

Provided for non-commercial research and education use.
Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>

Contents lists available at [SciVerse ScienceDirect](http://www.sciencedirect.com)

Journal of Ethnopharmacology

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

A relic of medieval folklore: Corpus Christi Octave herbal wreaths in Poland and their relationship with the local pharmacopoeia

Łukasz Jakub Łuczaj*

Department of Ecotoxicology, Faculty of Biotechnology, University of Rzeszów, Werynia 502, 36-100 Kolbuszowa, Poland

ARTICLE INFO

Keywords:

Flower garlands
Fumigation
Ritual plants
Pharmacopoeia
Apotropaic
Ethnobotany
Wianki
Oktawa Bożego Ciała

ABSTRACT

Ethnopharmacological relevance: Herbal wreaths are blessed all over Poland on the eighth day of the Corpus Christi Octave (usually in June). They used to contain many species of aromatic and medicinal plants, both collected from the wild and cultivated. The aim of this study was to document the present composition of wreaths using photographs (etic perspective) and questionnaires (emic perspective) and compare it with the local pharmacopoeia, the composition of Assumption Day bouquets (blessed in August) and historical data on the composition of the wreaths.

Materials and methods: The study was carried out in SE Poland (near Krosno). Photographs of 245 wreaths were taken and 133 questionnaires concerning the blessed plants and their medical use were obtained.

Results: On average a photographed wreath contained over five species of plants and an average informant listed six species. The frequency of species in photos and questionnaires was similar. Several medicinal plants which used to be the key elements of the wreaths (e.g. *Sedum acre*, *Asarum europaeum*, *Matricaria recutita*, *Thymus pulegioides*, *Alchemilla* spp.) are now less frequently seen, mainly due to vegetation transformations. Nowadays only about a quarter of species in the wreaths are medicinal plants, the remaining are mainly ornamental flowers. Only a part of the local pharmacopoeia is represented in the blessed wreaths and bouquets. The wreaths were often used in fumigation practices (whole wreaths or single species taken out) for a whole continuum of purposes: from purely ritual to medicinal. Nowadays they serve a mainly apotropaic function, but help to preserve traditional ethnomedicinal knowledge.

Conclusion: The blessing of herbal wreaths in Poland seems to be the last relic of a more widespread custom found in medieval times throughout northern and central Europe originally associated with summer solstice.

© 2012 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

1.1. Medicinal plant blessing in churches

Catholic church festivals, similarly to religious rituals in some other religions, e.g. Hinduism, Buddhism, and the religions of ancient Romans and Greeks, are very ornate and often involve the use of ornamental, symbolic or medicinal plants (Goody, 1993; Chatterjee, 2001; de Cleene and Lejeune, 2003; de Carvalho, 2011). Traditional church rituals used to be very meaningful for farmers as the holidays marked important points in the agricultural year (Paluch, 1984; Ruszel, 2004). The blessing of certain plants in churches on particular days reminded people to collect

them, but was also believed to strengthen the action of herbs, giving them additional magical powers (Łuczaj, 2011a).

In Poland, medicinal plants were blessed mainly on two occasions—Corpus Christi Octave (68 days after Easter) and Assumption Day (15th of August), and were used to a much lesser extent as parts of Easter ‘palms’ (Zawistowicz, 1933; Klimaszewska, 1981; Paluch, 1984; Kowalski, 1996; Łuczaj, 2011a, 2011b). It is often speculated, not without reason, that the ethnobotanical folklore, which has evolved around church holidays is an amalgamate of Christian traditions and local pre-Christian traditions and beliefs (Rostafiński, 1922; de Cleene and Lejeune, 2003). Nowadays we are living in times when church attendance has drastically dropped in most European countries (in some of them nearly completely marginalizing the position of religion) and these changes have been coupled with a decline in local ethnobotanical traditional knowledge, whose remnants have been recorded and saved by teams of ethnobotanists.

* Tel.: +48 134385113, +48 602497483.

E-mail addresses: lukasz.luczaj@interia.pl, zielna@luczaj.com

We may expect that traditional rituals and celebrations, such as church holidays and weddings, may preserve frozen vestiges of the past, a phenomenon which is nearly a rule for many aspects of spiritual and material culture (Frazer, 1894; Moszyński, 1929–1939). This study is an attempt to investigate this issue on the scale of one small region. I focused on one of the two main festivals when medicinal plants are blessed in Poland: Corpus Christi Octave (later called CCO). In contrast to the other “herb blessing holiday”—Assumption Day (later called AD), when bouquets/bunches are blessed, on CCO wreaths of flowers and medicinal plants are brought to churches. Blessing herbal bouquets on AD is practiced in a few Central European countries. Its ethnobotany was recently studied by Łuczaj (2011a, 2011b). Blessing herbs on CCO seems to have a narrower distribution and has never gained any attention in international ethnobotanical or ethnopharmacological publications, hence there is an urgent need to document and publicize its existence.

1.2. Corpus Christi and flower wreaths

Corpus Christi (in full *Festum Sanctissimi Corporis Christi, Solemnity of the Most Holy Body and Blood of Christ*) is one of the most important holidays in the Catholic Church celebrated ten days after Pentecost, between the 21st of May and the 24th of June, depending on the date of Easter. It is, however, different from most traditional Christian festivities in that it has a relatively short history. It was invented by Saint Juliana of Mont Cornillon (in Belgium), following her mystical visions. The aim of the holiday was the veneration of the Eucharist—the body and blood of Jesus Christ. First it was introduced as a local holiday by the bishop of Liège. The first holiday was officially celebrated in 1247. The Bishop of Liège requested the pope to extend the celebration to the entire world. In 1264 Pope Urban IV published the Bull *Transiturus*, which announced the new world-wide holiday. By the early-fourteenth century the holiday celebrations, including festive processions around towns, became installed in most European countries (Rubin, 1992).

Corpus Christi was followed, like most other main holidays, by the so called Privileged Octave. This was another seven days of celebrations, when the liturgy remained similar to that of the main holiday. This period lasted eight days altogether, hence the name ‘octave’. In 1955, Pope Pius XII simplified the church calendar and removed the octaves. However the CCO was maintained by the Polish episcopate of the Roman–Catholic church due to its traditional importance in the country.

A characteristic feature of Corpus Christi celebrations, from their beginnings, were large public processions (Zika, 1988). In preparation, the towns were decorated with flowers and flower petals were scattered. Flowers, particularly roses, were often arranged in wreaths. This brought about the association of this holiday with flower wreaths. In France, parts of Central Europe, and Germany, Corpus Christi is known as the day of wreaths, e.g. *Kranzeltag* in German (Peterson, 1998; Ball, 2003). Many European towns were still decorated by flower wreaths on Corpus Christi in the 19th century, e.g. in Spain (Stewart, 1855; C.B.K., 1868) and Austria (Wells, 1852). Wreaths were also worn on people's heads during the processions (Dow, 2006), as is documented for a procession in Nuremberg in 1442 (Backman, 1952). At the Corpus Christi medieval procession in Minden (North Rhine-Westphalia), all the town council, merchants and the members of guilds and brotherhoods wore wreaths on their bare heads (Löther, 1999; after Sillasoo, 2009). In Bamberg (Bavaria), the parish church provided the participants of the Corpus Christi procession with wreaths of pennyroyal (*Mentha pulegium* L.), cornflowers and a garland around the monstrance (Löther, 1999; after Sillasoo, 2009). In 1530, 90 wreaths of marjoram

(*Origanum majorana* L.) and 28 wreaths of pennyroyal were ordered for the musicians, clergy, and pupils, by St. Sebald church in Nuremberg (Löther, 1999; after Sillasoo, 2009). The Diocesan Synod of Worms, held in 1610, among other decrees relating to the celebration of *Corpus Christi*, decreed that boys wearing wreaths on their heads should walk in the processions appointed for the day (Walsh, 1897). In 1642, in Gorwihl, children wearing wreaths led the procession, followed by the Eucharist (Forster, 2001). In Chartres, in 1784, the reformers suppressed the wearing of wreaths of flowers by the choir during the octave of *Corpus Christi* and all the following Sundays, up to St. John the Baptist's Day (MacManners, 1999). German girls used to wear thyme wreaths on Corpus Christi and then hang them by their beds as protection from evil disguised as a handsome man (VDVV, 1935–1936, pp. 418–419; after de Cleene and Lejeune, 2003).

Flower wreaths were not limited to Corpus Christi. They were adored by ancient Romans and Greeks, worn both for joyous occasions and used as offerings to the dead (de Cleene and Lejeune, 2002–2003). Also, in medieval times or later, they were used, for example, for baptismal, nuptial, and funeral rites (e.g. Shahan and Wynne, 1913; Sillasoo, 2009). The earliest record of the use of flower garlands in early Christianity comes from the patriarch Severus, who wrote that the seventh century neophytes wore garlands of flowers (Shahan and Wynne, 1913). They were also part of various festivities and rituals in Europe. In fifteenth century England they were also used on St Barnaby's Day, which in the times of the Julian calendar coincided with summer solstice. Also, in Germany, wreaths made of wormwood (*Artemisia absinthium* L.) and vervain (*Verbena officinalis* L.) were worn on midsummer night (Vogt, 1893). In Poland flower wreaths are also associated with midsummer—together with candles they are placed on water on St. John's Eve (23rd of June) (Ruszel, 2004). Flower wreaths have also been woven on this day in Sweden (Frazer, 1894; Svanberg, 1999). In the 19th century they were made and hung outside or inside a house or barn in order to protect the cattle and people against evil forces. They were kept, dried, during the winter. Sometimes the dried wreaths were burned, and the smoke was used against various diseases (Svanberg, 1999, pp. 220–221).

The reformation must have severely restricted the spread of the wreath traditions in Europe, particularly where whole regions or countries became Protestant. For example, in England Corpus Christi was celebrated between 1318 and 1547 (Laroque, 1993), and we have a record of rose garlands worn in the procession on that holiday (Hazlitt and Brand, 1905), which was later abolished by the Anglican church (Simpson, 1976).

The country where plant use is the most strongly associated with Corpus Christi is Poland. Many 19th century sources document the widespread blessing of flower wreaths on the eighth day after Corpus Christi (the Octave of Corpus Christi). The date of this celebration ranges from May, 28th to July, 1st depending on the date of Easter. In most regions of Poland (northern and central parts), a few wreaths are woven (usually an odd number, often nine), each from a different species of medicinal plant (Gloger, 1903; Paluch, 1984). Such separation of species may have been very useful if the blessed species were used medicinally. However, in the south of Poland, where this study took place, mixed-species wreaths are woven. Paluch (1984) put forward a hypothesis that the use of mixed-species wreaths is a form of degeneration of previously separate-species wreaths. However a very sharp dividing line can be drawn between these two areas, which suggests some old administrative division, may be along the border of dioceses.

It should be noted that another custom is associated with Corpus Christi. This is using branches (mainly from birch) stuck to altars. They are subsequently taken home and stored in cases of

illness (Paluch, 1984). A similar tradition is known from Germany (VDVV, 1935–36).

Flower wreaths were not only used as a part of CCO rituals. In lowland Poland unmarried girls placed them in rivers and streams on St. John's Eve (23th of June, usually a few days later than CCO), and boys searched for the wreaths of girls they were interested in. Wreaths were generally a symbol of virgins and unmarried girls and were sometimes worn by them as head decorations. In Polish, the idiom “to lose the wreath” (*stracić wianek*) means “to lose virginity”. This is most likely a pre-Christian association as, according to the medieval chronicle of Długosz, the Czech princess Dąbrówka, the wife of the first historic Polish prince—Mieszko I from the end of the 10th century, was scorned for wearing a flower wreath after having become a married woman (Gloger, 1903). Today nearly every Polish rural wedding includes the ceremony of all unmarried girls attending the wedding trying to catch the wedding wreath (as an omen of a quick marriage). This is also a widespread and mainstream wedding custom in England (Sarah Luczaj, personal communication).

Kolberg, the 19th century author of the many-volumed monograph of Polish folk culture (only partly published in his lifetime) often describes the species blessed on CCO in various regions of Poland (Kolberg, 1961–2002), one of the accounts comes from the study area (Kolberg, 1974).

Józef Rostafiński, a botanist contemporary to Udziela and Kolberg, also attempted to study the custom. In his 70 questions survey, published in several newspapers, he included a question concerning the composition of the bouquets (Köhler, 1993). However he added this question in a later version of the questionnaire and received relatively few responses to this issue, and this part of his study remained unpublished. Three of the responses come from the study area (two independent letters from Dębowiec from 1883 and 1909 and one from Potok from 1883).

Paluch (1984), in his monograph of Polish medical ethnobotany, published some quantitative results concerning the frequency of particular species in CCO wreaths, based on material from the whole country. However, these were only percentages of the total sum of use records: *Sedum acre* L.—11.3%, *Mentha* sp.—8.7%, *Matricaria recutita* L.—7.6%, *Centaurea cyanus*—7%, *Thymus* sp.—5.9%, *Trifolium* sp.—5.6%, *Urtica* sp.—3.7%, *Asarum europaeum* L.—2.8%, wild *Rosa* sp.—2.6%, *Hypericum* sp.—2.5%, *Tilia* sp.—2.5%. The commonest form of using wreaths, according to Paluch (1984), is fumigation (ca. three quarters of reports) and the commonest disease cured was children's “fright” (ca. 30% cases).

In 2008, a research project was launched by the author of the article to document the plants blessed in churches in detail, mainly using photographs. Since 2008, thousands of AD bouquets have been photographed in various parts of eastern and southern Poland, and in 2009 CCO wreaths were also documented. The results of this study are several publications concerning the tradition of AD bouquets (Łuczaj, 2011a, 2011b; Fitkowski, 2011). This report is the first more detailed quantitative study of the blessed wreaths.

In the study the following goals were identified:

1. What is the composition of the wreaths, particularly the proportion of medicinal plants?
2. How does the number of wild, cultivated and medicinal plant species in the wreaths compare to the respective numbers in the Assumption Day bouquets blessed in the same region studied by Łuczaj (2011a)?
3. What proportion of the local pharmacopoeia recorded in the archival studies from the XIX and XX century is found in the blessed wreaths and bouquets today?

4. Has the blessing of CCO wreaths managed to preserve the memory of medicinal plants that otherwise would be lost completely?
5. What is the relationship between the medicinal and apotropaic uses of plants?

2. Methods

2.1. Study area

The area chosen, around the towns of Biecz, Jasło, Krosno, Strzyżów, Brzozów and Rymanów (Fig. 1), is inhabited by a Polish ethnic group called Pogórzanie, and the whole area has a homogenous material and spiritual culture. The Pogórzanie is not a group with any form of self-identity but a cultural area artificially defined by ethnographers on the basis of material culture and local customs. The vast majority of the population is Roman-Catholic, of Polish descent. Historically, there is a considerable admixture of German colonizers who arrived there in medieval times and are now completely Polonized (Ruszel, 2004).

This area has both a relatively rich rural culture and well preserved semi-natural grasslands, which form the largest reservoir of medicinal plants traditionally blessed in the bouquets.

The study area has a cold temperate climate (mean temperature is around 8 °C, mean July temperature is 18 °C, mean January temp.—4 °C, mean annual rainfall—700–800 mm per year). It is moderately densely populated (~100 people per km²). The landscape is a mixture of rural settlements, small towns, hay meadows, arable fields, pastures and woodland. Within the last few decades there has been a tendency to abandon farming, so many fields and grassland have turned into secondary vegetation. The majority of the population now lives on work outside farms, mainly in the largest towns of the region or periodic work abroad.

The unemployment rate is high and income is one of the lowest in the country. On the other hand most families in the studied places own their own piece of land and grow vegetables. It is still very common for extended families to live together in one house. Nearly all children attend Roman Catholic religion lessons at school and most people regularly attend Sunday services at church.

2.2. Emic and etic

A picture of the past and present nature of the tradition was obtained by comparing historical data, results of questionnaires from local key informants and photos of bouquets, to compare the



Fig. 1. Location of study area (Łuczaj 2011a, modified).

emic and etic vision of the bouquets in a similar way to the previous study on AD bouquets (Łuczaj, 2011a). Zent (1996) defined these terms as follows:

“An emic point of view corresponds to the perceptions, nomenclature, classifications, knowledge, beliefs, rules and ethics of the local plant world as defined by a native of the local cultural community.”

“An etic perspective denotes the conceptual categories and organization of the ethnobotanical environment according to the researcher, who is often an alien to the local culture and whose conceptual system ideally derives from the language and rules of science.”

2.3. Etic perspective—photographic recording of contemporary wreaths

Altogether 245 digital photographs were taken, in 25 localities, in order to document the wreaths (Fig. 2). The photos were usually taken before and during masses on Corpus Christi Octave (June, 18th, 2009) in Krościenko Wyżne (18 wreaths), Korczyna (29), Dukla (27), Głójscie (15) and Stary Żmigród (57) by the author of the article. Photos were also taken by friends and students in sixteen other localities, with the largest set from Dębowiec (30), Bieździedza (15), Dobrzechów (9), Krosno (6), Skołyżyn (6) and Trzcinica (6).

The wreaths were photographed from a distance of 50–100 cm, sometimes an additional photo was taken from a different angle. A database with the species composition of the wreaths was made. Unidentified taxa were also recorded in order to count the species number per wreath. The species were identified by the author of the article who has considerable expertise in the local flora: he produced two publications on the distribution of vascular plants in the area (Łuczaj and Oklejewicz, 2001; Gutkowska et al., 2002) and for several years ran a garden design company in the area, getting acquainted with the cultivated ornamentals used. Local flora (Oklejewicz, 1993) was also consulted, as well as the atlas of distribution of the vascular plants of Poland (Zajac and Zajac, 2001). All the wreath photographs

were printed in color and deposited as “photographic vouchers” in the Ethnographic Museum in Rzeszów.

Photographs are an undervalued tool for ethnobotanical study, mainly due to concerns about the ability to identify taxa using photographs. However, their use is increasing (e.g. Thomas et al., 2007, Łuczaj, 2011a, 2011b), particularly now that there is easy access to digital cameras and portable computers, which can be used both by the researcher and the informant in their communication or in the documentation of research. It is also an appropriate tool in Poland, a country whose flora is well studied and a competent field botanist should be able to identify most taxa from photographs.

2.4. Etic perspective—wreaths in the questionnaire

People's perception of the wreaths and knowledge of species used in them were assessed using a questionnaire. The questionnaire forms were distributed to middle-aged or elderly Roman-Catholics who themselves take part in the tradition (oldest respondent—88 years old, youngest—44, mean age—69). Most of them were female, (only four men were interviewed). All of them were either farmers or grew up on farms. Most respondents were perceived by the locals as relatively knowledgeable people in the field of traditions or herbalism, however none of them were healers or specialized experts in the field of herbalism. The questionnaire consisted of open questions (freelisting) about the plants blessed on the eighth day after Corpus Christi and on AD. The questions concerning the latter holiday were as follows (Polish original text in the Appendix Table A1):

- What plants are blessed on Corpus Christi Octave?
- Are there any plants which used to be blessed and are not blessed now? Until when were they blessed and why did the custom stop?
- How were the wreaths used afterwards?
- Which of the plants blessed on Corpus Christi Octave and Assumption Day are traditionally used as medicine and how?

Altogether 133 respondents from 57 settlements (villages and towns) filled in the questionnaires themselves or were interviewed and their responses noted down by the interviewer (Fig. 3). Out of them only half, i.e. 61, answered the question about the traditional medicinal use in their area. Others did not know medicinal plants or refused to answer this more complicated question. Some taxa mentioned by the respondents were identified in the field. However, as most questionnaires were completed indoors, also in winter, we may expect that the respondents knew more blessed plants than they actually listed. They may have omitted some covert taxa, which they recognize, but cannot name.

A list of taxa mentioned by at least by one respondent as locally used medicinally was compiled and was labeled as “respondents' pharmacopoeia” in further analyses, as opposed to “archival pharmacopoeia”, i.e. the list of plants used in the area according to archival sources, characterized in the next subchapter.

2.5. Historical comparison

The following archival sources were used to create a picture of local pharmacopoeia in the late 19th and 20th centuries, from the territory where the research took place (Fig. 3):

1. Unpublished data from a detailed study of the traditional use of medicinal plants from the Polish Ethnographic Atlas in

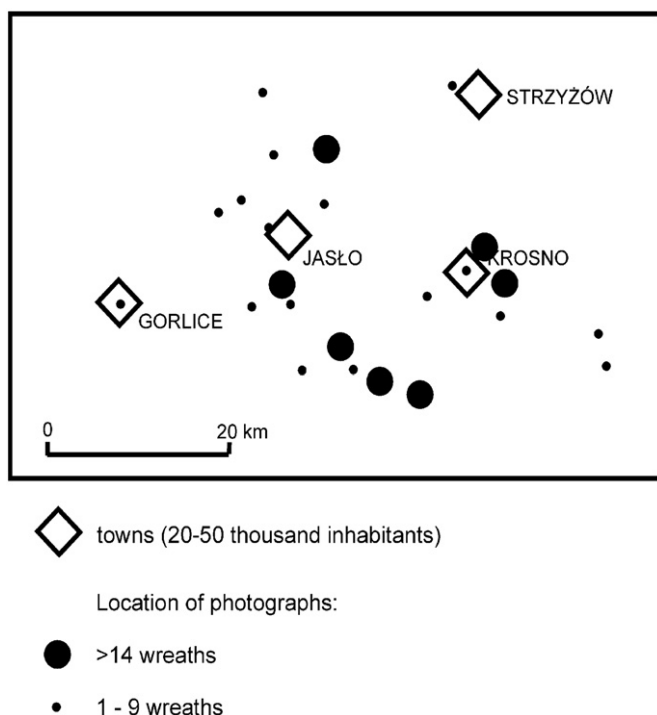


Fig. 2. Distribution of photographs of Corpus Christi Octave wreaths.

1949–50 (six freelisting Questionnaires nos. 3 and 4 containing voucher specimens) from Przysietnica, Rymanów Zdrój, Cergowa, Wielopole, Szufnarowa and Bieździedza.
 2. Three letters in response to the questionnaire of Józef Rostański—two from 1883 (by Janina Łozińska from Potok and Roman Gutwiński from Dębowiec), and one from 1909 (by Franciszek Kowalski about Dębowiec)—for description of this study see Köhler (1993) and Łuczaj (2010a).

Information on the plants which used to be blessed in the area was compiled from two of the aforementioned letters to Rostański, as well from the ethnographic works of Kolberg (1974) and Tync (1994). Most folk names from these sources were identified, as the same names are commonly used nowadays in the studied area or adjacent regions (precautions concerning name identification listed by Łuczaj (2010b) were followed).

2.6. AD bouquets

AD bouquets in this region were characterized in another publication (Łuczaj, 2011a), using the same informants and the same questionnaire (Table 1). However, due to technical reasons

(hours of Holy Masses on CCO are less varied than on AD, there is usually one service in the late afternoon) the localities where photographic documentation was taken slightly differ.

3. Results

In the photographs of the wreaths (Table 1; Figs. 4–6), 124 separate taxa (species or genera) were found (5.1 taxa per wreath, maximum 13 species; 1.6 wild taxa per wreath). In the questionnaire, 95 taxa were recorded (6.4 per wreath).

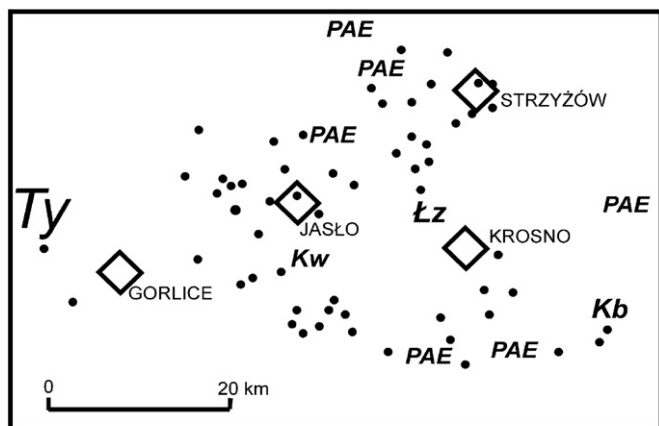
In the photographs, the most commonly recorded taxa were cultivated roses (*Rosa* spp.), carnations (*Dianthus* spp.), *Achillea ptarmica* 'Flore pleno', *Leucanthemum vulgare* L., *Alchemilla* spp., *Paenonia officinalis*, *Philadelphus* spp., *Thymus pulegioides* L., *Asarum europaeum* L., *Lysimachia thyrsiflora* and wild strawberry *Fragaria vesca* L.

In the questionnaires, wild thyme (*Thymus pulegioides* L.) was most often mentioned, followed by *Sedum acre* L., *Asarum europaeum* L., *Matricaria chamomilla* L., *Rosa* spp., *Fragaria vesca* L., *Centaurea cyanus* L., *Alchemilla* spp., *Corylus avellana* L. and *Achillea* spp.

The differences between species frequencies in the lists from photos and questionnaires were significant for 17 out of 20 of the commonest species (Table 2), in contrast to AD (Łuczaj, 2011a), where the differences were significant for only 14 out of 20 commonest species (and the differences were on average smaller and had lower *p* values). A few once important wreath species are mentioned by a large percentage of informants, but present (though in many locations) in just a fraction of bouquets



Fig. 4. A Corpus Christi wreath from Dębowiec.



◊ towns (20-50 thousand inhabitants)
 • localition of questionnaires and interviews
 historical sources:
 Ty - Tync
 ŁZ - Łozińska
 Kb - Kolberg
 Kw - Kowalski and Gutwiński
 PAE - Polish Ethnographic Atlas

Fig. 3. Distribution of questionnaires and interviews about Corpus Christi Octave wreaths.

Table 1
 Comparison of Corpus Christi Octave wreaths and Assumption Day bouquets in the study area.

	Corpus Christi Octave wreaths	Assumption Day bouquets
No. of questionnaires	133 from 57 localities	133 from 57 localities
No. of photographed items	245 from 25 localities	178 from 16 localities
Total no. of species mentioned in the questionnaires	95	116
Mean no. of species mentioned in the questionnaires	6.4	10.3
Total no. of species in the photographs	124	150
Mean no. of species in the photographs	5.1	7.6
Mean no. of wild species per photograph	1.6	2.9
Mean number of medicinal taxa from local pharmacopoeia (present and archival) per wreath/bouquet	1.29	3.42
Estimate of the % of households blessing the items	~40–60%	~60–80%



Fig. 5. A Corpus Christi wreath from Korczyna.



Fig. 6. In Stary Żmigród each family blesses at least one wreath.

(particularly *Thymus pulegioides* L., *Sedum acre* L., *Asarum europaeum* L., *Matricaria chamomilla* L., *Achillea millefolium* L. and *Corylus avellana* L.). The species which are less mentioned but very frequent in the bouquets are obviously ornamental flowers (e.g. *Rosa* spp., *Dianthus* spp. and *Paeonia officinalis* L.).

Nowadays most respondents still look upon the wreaths with great reverence, however most of them just hung them up on the walls or doors of their houses and premises as general apotropaic protection (Table 3; Fig. 7). Some mentioned more specific uses including fumigation. Fumigation with the wreaths was performed for a variety of purposes, most commonly during

thunderstorms to protect households from lightning, but also for medicinal purposes, both for humans and animals. Several respondents admitted that smudging is still performed nowadays, particularly when small children are ill and the illness of “fright” is expected, or when cows get ill. Some herbs were taken out and used separately, particularly *Thymus pulegioides* (used for infusions) and *Sedum acre* (used for medicinal fumigations). The unused wreaths are never thrown out, but always burned.

The respondents mentioned on average 4.8 medicinal plants blessed on CCO or AD (SD=2.5). This gives a list of 61 medicinal species altogether. A similar number of medicinal species was obtained from the analysis of the archival materials (64 species; 12.4 per source). As many as 34 species are common to both lists. Although the species present in only one of the two pharmacopoeias (archival versus respondents’) make a similarly long list, those present in the former are much more frequently blessed, compared to those mentioned by the respondents but not present in the archival pharmacopoeia.

The most frequently mentioned medicinal plants were *Hypericum* spp. (33 informants), *Thymus pulegioides* (25 informants), *Mentha* spp. (16), *Calendula officinalis* (14) and *Asarum europaeum* (10). However, all of these species nowadays occur less frequently in the wreaths, as we can see by comparing their frequency in the questionnaires with the photos.

The CCO wreaths contain significantly less species of medicinal plants (‘archival pharmacopoeia plus respondents’ pharmacopoeia’) per item (mean=1.29, SD=1.29) than AD bouquets (mean=3.42, SD=3.49, Mann-Whitney U test, $p < 0.0001$). This means that on average only a quarter of species in CCO wreaths are medicinal compared to around half in an average AD bouquet (Fig. 8). In the wreaths the largest proportion of medicinal species are those present both in the archival pharmacopoeia and in the respondents’ pharmacopoeia. In the AD bouquets the species, which are present in the archival pharmacopoeia but not in the respondents’ pharmacopoeia are better represented than those present in both.

The informants mentioned 36 species which, according to them, are not blessed any more. The most frequently mentioned taxa were *Sedum acre* (10 informants), *Asarum europaeum* (9), *Thymus pulegioides* (6), *Achillea millefolium* (3) and *Centaurea cyanus* (3). *Calendula officinalis* and *Mentha* species are less cultivated than they used to be. *Sedum acre*, *T. pulegioides* and *Alchemilla* spp. have become rare to the disappearance of pasture. *Matricaria recutita*, another plant which disappeared from the wreaths, used to be a common arable weed, has been destroyed by herbicides. Some respondents also mentioned that they stopped adding *Asarum* to wreath as it grows in the forest, which makes people reluctant to walk there and pick it, preferring to include only what grows around the house. However, generally, informants express a view that it is the habitat transformations caused by the cessation of grazing and mowing, and by the introduction of herbicides, that caused the largest changes in the wreaths.

There is considerable variation, not only in the photographed bouquets, and informants responses, but also in the archival sources concerning wreaths. Most species mentioned in the latter are still blessed, with varying, sometimes low frequency. However, *Ruta graveolens* L., mentioned by two authors (Table 4), is neither present in the photos nor in the questionnaire results.

4. Discussion

Comparison of the wreaths with local pharmacopoeia.

The number of species in the wreaths is lower than the number in AD bouquets. This was probably always the case, as

Table 2
Species recorded in at least 2% of photographs and questionnaires.

	% of photos N=245	% in questionnaire N=133	% in photos and questionnaires (weighted mean)	Significance (Chi-squared test)	Medicinal use as stated in the questionnaires (use-reports in brackets) N=61	Medicinal use in archival data (1883–1950) N=9
<i>Rosa</i> spp.—only garden varieties	73.2	37.6	55.4	***	–	–
<i>Thymus pulegioides</i> L.	18.4	72.9	45.7	***	Resp nerv dig skin (25)	Rickets, dandruff (2)
<i>Sedum acre</i> L.	10.4	54.9	32.6	***	Card (1)	Edema, skin (1)
<i>Asarum europaeum</i> L.	18	42.9	30.4	***	Resp emetic (10)	–
<i>Alchemilla</i> spp.	22	27.1	24.5	ns	Repr (7)	Udder cleaning (1)
<i>Dianthus</i> spp.	44.8	0.75	22.8	***	–	–
<i>Fragaria vesca</i> L.	11.2	27.8	19.5	***	Card (7)	Resp (1)
<i>Matricaria recutita</i> L. (Rauschert)	1.2	36.8	19.0	***	Dig nerv urin skin (25)	Dig eyes (2)
<i>Philadelphus</i> spp.	19.2	17.3	18.2	ns	–	–
<i>Centaurea cyanus</i> L.	6	27.1	16.5	***	Urin skin (2)	Eyes (1)
<i>Trifolium</i> spp.	15.6	16.5	16.1	ns	–	–
<i>Paeonia officinalis</i> L.	20.8	10.5	15.7	*	–	–
<i>Achillea millefolium</i> L.	6	21.8	13.9	***	Card repr (7)	Card (1)
<i>Corylus avellana</i> L.	4.4	23.3	13.8	***	–	'Rotten bones' (1)
<i>Leucanthemum vulgare</i> L.	22.4	3.8	13.1	***	–	–
<i>Achillea ptarmica</i> 'Flore pleno'	25.6	0	12.8	***	–	–
<i>Hypericum</i> sp.	0.8	21.0	10.9	***	Dig nerv (33)	Dig nerv (6)
<i>Mentha</i> spp.	2.8	12.0	7.4	***	Dig nerv (16)	Dig (4)
<i>Vinca minor</i> L.	4	10.5	7.3	*	Card (2)	'Spitting blood' repr (2)
<i>Lysimachia thyriflora</i> L.	12.4	0	6.2	***	–	–
<i>Papaver rhoeas</i> L.	0.4	11.3	5.8	***	–	–
<i>Tilia</i> spp.	3.2	7.5	5.4	ns	Resp (7)	Resp (1)
<i>Oenothera</i> sp.	10.4	0	5.2	***	–	–
<i>Bellis perennis</i> L.	1.2	8.3	4.7	**	Anti-fever (1)	–
<i>Calendula officinalis</i> L.	0.4	9.0	4.7	***	Resp skin card dig (14)	–
<i>Deutzia</i> spp.	8	0	4.0	**	–	–
<i>Chelidonium majus</i> L.	0.4	7.5	3.9	***	Skin (6)	Skin (3)
<i>Trifolium pratense</i> L.	7.6	0	3.8	**	–	–
<i>Aruncus dioicus</i> L.	7.6	0	3.8	**	–	–
<i>Potentilla</i> sp.	0	7.5	3.8	*	–	–
<i>Plantago</i> spp. (mainly <i>P. lanceolata</i> L.)	0	7.5	3.8	*	Skin (8)	Skin resp (4)
<i>Fragaria ananassa</i> Duchesne	6	1.5	3.7	*	–	–
<i>Campanula</i> spp.—large garden varieties	7.2	0	3.6	**	–	–
<i>Salvia officinalis</i> L.	0.4	6.8	3.6	***	Dent (6)	Throat, teeth, hair (2)
<i>Buxus sempervirens</i> L.	6.4	0.7	3.6	***	–	–
<i>Lavandula</i> sp.	1.6	5.3	3.4	ns	Skin nerv rheum (2)	Tuberculosis (1)
<i>Levisticum officinale</i> L.	0	5.3	2.6	ns	Urin (2)	Dig for cows (2)
<i>Potentilla anserina</i> L.	2.8	2.2	2.5	ns	–	–
<i>Tussilago farfara</i> L.	0	4.5	2.3	ns	Resp skin (3)	Resp skin (8)
<i>Ruta graveolens</i> L.	0	4.5	2.3	ns	Urin card (1)	Skin (1)
<i>Dimorphoteca</i> cf. <i>aurantiaca</i> DC.	4	0	2.0	*	–	–
<i>Trifolium montanum</i> L.	4	0	2.0	*	–	–
<i>Lilium</i> sp.	4	0	2.0	*	–	Skin (1)

Abbreviations: card—cardiovascular, dent—dental, dig—digestive, nerv—nervous, repr—reproductive, resp—respiratory, rheum—rheumatic, urin—urinary. Significance: * P < 0.05; ** P < 0.01; *** P < 0.001; ns - not significant.

AD bouquets are larger and the date of the latter is more favorable for the collection of medicinal and aromatic herbs. However, even the composition of plants blessed on both of the holidays compiled together still does not constitute the whole pharmacopoeia. Some plants collected in spring (e.g. *Daphne mezereum* or *Primula* spp.) do not appear in wreaths or bouquets, and neither do some plants without colorful flowers e.g. from the genera *Urtica*, *Equisetum* and *Quercus*, which were present in local pharmacopoeia.

Why was there a relatively large discrepancy between the local pharmacopoeia documented by archival studies and the

plants mentioned as medicinal by the informants? There are a variety of reasons:

1. Medicinal knowledge is dynamic, there have been changes to the plants used and their modes of use.
2. Local pharmacopoeia is extremely context-related—some plants were used only as elements of the wreath, or taken out of the wreath—when the context disappears, the use of the plants is lost.
3. The questions induced passive knowledge, people recalled a medicinal function because the plant was blessed.

Table 3
Mode of use of wreaths.

Mode of Use	No. of use-reports (N=133)
Hung up in buildings against misfortunes	47
Hung up in buildings against thunder and hail	35
Fumigation against storms	9
Fumigation against animal illness	9
Medical infusion for animals	8
Fumigation of animals when taken out for first grazing in spring	7
Medical infusion for people	6
Against animal illness (mode of application not specified)	6
Infusion for cows after giving birth	6
Dried and crushed, then placed among cultivated crops	5
Selected plants taken out for further medicinal purposes	4
Fumigation and inhalation against sore throats	4
Placed on water on Midsummer Eve	3
Laid under newly harvested grain, as protection against rodents	3
Fumigation of inflamed udders	3
Fumigation of ill people	3
Fumigation of animals for general protection	3
Against human diseases, no data on form of use	3
Placed under the heads of deceased people	3
Dried and powdered, given to animals in food for general protection	2
Hung up on wall to bring good luck	2
Thyme from the wreath placed under hens to induce laying eggs or given to chicks	2
Fumigation, no reason	2
Fumigation of the house, for protection	2
Fumigation of fields	2
Fumigation before giving birth (for cows)	2
Fumigation against children's fright	2



Fig. 7. The wreath hung up on a barn wall, for protection, Wzdów.

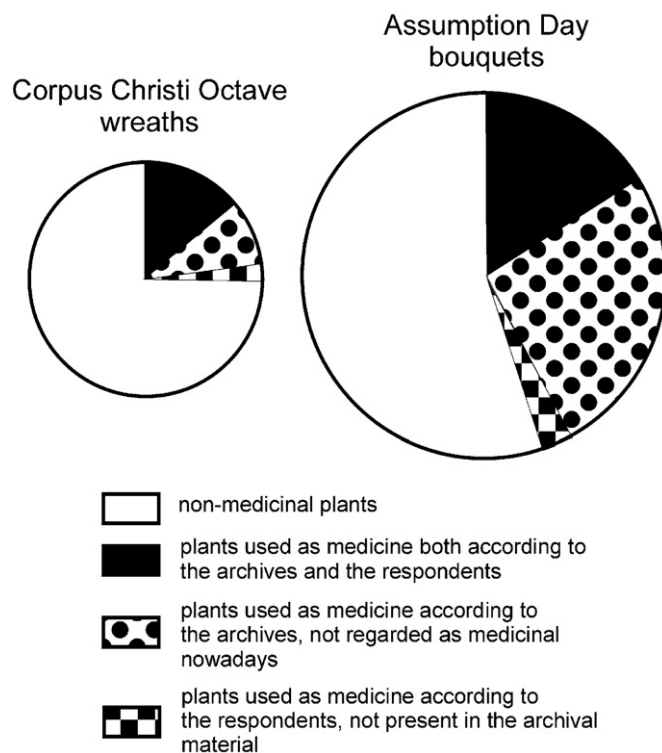


Fig. 8. The proportion of medicinal plants in an average CCO and AD bouquet. The radius of a circle corresponds to the number of species per wreath/bouquet.

From the scenarios presented above we can conclude that the pool of blessed and medicinal plants is a dynamic system. These two pools are not the same but there is a large overlap. Some plants are blessed because they are medicinal, but also some medicinal plants are rediscovered as they are frequently blessed. The blessed and medicinal plants were never the same, even in the 19th century. Ethnographers of that time often reported the use of plants stating which plants are blessed, which of them are used medicinally and which “other plants” are used medicinally.

The criteria for the choice of plants for the wreath, even those which are medicinal, seem to consist of the following requirements:

- the plant should preferably be pretty—with colorful flowers or evergreen leaves
- OR
- the plant should preferably be aromatic (e.g. *Rosa*, *Asarum*, *Fragaria*, *Dianthus*)—this may have strong links with the fact that wreaths were used for fumigation.

Hence some medicinal plants, which are not ‘pretty’ or nicely smelling are not included (*Urtica*, *Tussilago*, *Equisetum*).

It is, however, difficult to say which function of the wreath was primary: ornamental (decorative and aromatic), ritual/magical or medicinal. They have probably overlapped on many occasions, from antiquity. The strong connection of the CCO wreath with fumigation practices should be emphasized. This way of applying medicinal plants is rare in present day European ethnomedicine, but was probably widespread before and is still applied in some parts of Asia, where it constitutes a continuum between ritual and medicinal use (e.g. Staub et al., 2011; Weckerle et al., 2011). The use of smoke did not only stem from superstition but may have had a pharmacological, for instance antibacterial (Staub et al., 2011), basis.

Table 4

Plants blessed in the Corpus Christi Octave wreaths according to archival sources compared to the questionnaires and photos.

Latin name	Local name	No. of sources	% Q.	% Ph.
<i>Sedum acre</i> L.	Rozchodnik	3	10.4	54.9
<i>Alchemilla</i> sp.	Przewrotek (KW), wywrotek (KB)	2	22	27.1
<i>Matricaria recutita</i> L.	Rumianek (KB, T)	2	1.2	36.8
<i>Ruta graveolens</i> L.	Ruta (KB, T)	2	0	4.5
<i>Thymus pulegioides</i> L.	Macierzanka (KB, T)	2	18.4	72.9
some conifer, perhaps a <i>Juniperus</i> sp.	Cupresek (KB), cyprys (T)	2	0	0
<i>Allium ursinum</i> L.	Dziki czosnek (KB)	1	0	0
<i>Artemisia abrotanum</i> L. (T)	Boże drzewko (T)	1	0.8	1.5
<i>Artemisia absinthium</i> L. (KB)	Piotynek (KB)	1	0	2.3
<i>Asarum europaeum</i> L.	Kopernik (T)	1	18	42.9
<i>Astrantia maior</i> L.	Czarne ziele (KW)	1	0	0
<i>Centaurea cyanus</i> L.	Bławat (KB)	1	6	27.1
<i>Corylus avellana</i> L.	Leszczyna (T)	1	4.4	23.3
<i>Hypericum</i> sp.	Krzyżowe ziele (T), krzyżowa trawa (KB)	1	0.8	21
<i>Leonurus cardiaca</i> L.	Serdecznik (KB)	1	0	0.8
<i>Levisticum officinale</i> L.	Lubczyk (KB)	1	0	5.2
<i>Lilium</i> sp.	Lilija (KB)	1	4	0
<i>Lychnis flos-cuculi</i> or <i>Dactylorhiza</i> spp.	Kukułeczka (KB)	1	0	0
<i>Mentha</i> sp.	Mięta (KB)	1	2.8	12
<i>Rosa</i> sp.	Róża (KB)	1	73.2	37.6
<i>Salvia officinalis</i> L.	Szałwija (KB)	1	0.4	6.8
<i>Sanguisorba</i> sp.	Wietrzna róża (KW)	1	1.2	0
<i>Tanacetum vulgare</i> L.	Wrotycz (KB)	1	0	3
<i>Tyfolium</i> sp.	Konicz (KB)	1	15.6	16.5
<i>Vinca minor</i> L.	Barwinek (KW)	1	4	10.5
?	Chmurne ziele (T)	1	?	?
<i>Drosera</i> sp.??	Rosiczka (T)	1	?	?

Abbreviations: KW—Kowalski's letter, KB—Kolberg (1974), T—Tync (1994), Q.—Questionnaire, Ph.—Photographs.

Special attention should be paid to *Sedum acre*. This plant is particularly associated with wreaths throughout Poland (Paluch, 1984). Henslowa (1978) in her ethnobotanical monograph of this species in Poland showed that many beliefs concerning the powers of this plant (mainly concerning protection from thunder) are common throughout Europe and can be traced to the Roman times. *Sedum acre* is a good example of a plant whose medicinal and ritual uses are very difficult to separate. Its Polish names *rozchodnik* means to *go apart, to disperse*—and it was used for fumigation both to *disperse* storm clouds and diseases. These two kinds of use are entangled together and contribute to each other. As Nina Etkin (1996) put it: “plant medicines are viewed simultaneously as cultural objects and biodynamic substances. The pharmacologic potential of plants both contributes to and transcends their cultural meanings”.

The Corpus Christi Octave wreaths are definitely remnants of the midsummer night folklore. Before the introduction of the Gregorian calendar in 1582, the shifting date of this holiday largely coincided with the mid-summer period. That is why in Poland flower wreaths are made on both of these occasions, and similar flower wreaths with the same apotropaic function (Svanberg, 1999) were commonly made in Sweden until the 19th century. However it is now extremely difficult to talk about the early origin of this custom—of its possible early Christian, Roman-Greek or local central/northern European roots. The example of the CCO wreaths may be yet another argument for the strong influence of certain pan-European traditions distributed throughout Europe by herbals and monasteries on the present plant use in rural areas (Leonti et al., 2010; Leonti, 2011). This strong inter-connectedness of all European ethnobotanical traditions was already observed a century earlier by a Polish botanist, Rostafiński (1903) in his article on plants believed to be aphrodisiacs:

“Superstitious beliefs regarding plants of love, as in general all superstitions, spread across Europe hand in hand with civilization, not only through literary means, but orally, by contact

between the Romans and conquered barbarians, who took the beliefs from their masters. These beliefs came to us from the West, and from us spread further to the East. They first reached the educated classes, and from them spread to the peasantry. Nowadays, we have no idea how prevalent the diverse superstitions regarding plants were among the educated strata of society for the centuries up until the end of the 18th century” (translated from Polish) (Rostafiński, 1903).

Even if the CCO traditions in Poland are not ‘original’ but a relic of a widespread pan-European medieval folklore, they should be carefully preserved or at least documented as the last example of this kind of tradition in Europe, much rarer nowadays than blessing herbal bouquets on AD, still practiced in a few countries.

Interestingly, many informants know more about blessing plants than about the medical uses of plants. This knowledge is often combined, and talking about plant blessing is a good opener for ethnobotanical interviews about ethnomedicine. The annual cycle of making wreaths and bouquets provides an opportunity for people to talk about the uses of plants, and for children to help the elders to collect plants, as they are taught how to make wreaths.

Unfortunately, the tradition of making wreaths is not mentioned in any school curricula in the Polish education system and is usually not even mentioned in the religion lessons. The author of this article has only met one teacher (of Polish, in Bratkówka near Krosno) who organizes wreath-making lessons. More such classes should be organized, as they provide an ideal platform to talk about biocultural diversity. Courses of AD bouquet-making are already organized by several village cultural centers (e.g. Łuczaj, 2011b), and only one such course was organized about CCO wreaths (Portal Miejski Białystok Online, 2011).

Maintaining the ability to recognize the blessed plants is important, even if the medicinal use of plants is abandoned. As the blessed plants still remain in the people’s ‘herbal landscape’ (Sökand and Kalle, 2010, 2011) and ‘mental herbarium’ (Kołodziejska-Degórska, 2011)—that is people recognize them

Table A1

Other taxa recorded in the questionnaires, photographs and archival materials, not mentioned in Table 2.

Taxon	No. of quest. N=133	No. of photos N=245	Medicinal use as stated in the questionnaires N=61	Medicinal use in archival data (1883–1950) N=9
<i>Aegopodium podagraria</i> L.				To extract pus (1)
<i>Aesculus hippocastanum</i> L.				Rheumatism (1)
<i>Agrimonia eupatorium</i> L.	1		Dig (1)	
<i>Agrostemma githago</i> L.	2			
<i>Alcea rosea</i> L.			Derm (2)	
<i>Allium sativum</i> L.			Panacea (1)	Dig, derm (2)
<i>Alnus glutinosa</i> L.				'Against rotting bones', derm (2)
<i>Alopecurus pratensis</i> L.		1		
<i>Althaea officinalis</i> L.			Resp (1)	
<i>Amaranthus caudatus</i> L.	1			
<i>Amelanchier</i> cf <i>lamarckii</i> F.G. Schroeder		1		
<i>Anethum graveolens</i> L.	2		Dig (12)	
<i>Anthemis arvensis</i> L. and <i>Matricaria maritima</i> L. ssp. <i>inodora</i>		8		
<i>Anthyllis vulneraria</i> L.		1		
<i>Arctium</i> sp.		1		Derm (3)
<i>Aronia</i> sp.			Card (1)	
<i>Artemisia abrotanum</i> L.	2	2	Derm (1)	Derm (1)
<i>Artemisia absinthium</i> L.	3		Dig (5)	Dig (1)
<i>Artemisia vulgaris</i> L.	2	2	Dig (5)	Vet–repr (1)
<i>Asparagus officinalis</i> L.		9		
<i>Astilbe</i> sp.		4		
<i>Avena sativa</i> L.			Nerv (1)	
<i>Berberis thunbergii</i> DC.		2		
<i>Betula pendula</i> Roth	3		Urin (2)	
<i>Briza media</i> L.		1		
<i>Bryonia alba</i> L.				Dig (1)
<i>Calluna vulgaris</i> L.			Nerv, urin (1)	
<i>Campanula patula</i> L.	2	4		
<i>Capsella bursa-pastoris</i> L.	1			
<i>Carpinus betulus</i> L.		1		
<i>Carum carvi</i> L.	2			
<i>Centaura jacea</i> L.	1		Rachitis (1)	
<i>Centaurium erythraea</i> Rafn	3		Dig (5)	Dig (4)
<i>Cerastium</i> sp.		1		
<i>Chaerophyllum aromaticum</i> L.		1		
<i>Cichorium intybus</i> L.	1		Dig (1)	Rachitis, dig (2)
<i>Cirsium rivulare</i> (Jacq.) All.		2		
<i>Coreopsis</i> sp.		1		
<i>Coronilla varia</i> L.		1		
<i>Corylus maxima</i> Miller—a purple form		4		
<i>Cruciata glabra</i> (L.) Ehrend.		2		
<i>Daphne mezereum</i> L.				Scrophulosis (1)
<i>Daucus carota</i> L. (cultivated)			'Has vitamins' (1)	
<i>Daucus carota</i> L. (wild)		1		
<i>Delphinium</i> sp.		3		
<i>Dicentra spectabilis</i> (L.) Lemaire		1		
<i>Dryopteris filix-mas</i> L. and <i>Matteucia struthiopteris</i> L.		4		
<i>Equisetum</i> sp.			Hair (1)	Urin, derm (5)
<i>Eriophorum</i> sp.	1			
<i>Eschscholzia californica</i> Cham.		1		
<i>Euonymus fortunei</i> (Turcz.) Hand.-Maz.		5		
<i>Euphorbia</i> sp.		3		
<i>Euphrasia</i> sp.	1		Eyes (2)	
<i>Frangula alnus</i> Miller	1		Vet–repr (1)	
<i>Fraxinus excelsior</i> L.	1			
<i>Gaillarda</i> sp.		3		
<i>Galium mollugo</i> L.		1		
<i>Genista tinctoria</i> L.				Vet–dig (1)
<i>Glechoma</i> sp.				Derm (1)
<i>Hedera helix</i> L.	4	1		
<i>Helipterum roseum</i> Benth.	1			
<i>Hemerocallis</i> sp.		3		
<i>Hesperis matronalis</i> L.		1		
<i>Heuchera</i> sp.		2		
<i>Hosta</i> sp.		8		
<i>Hydrangea</i> sp.	1	4		
<i>Impatiens walleriana</i> Hook.f.		2		
<i>Iris</i> —other spp.	2	4		
<i>Iris pseudoacorus</i> L.		3		
<i>Juniperus communis</i> L.				Dig, resp (3)
<i>Kerria japonica</i> (L.) DC. 'Plena'		1		

Table A1 (continued)

Taxon	No. of quest. N=133	No. of photos N=245	Medicinal use as stated in the questionnaires N=61	Medicinal use in archival data (1883–1950) N=9
<i>Knautia arvensis</i> L.		4		
<i>Lamium album</i> L.				Resp (1)
<i>Lathyrus tuberosus</i> L.		1		
<i>Leontodon hispidus</i> L.	1	2		
<i>Leonurus cardiaca</i> L.	1			nd (1)
<i>Leucanthemum</i> cf. <i>maximum</i> DC.		1		
<i>Lonicera</i> spp.—climbing taxa		4		
<i>Lonicera xylosteum</i> L.		1		
<i>Lotus corniculatus</i> L.		6		
<i>Lunaria annua</i> L.		1		
<i>Lupinus polyphyllus</i> Lindl.		6		
<i>Lychnis chalconica</i> L.		7		
<i>Lysimachia nummularia</i> L.		1		
<i>Maianthemum bifolium</i> (L.) F.W. Schmidt	1			
<i>Malus pumila</i> Mill.		1	Resp (6)	
<i>Malva</i> cf. <i>neglecta</i> Wallr.	3		Derm, resp (2)	nd (1)
<i>Matricaria discoidea</i> DC.		1		
<i>Matthiola longipetala</i> (Vent.) DC.		1		
<i>Medicago</i> sp.	2			
<i>Melampyrum arvense</i> L.		5		
<i>Melissa officinalis</i> L.	2		Nerv (2)	
<i>Myosotis scorpioides</i> L.		4		
<i>Myrtus communis</i> L.	1			
<i>Nepeta cataria</i> L.				'Utrząs'? (1)
<i>Nigella</i> sp.		2		
<i>Ocimum basilicum</i> L.			Dig (1)	
<i>Ononis arvensis</i> L.	1		Urin (1)	
<i>Origanum majorana</i> L.				Memory aid (1)
<i>Origanum vulgare</i> L.	4			
<i>Oxalis</i> sp.	1			
<i>Papaver somniferum</i> L.			Nerv, resp (3)	Nerv (1)
<i>Petasites</i> sp.?	1		Fumigation for good sleep (1)	
<i>Pimpinella saxifraga</i> L.				Cholera (1)
<i>Polygala</i> sp.		1		
<i>Polygonum aviculare</i> L.	2			
<i>Polygonum</i> sp.	2			
<i>Potentilla erecta</i> L.	1			
<i>Primula elatior</i> L.				Resp (1)
<i>Prunella vulgaris</i> L.				Derm (1)
<i>Prunus cerasus</i> L.		6		
<i>Prunus spinosa</i> L.				Dig (2)
<i>Pulmonaria obscura</i> Dumort.	1			
<i>Pulmonaria saccharata</i> Mill.		1		
<i>Quercus robur</i> L.				Teeth (2)
<i>Ranunculus acris</i> L. and <i>R. repens</i> L.	1	7		
<i>Rheum</i> L.				Dig (1)
<i>Ribes nigrum</i> L.		2		
<i>Rosa canina</i> L.			Resp (6)	
<i>Rosa</i> sp. (with white petals, cultivated)				Derm (1)
<i>Rosmarinus officinalis</i> L.	3	1	Nerv, card (1)	
<i>Rubus idaeus</i> L.		2		
<i>Rumex acetosa</i> L.				Derm (1)
<i>Rumex obtusifolius</i> L. and <i>R. conglomeratus</i> Murray			Vet–dig, vet–repr (2)	Vet–dig (2)
<i>Salix</i> sp.		1		
<i>Sambucus ebulus</i> L.				nd (1)
<i>Sambucus nigra</i> L.	2	4	Resp (5)	nd (1)
<i>Sanguisorba minor</i> L.		3	Against fright (2)	
<i>Satureja hortensis</i> L.				Memory aid (1)
<i>Secale cereale</i> L.				Dig (1)
<i>Sedum</i> spp. [large leaved species]	2	2		
<i>Senecio nemorensis</i> L. s.l.	1			
<i>Sinapis</i> sp./ <i>Raphanus</i> sp.?	1			
<i>Solidago</i> sp.	1		Derm (1)	
<i>Sorbus aucuparia</i> L.			Dig (4)	
<i>Stachys byzantina</i> C. Koch		2		
<i>Staphylea pinnata</i> L.	1			
<i>Symphytum officinale</i> L.				Broken bones, derm (2)
<i>Syringa</i> sp.		1		
<i>Syringa vulgaris</i> L.	1			
<i>Tagetes patula</i> L.		1		
<i>Tanacetum parthenium</i> (L.) Schulz-Bip.				Dig (2)
<i>Tanacetum vulgare</i> L.	4		Antiparasitic, dig, vet–repr (14)	Derm, dig (2)
<i>Taraxacum</i> spp.			Resp (2)	

Table A1 (continued)

Taxon	No. of quest. N=133	No. of photos N=245	Medicinal use as stated in the questionnaires N=61	Medicinal use in archival data (1883–1950) N=9
<i>Taxus</i> sp.		1		
<i>Thuja</i> sp./ <i>Chamaecyparis</i> sp.		7		
<i>Thymus vulgaris</i> L.	1			
<i>Tragopogon</i> sp.	3	1		
<i>Trifolium arvense</i> L.				Dig (1)
<i>Trifolium cf aureum</i> Poll.		1		
<i>Trifolium repens</i> L.		9		
<i>Triticum</i> sp.	1	1		
<i>Urtica dioica</i> L.	3	4		Purifying from 'phlegm', dig (3)
<i>Vaccinium myrtillus</i> L.	2	2	Dig (1)	Dig (1)
<i>Verbascum</i> sp.			Resp (3)	Resp, nerv (1)
<i>Veronica</i> sp.	2			
<i>Viburnum opulus</i> L.	4	2	Resp, dig (2)	Resp (1)
<i>Vicia cracca</i> L.		9		
<i>Viola arvensis</i> Murray	3		Dig (1)	Derm (1)
<i>Viola</i> sp.	2			
<i>Viola wittrockiana</i> Gams ex Nauenb. and Buttler	3	3		
<i>Viscum album</i> L.	1		Card (1)	
<i>Weigela</i> sp.		4		
'bobek żółty'—unidentified	1			
'boże żytko' (<i>Gnaphalium</i> sp./ <i>Omalotheca</i> sp.?)	1			
Unidentified Poaceae no. 1	1			
Unidentified Poaceae no. 2		2		

Abbreviations: card—cardiovascular, dent—dental, dig—digestive, nerv—nervous, nd—no data on the kind of use, repr—reproductive, resp—respiratory, rheum—rheumatic, urin—urinary, vet—veterinary.

and know where they grow—medicinal uses can more easily be revived in the future.

5. Conclusions

CCO wreaths and AD bouquets do not contain the whole local pharmacopoeia, as some medicinal herbs with little ornamental interest are not blessed (e.g. *Tussilago*, *Equisetum*). CCO wreath contain relatively less medicinal plants than AD bouquets, probably due to the fact that the wreaths' ornamental and apotropaic function has always been very strong. The wreath were probably originally associated with solstice celebrations whose time roughly coincided with Corpus Christi Octave in the Julian calendar.

Wreaths and bouquets may preserve earlier stages of the local pharmacopoeia, as many herbs included in them are perceived as medicinal but are not used separately, while others are not perceived as medicinal any more but are still blessed. It must be emphasized that CCO wreaths in Poland are the last living relic of this once widespread pan-European medieval element of folklore.

Acknowledgments

Many thanks to Monika Kujawska (University of Wrocław) and my wife, Sarah, for helpful comments on the manuscript, and to all the friends and students who generously helped me to photograph the wreaths and access the informants.

Appendix

See Table A1.

References

- Backman, E.L., 1952. Religious Dances in the Christian Church and in Popular Medicine. George Allen and Unwin Ltd., London.
- Ball, A., 2003. Encyclopaedia of Catholic Devotions and Practices. Our Sunday Visitor Publishing, Huntington (Indiana).
- C.B.K., 1868. Corpus Christi Day in Andalusia. London Society: An Illustrated Magazine of Light and Amusing Literature for the Hours of Relaxation, vol. 14, pp. 355–357.
- Chatterjee, G., 2001. Sacred Hindu Symbols. Abhinav Publications, New Delhi.
- de Carvalho, L.M.M., 2011. The Symbolic Uses of Plants. In: Anderson, E.N., Pearsall, D., Hunn, E., Turner, N. (Eds.), Wiley-Blackwell, Hoboken, New Jersey, USA. (pp. 351–370).
- De Cleene, M., Lejeune, M.C., 2003. Compendium of Symbolic and Ritual Plants in Europe. Man and Culture, Ghent.
- Dow, J.R., 2006. German Folklore. Greenwood Press, Westport (Connecticut).
- Etkin, N.L., 1996. Ethnopharmacology: the conjunction of medical ethnography and the biological of therapeutic action. In: Sargent, C.F., Johnson, I.M. (Eds.), Medical Anthropology. Contemporary Theory and Method. Praeger, Westport, pp. 151–164.
- Fitkowski, Ł., 2011. Bukiety zielne poświęcone w dniu Matki Boskiej Zielnej w Sanockiem. Etnobiologia Polska 1, 7–19 <http://www.etnobiologia.com/2011/eb1_7_19%20fitkowski.pdf>.
- Forster, M.R., 2001. Catholic Revival in the Age of the Baroque: Religious Identity in Southwest Germany. Cambridge University Press, Cambridge (pp. 1550–1750).
- Frazer, J.G., 1894. Golden Bough: A Study in Comparative Religion. Macmillan, New York and London.
- Gloger, Z., 1903. Wieniec. Encyklopedia staropolska ilustrowana, vol. IV. Druk Piotra Laskauera i S-ki, Warszawa, pp. 430–433.
- Goody, J., 1993. The Culture of Flowers. Cambridge University Press, Cambridge.
- Gutkowska, B., Krowiak, M., Łuczaj, Ł., Niedźwiedzka, J., Oklejewicz, K., 2002. Notatki florystyczne z Pogórza Dynowskiego (Karpaty Zachodnie). Fragmenta Floristica et Geobotanica Polonica 9, 43–47.
- Hazlitt, W.C., Brand, J., 1905. Faiths and Folklore: A Dictionary of National Beliefs, Superstitions and Popular Customs, Past and Current, with Their Classical and Foreign Analogues, Described and Illustrated, vol. 1. Reeves and Turner, London.
- Henslowa, M., 1978. Z badań nad wiedzą ludową o roślinach. IV. Sedum sp. Rozchodniki. Slavia Antiqua 25, 295–311.
- Klimaszewska, J., 1981. Doroczne obrzędy ludowe. In: Biernacka, M., Frankowska, M., Paprocka, W. (Eds.), Etnografia Polski. Przemiany kultury ludowej, vol. 2. Instytut Historii Kultury Materialnej PAN, Wrocław, pp. 127–153.
- Köhler, P., 1993. Ankieta Józefa Rostafińskiego z 1883 roku dotycząca ludowego nazewnictwa roślin w Polsce. Analecta—Studia i Materiały z Dziejów Nauki 2, 89–119.
- Kolberg, O., 1961–2002. Dzieła Wszystkie [Collected Works]. Polskie Towarzystwo Ludoznawcze & Instytut im. Oskara Kolberga, Wrocław-Poznań.

- Kolberg, O., 1974. Sanockie—Krośnieńskie. Część I. Dzieła Wszystkie, t. 49. Polskie Towarzystwo Ludoznawcze, Wrocław-Poznań.
- Kotodziejska-Degórska, I., 2011. Rośliny bez nazwy, rośliny o wielu nazwach—o wiedzy etnobotanicznej mieszkańców polskich wsi na Bukowinie Rumuńskiej. Plants without names, plants with many names—about ethnobotanical knowledge in Polish villages in the Romanian Bukovina. *Etnobiologia Polska* 1, 43–55 <http://www.etnobiologia.com/2011/eb1_43-55%20kotodziejska.pdf>.
- Kowalski, P., 1996. Wianki i wieńce: próba rekonstrukcji znaczeń. *Folklorystyka—Zeszyty Naukowe Uniwersytetu Opolskiego* 2, 77–85.
- Laroque, F., 1993. Shakespeare's Festive World: Elizabethan Seasonal Entertainment and the Professional Stage. Cambridge University Press, Cambridge.
- Leonti, M., 2011. The future is written: impact of scripts on the cognition, selection, knowledge and transmission of medicinal plant use and its implications for ethnobotany and ethnopharmacology. *Journal of Ethnopharmacology* 134, 542–555.
- Leonti, M., Cabras, S., Weckerle, C.S., Solinas, M.N., Casu, L., 2010. The causal dependence of present plant knowledge on herbals—contemporary medicinal plant use in Campania (Italy) compared to Matthioli (1568). *Journal of Ethnopharmacology* 130, 379–391.
- Löther, A., 1999. Prozessionen in Spätmittelalterlichen Städten. Böhlau, Cologne.
- Łuczaj, Ł., 2010a. Changes in the utilization of wild green vegetables in Poland since the 19th century: a comparison of four ethnobotanical surveys. *Journal of Ethnopharmacology* 128, 395–404.
- Łuczaj, Ł., 2010b. Plant identification credibility in ethnobotany: a closer look at Polish ethnographic studies. *Journal of Ethnobiology and Ethnomedicine* 6, 36.
- Łuczaj, Ł., 2011a. Herbal bouquets blessed on Assumption Day in south-eastern Poland: freelisting versus photographic inventory. *Ethnobotany Research and Applications* 9, 1–25 <www.ethnobotanyjournal.org/vol9/i1547-3465-09-001.pdf>.
- Łuczaj, Ł., 2011b. Changes in Assumption Day Herbal Bouquets in Poland: a nineteenth century study revisited. *Economic Botany* 65, 66–75.
- MacManners, J., 1999. The Clerical Establishment and its Social Ramifications. Oxford University Press, Oxford.
- Moszyński, K., 1929–1939. Kultura ludowa stowian. Polska Akademia Umiejętności, Kraków.
- Łuczaj, Ł., Oklejewicz, K., 2001. Uzupełnienia do flory Doiów Jasielsko-Sanockich. *Fragmenta Floristica et Geobotanica Polonica* 8, 276–278.
- Oklejewicz, K., 1993. Flora Doiów Jasielsko-Sanockich. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego—Prace Botaniczne* 26, 1–160.
- Paluch, A., 1984. Świat roślin w tradycyjnych praktykach leczniczych wsi polskiej. Wydawnictwo Uniwersytetu Wrocławskiego, Wrocław.
- Peterson, F.W., 1998. Building Community, Keeping the Faith: German Catholic Vernacular Architecture in a Rural Minnesota Parish. Minnesota Historical Society Press, St Paul.
- Portal Miejski Białystok Online, 2011. Białostockie Muzeum Wsi: poznaj tradycje Bożego Ciała. <<http://www.bialystokonline.pl/bialostockie-muzeum-wsi-poznaj-tradycje-bozego-ciala,artykul,60201.html>> (accessed 20.11.11).
- Rostafiński, J., 1903. Rośliny miłośnicze. In: Gloger, Z. (Ed.), *Encyklopedia staropolska ilustrowana*, vol. 4. Warszawa, pp. 177–181.
- Rostafiński, J., 1922. Wpływ przeżyć chłopińskich Mickiewicza na obrazy ostatnich dwu ksiąg Pana Tadeusza oraz o święceniu ziół na Matkę Boską Zielną. *Polska Akademia Umiejętności, Wydział Filologiczny—Rozprawy*, vol. 61, pp. 1–36.
- Rubin, M., 1992. Corpus Christi: The Eucharist in Late Medieval Culture. Cambridge University Press, Cambridge.
- Ruszel, K., 2004. Leksykon kultury ludowej w Rzeszowskim. Muzeum Etnograficzne w Rzeszowie, Rzeszów.
- Shahan, T.J., Wynne, J.J. (Eds.), 1913. The Catholic Encyclopaedia: An International Work of Reference on the Constitution, Doctrine, Discipline, and History of the Catholic Church, vol. 6. Universal Knowledge Foundation, Robert Appleton Company, New York.
- Sillasoo, Ü., 2009. Plants in Late Medieval festivals and customs in written and pictorial sources from southern central Europe. *Environmental Archaeology* 14, 76–89.
- Simpson, J., 1976. The Folklore of the Welsh border. Rowman and Littlefield, Totowa, New Jersey.
- Söukand, R., Kalle, R., 2010. Plant as object within herbal landscape: different kinds of perception. *Biosemitotics* 3, 299–313.
- Söukand, R., Kalle, R., 2011. Change in medical plant use in Estonian ethnomedicine: a historical comparison between 1888 and 1994. *Journal of Ethnopharmacology* 135, 251–260.
- Staub, P.O., Geck, M.S., Weckerle, C.S., 2011. Incense and ritual plant use in Southwest China: a case study among the Bai in Shaxi. *Journal of Ethnobiology and Ethnomedicine* 7, 43.
- Staub, P.O., Schiestl, F.P., Leonti, M., Weckerle, C.S., 2011. Chemical analysis of incense smokes used in Shaxi, Southwest China: a novel methodological approach in ethnobotany. *Journal of Ethnopharmacology* 138, 212–218.
- Stewart, A.M., 1855. The Church Festivals; or, Scenes in Many Lands. Second Series. Svanberg, I., 1999. Människor och växter: svensk folklig botanik från 'ag' till 'örtbad'. Arena, Stockholm.
- Thomas, E., Van deBroek, I., VanDamme, P., 2007. What Works in the Field? A Comparison of Different Interviewing Methods in Ethnobotany with Special Reference to the Use of Photographs. *Economic Botany* 61 (4), 376–384.
- Tync, B., 1994. Zwyczaje doroczne. In: Udziela, S. (Ed.), *Ziemia biecka. Lud polski w powiatach bieckim i grybowskiem*. Sądecka Oficyna Wydawnicza WOK, Nowy Sącz, pp. 176–177.
- VDVV (Verband deutscher Vereine für Volkskunde), 1935–36. *Handwörterbuch des deutschen Aberglaubens*, vol. 7. W. de Gruyter & Co., Berlin und Leipzig.
- Vogt, F., 1893. Beiträge zur deutschen Volkskunde aus älteren Quellen. *Zeitschrift des Vereins für Volkskunde* 1893, 349–372.
- Walsh, W.S., 1897. *Curiosities of Popular Customs and of Rites, Ceremonies, Observances, and Miscellaneous Antiquities*. J.B. Lippincott Co., Philadelphia.
- Weckerle, C.S., Staub, P.O., Schiestl, F.P., 2011. Continuum between ritual and medicinal use of plants: smoke analysis of ritual plants from Southwest China. *Chimia* 65, 438.
- Wells, W., 1852. The Festivities of the Imperial City. *Ladies' Repository* 12, 8–12.
- Zajac, A., Zajac, M. (Eds.), 2001. *Atlas rozmieszczenia roślin naczyniowych w Polsce—Distribution Atlas of Vascular Plants in Poland*. Jagiellonian University, Kraków.
- Zawistowicz, K., 1933. *Boże Ciało w wierzeniach i obrzędach ludu polskiego*. *Wiedza i Życie* 6, 191–483.
- Zent, S., 1996. Behavioral orientations towards ethnobotanical quantification. In: Alexiades, M.N., Sheldon, J.W. (Eds.), *Selected Guidelines for Ethnobotanical Research: A Field Manual (Advances in Economic Botany)*. New York Botanical Garden Pr Dept., New York, pp. 199–239.
- Zika, C., 1988. Hosts, processions and pilgrimages: controlling the sacred in fifteenth-century Germany. *Past and Present* 118, 38–48.