis, and to regulate menstruation (Paluch 1984; Table 1). It was also widely used in other northern European countries for very similar purposes, e.g., in Germany, Denmark, Estonia, Norway, and Sweden (e.g., Brøndegård 1978; De Cleene and Lejeune 2003; Høeg 1996; Marzell 1938; Sõukand and Kalle 2011; Sõukand and Kalle 2012a; Svanberg 2011), making it the third most used medicinal plant in Estonia in the period of 1888–1920. Its use for medicinal purposes in Estonia was often related to magical rituals, as for example in the repelling of insects (Sõukand et al. 2010).

*J. communis* was also widely used in Native American ethnomedicine, mainly in the treatment of respiratory disorders but also gastrointestinal, kidney, and venereal problems (Moerman 1998). A search of the Native American Ethnobotany database (Moerman 2003) yielded 143 use reports from such Native American tribes as Bella Coola, Blackfeet, Northern Cheyenne, Chippewa, Cree, Iroquois, Delaware, and others.

In most northern European countries juniper berries are widely used as a spice to flavor meat dishes and sausages, as well as alcoholic beverages, particularly for flavoring spirits such as gin, *jenever*, *steinhäger*, and *aquavit* (e.g., Brøndegård 1978; De Cleene and Lejeune 2003; Hedrick 1972; Høeg 1996; Paluch 1984; Svanberg 2011). Poland is not the only country where juniper beer has been produced. Scandinavia and neighboring countries have a long tradition of using juniper berries and branches when making beer. There are relatively recent records of juniper beer production in Estonia (Kalle and Sõukand 2012), Norway (Høeg 1996), and Sweden (Svanberg 2011). In Sweden it is called *enbärdricka*. In Gotland (island, southern Sweden) juniper needles are added to the local beer, *gotlandsdricka* (Salomonsson 1979). *Sahti*, flavored with juniper berries, is a well-known beer (ale) in Finland (Svanberg pers. comm.). Juniper was commonly used as a flavoring additive to beer in Europe (Behre 1999; Nordland 1971). Juniper twigs have also been used for flavoring fermented birch sap in Estonia (Svanberg et al. 2012). In Estonia, beer and a variety of beer-like drinks have been made

(Kalle and Sõukand 2012), and juniper pseudo-fruits were also used to make recreational tea (Sõukand and Kalle 2012b). In Germany, juniper berries have also been a common ingredient of beer (Sroczyński 1821). Although banned by the 1516 beer purity law in Bavaria, juniper was permitted again, as an addition to beer, together with coriander and bay leaf, in 1551. The 1616 regulations in Bavaria also permitted the addition of salt, juniper, and caraway to beer (Hackel-Stehr 1989). Czechs believed that spoiled beer could be improved by adding juniper branches to it (Pařízková and Vlková 2011). Juniper beer, called *smreka* (after the local name of the plant), is served in at least one traditional restaurant in Sarajevo, the capital of Bosnia-Herzegovina (Katz 2012), though we have not found any other records of its use in Bosnia. The comparison of these traditions and the associated methods of making juniper beer and the present states of these customs in their respective countries should constitute a separate review.

A drink with juniper pseudo-fruits was also made by the First Nations of Anticosti Island in North America. Other ingredients of this drink were potatoes, yeast, and water (Rousseau 1946:64). The examples presented from other countries suggest that juniper beer-like beverages occur in many countries and the drinks nowadays are relics of a once more widespread tradition. Chemical analysis of beer with juniper berries has yet to be conducted apart from one study from Serbia published in a conference website (Veljovic et al. 2011).

## Methods

For the purposes of this research, we used both field data, collected by two of the authors (TM, EP), and an extensive review of the ethnobotanical and ethnographic literature from all over Poland. The complete list of these works was published by Łuczaj (2011a). Materials taken from the Polish Ethnographic Atlas, covering the whole of Poland, were particularly useful, providing data on wild food gathering in 193 localities from 1948 to 1949, and 338 localities from 1964 to 1969. The format of the questionnaires is available in Łuczaj (2008, 2011a). In 1971, a special questionnaire was issued by the Atlas office specifically asking about the use of some wild fruits, including those of juniper. The data from these questionnaires concerning the use of juniper were prepared by the late Janusz Bohdanowicz, as a special map of the Polish Ethnographic Atlas in the seventh volume, not yet printed, but available in the Atlas office (Bohdanowicz n.d.). All the known Polish eighteenth and nineteenth century cookbooks and selected newspapers were also searched in order to find references to juniper beer. Field data were gathered in the two regions, Kurpie and Podlasie, where juniper beer was most widely used. Their characteristics and a description of the study areas are presented below.

### Case Study Areas

#### *Kurpie*

Kurpie is one of a number of ethnic regions in Poland. It is renowned for upholding its traditional customs, such as crafting gigantic Easter palms, and its vibrant material culture—richly decorated wooden architecture, bee-keeping, etc.

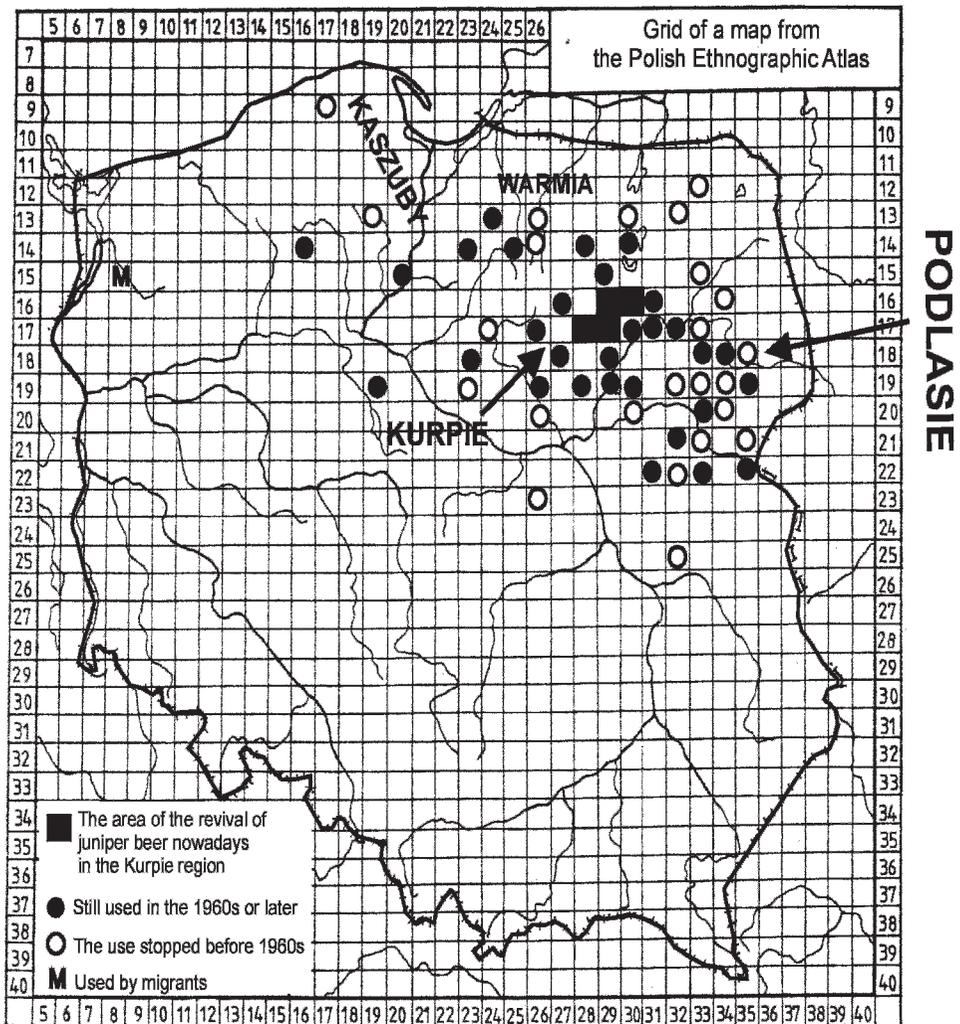


Figure 1. The distribution of the twentieth century records of juniper beer making in the countryside.

(e.g., Damrosz 1962; Żwirska 1973). Kurpie is both the name of the region and its residents. It is located in the northeastern portion of the Mazowsze (Mazovia) region, adjacent to the Podlasie (Podlasia) and Mazury regions (Figure 1).

The Kurpie region encompasses the area of two forests: Puszcza Zielona (the Green Forest), in the river Narew tributary, and Puszcza Biała (the White Forest), in the fork of the Bug and Narew rivers. Puszcza Zielona used to be royal land. Puszcza Biała was originally owned by the bishops of Płock and was settled by the Kurpie people from Puszcza Zielona. It is a wooded region with poor sandy or wet soils. In the seventeenth century, the church settled Puszcza Zielona with peasants who had been freed from their duties towards landowners. It continued to attract escapees and became a symbol of the free peasantry. Then, in the eighteenth century, a settlement scheme was organized in Puszcza Biała, with

many of the settlers originating from Puszcza Zielona (Żwirska 1973). The region is thus commonly divided into “Green” Kurpie and “White” Kurpie, in accordance with the names of the forests.

At the turn of the nineteenth and twentieth centuries, Kurpie was a poor and backward area, which fascinated the local ethnographer Adam Chętnik. In his major work, the title for which translates as *The Folk Food of Kurpie: Ordinary, Ceremonial and Famine Food and Drinks*, Chętnik (1936) not only described the traditional foods made of cereals, but gave a very detailed account of coping with food scarcity and even famine, describing such dishes as fermented soup made from lime tree (*Tilia cordata* Mill.) leaf buds or lacto-fermented birch sap. He wrote about many interesting wild plant species used for food in the area (e.g., manna grass, *Glyceria* spp., grains; fern, *Polypodium vulgare* L., rhizomes) and devoted much space to describing the use of juniper berry beverages in the local culture.

Our field study was carried out in Green Kurpie, which has a much more effectively preserved traditional culture, as was already visible at the beginning of the twentieth century (Chętnik 1924). As of the 1980s–1990s, people in this region still retained a vibrant and resilient folk culture, one which had almost disappeared in most other parts of rural Poland. In recognition of this, Green Kurpie citizens actively undertook to promote their folk culture to tourists by organizing several large folk events promoting local sculptures, food and Easter palms and customs. In Poland this was one of only two examples of areas that had managed to preserve folk culture through large-scale commodification (Madej 2006a, 2006b, 2007, 2008a, 2008b, 2009); the Podhale region is the other.

In 2007, T. Madej conducted five in-depth semi-structured interviews with the most well-known home producers of juniper beer in the Kurpie region (central-northeastern Poland) to trace the revival of juniper beer production, sources of recipes, changes of ingredients, and so forth. The respondents (aged 51 to 75) came from four villages: two from Kadzidło, and one each from Legliowiec, Dylewo, and Charcibałda. The interviews were tape recorded after prior oral consent and were performed according to the standards of the American Anthropological Association. Additionally, a collection of internet and newspaper reports on the production of juniper beer was gathered. The interviews with juniper beer producers were carried out against a background of 74 interviews and observations conducted over a six-year period from 2006 to 2012 (mainly 2007–2008) concerning the transformations of traditional rural culture under the influence of tourism (Madej 2006a, 2006b, 2007, 2008a, 2008b, 2009). During his research on the traditional Kurpie culture, T. Madej took part (via participant observation) in a number of large folklore events promoting the rural culture of Kurpie: *Niedziela Palmowa* in Łyse (2005–2008); *Wesele Kurpiowskie* in Kadzidło (2005, 2007); *Warsztaty Ginące Zawody* in Kadzidło (2005, 2006); *Miodobranie* in Myszyniec (2005–2007); *Dni Kultury Kurpiowskiej* in Nowogród (2006); *Przyjechał Kurpś do Warszawy* in Warsaw (2006); *Boże Ciało* in Myszyniec (2006); *Darcie Pierza* in Lelis and *Śladami Kurpiów* in Kadzidło (2007).

### *Podlasie*

Podlasie is a large historical and ethnographic region covering most of the present Podlaskie voivodship, northeastern parts of the Mazowieckie voivodship

and the northernmost parts of Lubelskie voivodship. Its western and central part is inhabited by Poles, and its eastern part is inhabited predominantly by people belonging to the Orthodox church, speaking a variety of Belarusian and Ukrainian dialects mixed with Polish, with varying ethnic identities (Polish/Belarusian/Ukrainian). The region of Podlasie lies directly east from the previously mentioned Kurpie region. One of the authors (E. Pirożnikow) performed 483 interviews and supplied questionnaires in over 200 villages of the Podlasie region (451 in the Podlaskie voivodship and 32 in the Mazowieckie voivodship) concerning the use of wild plants for food and medicine, the general results of which were partly published in two earlier works (Pirożnikow 2008, 2010). The age of respondents ranged from 22 to 91, with a mean age of 65 (women constituted 85% of the group). Information on the use of juniper beer was provided by 19 out of 483 respondents from 15 localities (13 women and 6 men aged 71 to 79, mean age 75). Several folklore events were visited, and the staff of local ethnographic museums were interviewed (Nowogród, Ciechanowiec).

## Results

### Geographic and Temporal Patterns

Juniper beer was a popular, low-alcohol fizzy drink in large parts of central, northern and northeastern Poland until the beginning of the twentieth century. In the 1960s and 1970s it was still made or remembered in many villages, though usually made only by a few people and neglected by most of the population (Figure 1; Table 1).

#### *Kaszuby*

One of the regions where the beer was popular was Kaszuby, an area south of Gdańsk, inhabited by the Kashubian minority, who speak a separate language (Figures 1 and 2). In his monograph of Kaszuby, Seefried-Gulgowski (1911) wrote that juniper beer was commonly served at weddings. It was mentioned in a poem in a peasant newspaper, one of the oldest written records of the Kashubian language (Heruś z Wielu 1880). However, the works of the Polish Ethnographic Atlas managed to capture only small traces of the memory of this beverage (Figure 1).

#### *Kurpie*

Kurpie is the region where juniper beer has been most popular (Figure 1). It was reported in the early twentieth century ethnographic literature mainly as a festive beverage for weddings, baptisms, and funeral parties, similar to its use in Kaszuby (Chętnik 1936). In the local dialect it was called *psiwko kozicowe*. "Kozica" is a horsewhip made of a long juniper branch (Żwirska 1973). Wołęjsza (2008) states that juniper beer in Kurpie became more popular when local bishops opposed the production and drinking of vodka, so the peasants turned to lighter, homemade alcoholic beverages. In the 1920s and 1930s it became popular to fortify it with honey or sugar (Chętnik 1936). This sequence of changes is confirmed by the oldest respondents of our field study. In the mid- to late twentieth century, juniper beer production became very rare in the region (from



Figure 2. Homemade juniper beer sold at a folklore event on Palm Sunday (2007) in the Kurpie area (Photograph by Tomasz Madej).

about the 1960s to the 1980s). The revival of the beer can likely be traced to one folklore event, designed for tourists in the 1990s when one of our respondents made the beverage. Other folk artists from the area noticed that the beer was received favorably by tourists and started offering or selling it as an addition to other local specialties (mainly handicrafts). It seems that the majority of the original group of folk artists who started selling the beer knew it from their childhood, or had even prepared it from time to time throughout their lives, but had not ascribed to it great importance.

Gradually, over the years, a series of press articles and book recipes popularized the beverage from Kurpie (e.g., Kielak and Kostewicz 2004; Kostewicz 2002; Prymarka 2001; Wolejsza 2008). Today, this drink, called either by the old, local dialect name *psiwo kozicowe*, or the literary Polish *piwo jałowcowe*, is sold at every folklore event in the Kurpie area. The most well-known producers of the beer who were interviewed often accuse other lesser known producers of the beer of spoiling the quality. The "bad" beer reputedly contains a lower proportion of juniper to sugar, too much yeast, and is fermented for too short a period.

Juniper beer is not mass produced. It is not sold in shops and is not yet registered as a local product. Specialized producers make it at home, on request. For a wedding they make 20 to 100 liters of *psiwo*. Some Kurpie people sell it in various parts of Poland (mainly in the center and in the Northeast) at various folklore events, village fetes, culinary festivals, and the like. An increasing number of agritourist farms make the beer and offer it to guests. However, the exact number is difficult to establish, as we suspect that some people may not be making it themselves but buying it from other producers and re-selling it on their farms.

#### *Podlasie*

During the 2013 survey conducted in the Podlasie region, 19 informants who remember making juniper beer were located, but only one of the families (Głody near Perlejewo) was still actually making the drink. This comprises around 4% of all the key informants ( $N=483$ ) interviewed in the region. In most places the tradition survived only until World War II. Since 1964 the local ethnographic museum in Ciechanowiec has been trying to revive the beer-making tradition by its incorporation, using a local recipe, in all of its folklore events. Thus increasingly, people in the Podlasie region know about the beer and are able to revive their memories from the past, even though the beverage is now commonly sold only in the summer at folklore events. The beer is, however, still made only by producers from the neighboring Kurpie region.

#### *Warmia*

Two short notes have been found mentioning the use of juniper beer in Warmia, a region which lies to the north of the Kurpie area. The beer was known as *lenkwar* (Zientara-Malewska 1959) or *piwo kadykowe* (Szyfer 1965), and it was blessed on the third day of Christmas (Szyfer 1965), then used as an ingredient in a New Year's Eve cake called *nowolat* or *nowolatek*. This particular tradition endures in most Warmian villages.

Table 2. Examples of proportions of ingredients in documented juniper beer recipes.

	Juniper berries	Water	Sugar	Honey	Yeast	Hops
<b>Kurpie region</b>						
Pre-1914 (Żwirska 1973)	1 part	2.5 parts	-	-	-	?
Respondent from Leglijowiec	1 kg	20 l	2 kg	0.5 l	20 g	some
Respondent from Charciabałda	0.5 g	10 l	-	1 l	30 g	a handful
Respondent from Kadzidło	1 kg (or more)	20 l	2.5 kg	-	20 g	2 handfuls
Regional cookbook (Kielak and Kostewicz 2004)	0.5 g	10 l	1.5 glasses (~0.4 l)	1 l	30 g	50 g
<b>Podlasie region</b>						
Glody	0.5 l	10 l	1 kg	-	30 g	a handful

### *Juniper Beer Production and Consumption in and around Urban Centers*

With regard to the major urban centers (Figure 1), mention of juniper beer occurred only in several nineteenth century sources, mainly newspapers. A reader wrote to a Warsaw newspaper “Kurjer Warszawski,” that fieldfares (*Turdus pilaris* L.), which feed on juniper berries, had disappeared from the Warsaw and Sochaczew area due to the common production of juniper beer (Anonymous 1830). In Poznań the beer was advertised by the Franciszek Gruszczyński brewery (e.g., Anonymous 1886, and in many other issues of the same newspaper), and in Warsaw by the Cybulski brewery at Św. Jana Street, no. 8 (Cybulski 1841). Juniper beer is also briefly mentioned in a newspaper from Chełmno (Anonymous 1867).

A beer-making manual (Sroczyński 1821) also contained several recipes for beer with juniper indicated as one of the spices. Two of these recipes originated in Stettin (now Szczecin in Poland) and in Berlin. In all the recipes, juniper was only a spice and not the main ingredient; the beers were made of malt with spices added. Juniper beer is also mentioned in Dziarkowski’s manual of home remedies (Dziarkowski 1821), where it is described as a beer made of malt and juniper berries without hops. An interesting recipe for juniper beer is provided in an agricultural handbook published in Cracow, southern Poland (Anonymous 1804:70–71): 1 *korzec* (ca. 120 l) of juniper berries was fermented with  $\frac{1}{4}$  *korzec* (ca. 30 l) of barley malt and two *garniecs* (ca. 7.5 l) of boiled apples or wild pears.

### **Wine and Spirits**

In several localities throughout Poland, both within the range of the juniper beer-making area (i.e., northeastern Poland) and outside it, longer fermentation of the juniper berry was also reported, along with a higher sugar content. Additionally, adding the berries to vodka was reported, often in the food-medicine context or in order to make homemade gin (Bohdanowicz n.d.; Table 2; Figure 3). These seem to be scattered instances, not forming a uniform tradition, apart from in the Gdańsk area where a local brand of gin, *Stobbes Machandel*, was common. This juniper-spiced, 38% proof spirit was produced in Tiegenhof (now Nowy Dwór Gdański) between 1776 and 1945 (Ruhnau 1971:106). In our own field research, we encountered no one making juniper wine, only low-alcohol beverages or the custom of steeping juniper berries in vodka.

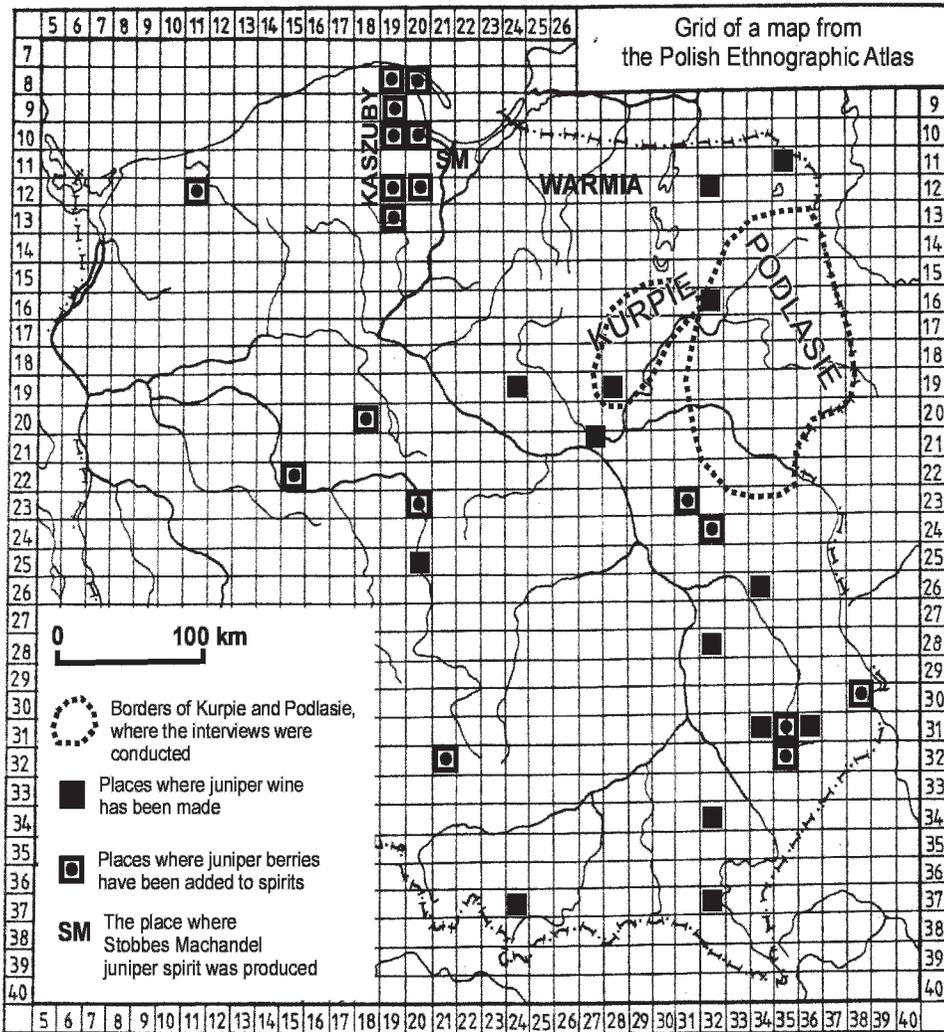


Figure 3. The distribution of juniper use in wine making or to flavor spirits as recorded in the questionnaires of the Polish Ethnographic Atlas (extracted from Bohdanowicz n.d.).

### Juniper Beer Production Procedure

In the Kurpie region today, according to our respondents and other contemporary sources, the main ingredients of *psiwo kozicowe* are juniper berries, water, yeast, and sugar, often also honey and hops (Table 1). Juniper gives the beer its characteristic resinous flavor, fragrance, and also probably acquires bacteriostatic properties during the fermentation process. The berries contain sugar, which was important in the early twentieth century and earlier, when sugar was expensive. Juniper beer was a local product made by poor peasants. Although they produce it mainly for festive occasions and weddings, they often could not afford any sugar at all. Thus, the proportion of juniper berries, sugar, and honey differed depending on the availability of the ingredients. According to

Żwirska (1973) this was nearly a rule before World War I. Currently, the limiting ingredient is not sugar but juniper berries. Collecting the berries is time consuming, and according to our respondents, there are also fewer juniper bushes from which to do so. In Kurpie, juniper berries for use in homemade beer now come from three sources: 1) self-collection from local plants; 2) purchase from specialized collectors working in the area; or 3) purchase from herbalist shops (called *Herbapol*). The hops used in the recipe can also come from any of these three sources. The typical recipe proportions mentioned by the respondents from both Kurpie and Podlasie are: 20 l of water, 1 kg of juniper berries (or more if possible), 2–2.5 kg of sugar and/or honey (these two ingredients can be added in various proportions), 2 handfuls of hops, and 20–60 g yeast (Table 1).

The berries are first pounded, traditionally in a wooden mortar, but now also in other containers, mixed with water and left overnight or boiled for two hours. Then they are strained through a cloth to separate the seeds and resin. Only the strained liquid is used in the fermentation process. The liquid is mixed with sugar and honey, heated and cooled. Then the yeast is added. Hops are boiled with a small amount of water and an extract is added to the container with other ingredients, or is added to juniper berries straight away. Nowadays the beer is fermented in 1.5 liter plastic fizzy drink bottles. Originally it was brewed in wooden containers. *Psiwo* is ready after three days and can be kept in a cool place for another few weeks. Juniper beer produced in Kurpie has a typical light brown beer color and a similar proportion of sweet and sour tastes.

## Discussion

As juniper ‘beer’ does not contain malt or any other form of cereal it is debatable whether this drink should be called a beer at all. However, the local name of the drink can be translated as ‘juniper beer’ (*psiwo kozicowe*, *piwo jałowcowe*), so we adhere to this emic term in the article. Some details of the production of the drink are also similar to those used in beer making, such as a short fermentation period, low-alcohol content, and, at least originally, the diminished importance of restricting the presence of oxygen, in contrast to wine fermentation. Moreover, juniper was sometimes just an addition to proper malt beers, as previously mentioned. Juniper berries were attractive ingredients for making alcoholic beverages because they combine two features: they contain considerable amounts of sugar, which enables fermentation, while at the same time they have antiseptic, bacteriostatic properties (used in herbal medicine), which probably lengthens the product’s shelf life. Moreover, the berries have a pleasant fragrant smell, adding a specific sensorial quality to juniper products.

Four key factors are responsible for Kurpie’s reputation as the capital of the juniper beer revival in Poland, the first being simply the presence of large juniper populations. Second is the central role of juniper traditionally in food, beverages, making wooden utensils, and in healing (smudging) (Chętnik 1924, 1928, 1936), along with the historically significant poverty of the region. Finally, the expertise of the Kurpie inhabitants in rendering their folk culture available to tourists, visitors, and consumers outside the region is a critical factor.

Although juniper occurs throughout Poland, its abundance is quite variable. The largest juniper populations occur in dry pastures, both on acid sandy soils and on chalk, and in the Carpathians even on clay. Kurpie is a region known for its infertile soils. Because of these conditions, juniper is a very common plant there. However, pastures are a declining habitat due to the abandonment of grazing; consequently, juniper populations are in decline. For example in the Białowieża Forest (northeastern Poland) juniper was the only species of forest edge shrub whose populations had declined over a 30-year period (Łuczaj 1994). A similar decline was also observed by our respondents in Kurpie. The gradual disappearance of juniper was already observed by Chętnik (1928), who wrote that forest owners (to the dismay of peasants) destroyed junipers because of their high combustibility.

In Kurpie, where sugar and sweet products were historically expensive and hard to obtain, there were two main sources of sugar to sweeten dishes or beverages: honey and juniper berries. So the use of juniper berries was a necessity. The farms in the regions produced little, due to bad soils (either infertile acidic sands or marshes). Famines in Kurpie were particularly severe. Even up until the turn of the nineteenth and twentieth century there were years when people were so hungry in spring that they had to sustain themselves mainly on wild greens (Chętnik 1936). That is probably why traditional knowledge of using wild food has been kept relatively alive there. The tradition of making fermented beverages is also very strong in Kurpie, as in many other parts of eastern Poland and Eastern Europe in general (e.g., Maurizio 1926; Parížková and Vlčková 2011). Other fermented and lacto-fermented drinks made in Kurpie, apart from juniper beer include bread soup (*žur*), *podpiwek* (literally “underbeer”—a very light homemade beer), and a form of *kvass* (a drink made of fermented bread crusts). In the early twentieth century, tree buds were also lacto-fermented as a base for soups (Chętnik 1936).

A unique feature of Kurpie culture was the fact that juniper was one of the most prominent plants, if not the most prominent, in many aspects of spiritual culture, to the extent that Chętnik (1928) devoted a special article to its role there. Juniper branches were used as firewood, incense, meat flavoring, horse medicine, material for making baskets, fishing rods, whips, and other utensils. The berries, apart from their use for beer, were given to horses to treat *zółzy*, (i.e., strangles [equine distemper], *Adenitis equorum*). Its branches were, apart from cereals, the most important ingredient of Assumption Day herbal bouquets. These bouquets, blessed all over Poland, usually contain a significant portion of locally important medicinal plants (compare Łuczaj 2011b, 2011c).

Another prominent factor that has contributed to the revival of juniper beer in Kurpie is the peoples' expertise in promoting their folk culture. The drink is only part of a larger set of objects of local culture that are sold to tourists. Other special attractions include sculptures, cutouts, high quality honey and other bee products, but most of all, gigantic ‘Easter palms’—long structures, up to several meters high made of a variety of plant material used during Palm Sunday celebrations. Local folklore events attract large numbers of tourists, mainly from Warsaw. This positive and widespread image of a vibrant folk heritage was created by a combination of the intense activity of local cultural centers and the

genuine interest in local arts and crafts. Efforts to promote the regional culture to outsiders have been observed, although some degree of competition between villages and event organizers exists as well (Madej 2006a, 2006b, 2007, 2008a, 2008b, 2009). It is interesting to note that although the ethnographic museum in Ciechanowiec (Podlasie region) has included homemade juniper beer in its folklore events for over 40 years, it has garnered little attention there compared with the Kurpie area. We believe that one of the reasons for the success of the Kurpie juniper beer is the fact that it is sold in ordinary plastic bottles with labels, so the customers who buy the beer can take it home and show the label to others. Another reason is that Kurpie beer is also sold at events outside the region, whereas in Ciechanowiec the product is only served at the museum in the context of the folklore events.

It should be noted that the juniper beer tradition has been rejuvenated largely as the result of the interest of outsiders (i.e., tourists). Thus, this case study is an ostensibly positive example of tourists' interest in, and influence upon, "traditional" culture. Not only have the residents started profiting from their traditional food and beverage but they have also started consuming it themselves. Juniper berries, due to their high sugar content, served as a kind of survival ingredient, but now, as sugar is cheap, their main role is to flavor the drink. All in all, the maintenance of knowledge about the nutritional properties of juniper berries and subsequent methods of processing can be considered an element securing the traditional knowledge of emergency foods in the area.

What should also be emphasized in this article is the specific situation of culinary traditions in Eastern Europe. This part of the continent was under the influence of Communism for decades. The communist ideology emphasized quantity of production and the easy availability of basic products like bread, milk, or sugar, completely neglecting local culinary traditions (Kujawska and Łuczaj 2011; Parížková and Vlkova 2011). Aristocrats dwelling in rural manors were often the holders and promoters of rural culinary traditions, yet they were dispossessed and often persecuted. Individual business was either completely banned or strongly restricted (depending on the country). Thus, local culinary traditions regressed and have undergone unification more rapidly than throughout the more affluent West. This happened in part because no one could profit from small-scale, high-quality production of food or advertise local goods and specialties. For this reason, the case of Kurpie is ineffably unique. It is one of the few regions of Eastern Europe that has managed to preserve and promote its local traditions successfully, and it did so even before the fall of Communism. Yet the actual revival of *psiwo kozicowe* started after the 1989 transition from Communism to a market economy. It is puzzling that juniper beer was made mainly in the western half of Podlasie, the part inhabited predominantly by Catholic Poles, and is not known in the Orthodox eastern Podlasie close to the Białowieża Forest. This issue warrants further study.

The connection of a drink made of juniper berries with food security, at first blush, may seem vague. However, it must be emphasized that the drink was, as far as we know, made only from natural, local products and utilized the richest local sources of sugars—juniper berries and honey. It was only later, throughout

the twentieth century, that it started incorporating processed sugar. In the past, juniper berries provided a fragrant, pleasant addition to a beverage and indeed, the best wild local source of sugar. In large territories with sandy soils like the Kurpie area, juniper has been the dominant species of the shrub layer of pine forests and the dominant plant in dry pastures.

It is not unlikely that the tradition of fermenting juniper berries in north-eastern Europe is a very ancient one. McGovern et al. (forthcoming) report that juniper is chemically attested for use in a mixed fermented beverage from Nandrup (ca. 1500–1300 BC), Kostræde (ca. 1100–500 BC), and Juellinge (ca. 200 BC) in Denmark. Juniper may have at least 1,300 years of history in alcoholic beverages spanning the Bronze and Iron Ages of that country. It is quite possible that the tradition of juniper beer making in Poland and Scandinavia has continued uninterrupted since those times. Another explanation would be that *psiwo kozicowe* is a degenerate, famine form of beer, derived from beers spiced with juniper. A definite answer could only be given by a larger body of archaeological or historical evidence, which we do not possess. Taken together, the ecologic origins of all the ingredients, independent of agriculture, show the resilience of the local population in the face of limited food resources. Its persistence is a testament to Kurpie's survival, culinary independence, and their fight against the attempted homogenization of traditions under Communism.

### Conclusion

Juniper beer was a relatively common drink in several parts of northern Poland until the beginning of the twentieth century. Juniper "berries," were an attractive ingredient for making a fermented beverage due to their high sugar content, easy availability, and interesting flavor. Juniper beer rapidly declined in use throughout the twentieth century. It is now made on a larger scale only in the Kurpie region, where it has been revitalized as a culinary novelty for tourists but the local residents have themselves also resumed its use. Nowadays a limiting factor in juniper beer production is the decreasing population of juniper bushes due to the gradual transformation of pastures into woodlands. Juniper beer in Poland remains a noteworthy if not significant example of the cultural conservation of a locally important non-timber forest product and its evolution into a tourist commodity, further helping to preserve the memory of a culinary ingredient originating solely from locally available forest resources.

### Authors' Contributions

TM carried out the field study in Kurpie and initiated our study on juniper beer; EP carried out field studies in Podlasie and JD provided the nineteenth century sources. ŁŁ reviewed the archival ethnographic sources from the twentieth century and wrote the first draft of the article. All of the authors contributed to writing the final article and supplied literature sources.

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