

# The Remedies of the Folk Medicine of the Croats Living In Ćićarija, Northern Istria

Andrea Pieroni<sup>1,2</sup> and Maria Elena Giusti<sup>3</sup>

<sup>1</sup> School of Life Sciences, University of Bradford, Bradford, UK

<sup>2</sup> University of Gastronomic Sciences, Pollenzo/Bra, Italy

<sup>3</sup> Department of History of Arts and Performance, University of Florence, Florence, Italy

## Abstract

An ethnobotanical field study was conducted among the Croats living in Ćićarija in northern Istria and a very restricted folk pharmacopoeia (of approximately only 30 remedies) was recorded. This finding suggests that a remarkable process of erosion of Traditional Knowledge (TK) may have taken place. The collected data were compared with the ethnobotanical findings of a field study previously conducted among the Istro-Romanians living in the nearby village of Žejane, who probably migrated there around the 14th Century. It was found that more than half of the botanical taxa were being used medicinally across the two communities, and that approximately one third of the actual medicinal plant uses were recorded in both communities. Correspondence analysis carried out comparing the same data with those of the ethnobotanical literature of Istria and Friuli-Venezia Giulia in North-Eastern Italy showed that the folk phytotherapy of the diverse ethnic populations living in multi-cultural Istria appears to be very similar.

**Key words:** ethnobotany, folk medicine, ethnomedicine, Istria, Croatia

## Introduction

The Ćićarija is located in the northern part of the Istria peninsula, in Croatia (Figure 1), which represents the largest peninsula in the Adriatic. For many centuries, Istria was at the cross-roads of cultural exchanges and trade between the Austrian Empire and the Republic of Venice, and it continues to be a centre of cultural interaction between Italians, Austrians, Slovenians, and Croats. The Ćićarija is an inland karstic territory, characterized by numerous dolines, and presents a typical mountainous and sub-alpine flora.

The population of the Croatian villages of the Ćićarija speak a Ćakavian dialect of Croatian, which is also spoken in many other areas of Istria and along the Croatian Adriatic sea coast (Dalmatian littoral and islands). Nowadays, the inhabitants of these villages total approx. 300 hundred people in all (some villages have fewer than 20 inhabitants each), most of whom are elderly.

The aim of this fieldwork was to collect data on the medical ethnobotany of the Croats living in Ćićarija and to compare these findings with those we collected a few years ago during a similar study we performed in the

nearby Istro-Romanian village of Žejane<sup>8</sup>, whose inhabitants probably arrived in Istria around the 14th century from the Carpathian basin.

No ethnobotanical work had previously been carried out among the Croats of the Ćićarija.

## Methodology

The fieldwork was conducted over a period of two weeks in September 2005, during which time all the Croatian villages of the Ćićarija reported in Figure 2 (Jelovice, Dane, Vodice, Trstenik, Raĉia Vas, Lanisće, Pra-poće, Brgudac) were visited several times.

Only elderly people who were natives of these villages were interviewed (twenty-seven in all). Medico-ethnobotanical information was gathered using semi-structured interviews. A clear expression of consent was obtained before each interview, and the ethical guidelines adopted by the ICE/International Society of Ethnobiology<sup>2</sup> and Italian Association of Ethno-Anthropologists (AISEA)<sup>3</sup> were rigorously followed. Interviews were conducted in



Fig. 1. Location of Istria (historical map showing the former border between the Republic of Venice and the Austrian empire).

Italian (which is spoken by even the oldest community members), notes were taken, and audio or video recordings were made of the interviewees when possible. All plants quoted during the interviews were gathered and identified following the standard works of the Italian and Istrian flora<sup>4,5</sup>. Voucher specimens were deposited in the Pharmacognosy Herbarium of the University of Bradford (international code: PSGB). Comparative analysis with our previously conducted study on the phytotherapy of the Istro-Romanians, as well as with other ethno-

botanical data available in the literature and related to surrounding geographical areas in Istria, Karst and Friuli Venezia-Giulia<sup>6,7</sup> was carried out using the software, NTSYSpc Version 2.0 (Exeter Software)<sup>8</sup>, and using methods that were analogous to those used by other scholars who have collected comparative ethnobiological data regarding home-gardens<sup>9</sup>.

## Results and Discussion

The natural ingredients representing the folk pharmacopoeia of the Croatians of the Čičarija are reported in Annex 1. The collected data show a very restricted folk pharmacopoeia, which suggests that a remarkable process of erosion of Traditional Knowledge (TK) may have taken place, probably during the last few decades. When we compared data on the actual phytotherapeutical uses of the recorded botanical taxa with those of the Istro-Romanians<sup>1</sup>, we found that more than half of the botanical taxa were quoted by both communities, and that approximately one third of the recorded medicinal plant uses were the same across the two communities (see Annex 1).

The same data was compared with the ethnobotanical literature of Istria and Friuli Venezia-Giulia in North-Eastern Italy<sup>6,7</sup> using correspondence analysis, after having built a matrix in which we took into account the occurrence/absence of the botanical taxa in the local folk pharmacopoeia of each of the selected site/ethnobotanical studies.

Figure 3 shows that apart from the medico-ethnobotanical data of the sites inhabited by autochthonous Italian and German/Slovenian speaking populations living in Central and Northern Friuli, the folk phytotherapies of the diverse ethnic populations living in Istria appear very close to each other in the diagram.

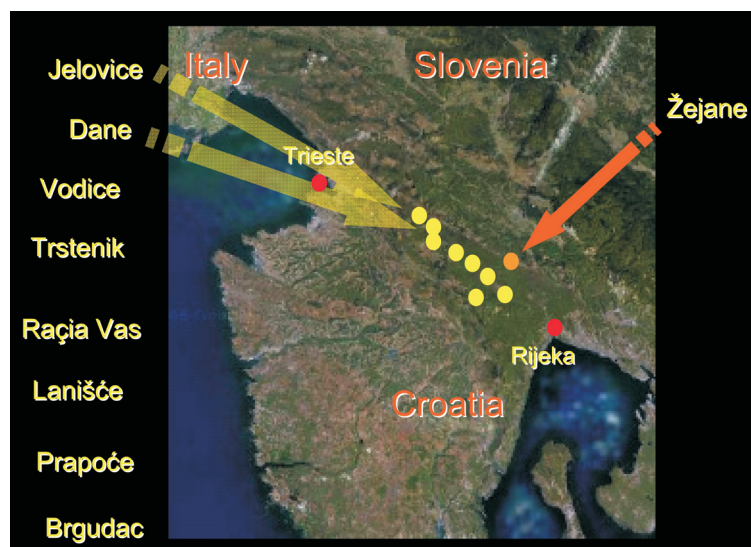


Fig. 2. Location of the Croatian villages in the study area

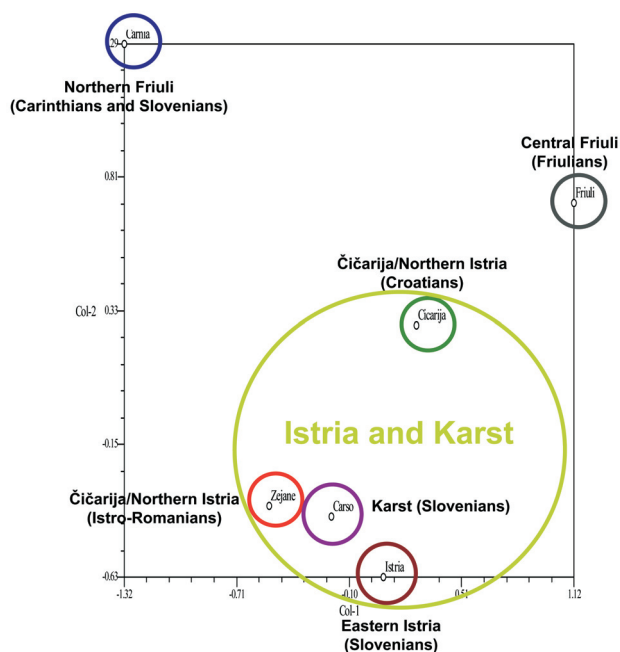


Fig. 3. Correspondence analysis of the medical ethnobotany of the Croats, Istro-Romanians, and Slovenians in Istria; of the Friuli Venezia-Giulia, North-Eastern Italy

## Conclusions

Comparative ethnobotanical analysis in Europe has become the focus of an increasing number of studies<sup>10–16</sup>,

## REFERENCES

1. PIERONI A, GIUSTI ME, MUENZ H, LENZARINI C, TURKOVIC G, TURKOVIC A, *Fitoterapia* 74 (2003) 710. — 2. INTERNATIONAL SOCIETY OF ETHNIBIOLOGY, Code of Ethics, accessed 21.05.2008. Available from: [http://ise.arts.ubc.ca/global\\_coalition/ethics.php](http://ise.arts.ubc.ca/global_coalition/ethics.php). — 3. ASSOCIAZIONE ITALIANA PER LE SCIENZE ETNO\_ATHROPOLOGICHE (AISEA), Codice Deontologico, accessed 21.05.2008. Available at: <http://www.aisea.it/Associazione/CodiceDeonto.asp>. — 4. PIGNATTI S, *Flora d'Italia* (Edizioni Edagricole, Bologna, 1982). — 5. PERICIN C, *Fiori e piante dell'Istria distribuiti per ambiente* (Centro Ricerche Storiche, Rovinj, Croatia, 2001). — 6. COASSINI LOKAR, L, POLDINI L, *J Ethnopharmacol* 22 (1998) 231. — 7. GUŠTIN GRILANC V, *Che profumo el rosmarin. Le erbe del Carso nella tradizione popolare* (Transalpina Editrice, Trieste, Italy, 2005). — 8. ROHLF F, NTSYSpc. Numerical Taxonomy and Multivariate Analysis System. Version 2.0 (Exeter Software, Stony Brook, NY, USA, 1998). — 9. VOGL C, VOGL-LUKASSER BN, CABALLERO J, *Homegardens of Maya migrants in the district of Palenque, Chiapas, Mexico*. In: STEPP JR, WYNDHAM FS, ZARGER RK, (Eds) *Ethnobiology and Biocultural Diversity* (University of Georgia Press, Athens, GA, USA, 2002), pp. 632-647. — 10. HADJICHAMBIS AC, PARASKEVA-HADJICHAMBIS D, DELLA A, GIUSTI ME, DE PASQUALE C, LENZARINI C, CENSORII E, GONZALES-TEJERO MR, SANCHEZ-ROJAS CP, RAMIRO-GUTIERREZ JM, SKOULA M, JOHNSON C, SARPAKI A, HMAMOUCI M, SAID J, EL-DEMERDASH M, EL-ZAYAT M, PIERONI A, *Int J Food Sci Nutr*, in press (DOI: 10.1080/09637480701566495). — 11. PIERONI A, QUAVE CL, *Functional foods or food medicines? On the consumption of wild plants among Albanians and Southern Italians in Lucania*. In: PIERONI A, PRICE LL (Eds) *Eating and Healing Traditional Food as Medicine* (Haworth Press, Binghamton, NY, USA, 2006), pp. 101-129. — 12.

and ethnobotanical field research concerning diasporas and minority ethnic groups<sup>17–23</sup> have highlighted the complex issue of cultural adaptation related to the changes and the transitions of ethnobotanical knowledge in folk phytotherapies.

Our results suggest that if we look at the cultural adaptation of ancient migrant communities in multi-cultural environments (as has taken place in Istria over the course of several centuries) using the lens of medical ethnobotany, acculturation processes have probably been more intense than in other »less multi-cultural« migration contexts (as for example among the historical ethnic Albanians of Southern Italy<sup>11,12</sup>, where adaptation to the main Southern Italian mainstream has followed quite complex pathways).

This finding may offer a few insights for further quantitative ethnobotanical analyses aimed at better verifying and probably challenging the hypothesis concerning the resilience of Traditional Ecological/Environmental Knowledge at the cultural edges, which has been recently proposed by Nancy Turner and colleagues<sup>24</sup>.

## Acknowledgements

Special thanks are due to all the people of the Croatian villages that were visited in this study; to the EU Commission, who funded the research consortium RUBIA (contract number: ICA3-2002-10023, [www.rubiaproject.net](http://www.rubiaproject.net), Jan 2003-Dec 2005), through which this field study in Northern Istria was financed; to Cinzia Lenzarini, for the logistic assistance.

PIERONI A, QUAVE CL, *J Ethnopharmacol* 101 (2005) 258. — 13. LEONTI M, NEBEL S, RIVERA D, HEINRICH M, *Econ Bot* 60 (2006) 130. — 14. PARDO-DE-SANTAYANA M, TARDIO M, BLANCO E, CARVALHO AM, LASTRA JJ, SAN MIGUEL E, MORALES R, *J Ethnobiol Ethnomedicine* 3 (2007) 27. — 15. PIERONI A, TORRY B, *J Ethnobiol Ethnomedicine* 3 (2007) 21. — 16. PIERONI A, GIUSTI ME, DE PASQUALE C, LENZARINI C, CENSORII E, GONZALES-TEJERO MR, SANCHEZ-ROJAS CP, RAMIRO-GUTIERREZ JM, SKOULA M, JOHNSON C, SARPAKI A, DELLA A, PARASKEVA-HADJICHAMBIS D, HADJICHAMBIS A, HMAMOUCI M, EL-JORHI S, EL-DEMERDASH M, EL-ZAYAT M, AL-SHAHABY O, HOUMANI Z, SCHERAZED MT, *J Ethnobiol Ethnomedicine* 2 (2002) 16. — 17. BARBINI S, TARASCIO M, SACCHETTI G, BRUNI A, *Informatore Botanico Italiano* 31 (1999) 181. — 18. PIERONI A, NEBEL S, QUAVE C, MUENZ H, HEINRICH M, *J Ethnopharmacol* 81 (2002) 165. — 19. CEUTERICK M, VANDEBROEK I, TORRY B, PIERONI A, *The use of home-remedies for health care and well-being by Spanish Latino immigrants in London: a reflection on acculturation*. In: PIERONI A, VANDEBROEK I (Eds) *Travelling Plants and Cultures. The Ethnobiology and Ethnopharmacy of Migrations* (Berghahn, Oxford, UK, 2007). — 20. PIERONI A, MUENZ H, AKBULUT M, BASER KHC, DURMUSKAHYA C, *J Ethnopharmacol* 102 (2005) 69. — 21. PIERONI A, SHEIKH QZ, ALI W, TORRY B, *Compl Ther Med* in press (doi: 10.1016/j.ctim.2007.03.005). — 22. PIERONI A, HOULIHAN L, ANSARI N, HUSSAIN B, ASLAM S, *J Ethnopharmacol* 113 (2007) 100. — 23. ZAMPIVA F, *Cimbri-Tzimbri Vita e Cultura delle Comunità Cimbre* 19 (1998) 145. — 24. TURNER NJ, DAVIDSON-HUNT IJ, O'FLAHERTY M, *Hum Ecol* 31 (2003) 439.

A. Pieroni

Division of Pharmacy Practice, School of Life Sciences, University of Bradford, Richmond Road, Bradford, West Yorkshire, BD7 1DP, United Kingdom  
e-mail: a.pieroni@netcologne.de

## NARODNA MEDICINA HRVATA ĆIĆARIJE SJEVERNE ISTRE

### SAŽETAK

Među Hrvatima koji žive na Ćićariji u sjevernoj Istri provedena je etnobotanička terenska studija te je zabilježena vrlo ograničena narodna farmakopeja (od otprilike samo 30 lijekova). Ovaj rezultat ukazuje na to da se vjerojatno dogodio značajan proces erozije tradicionalnog znanja. Prikupljeni podaci uspoređeni su s etnobotaničkim rezultatima terenske studije, prethodno provedene među Istro-Rumunjima koji žive u obližnjem selu Žejane i koji su tamo migrirali vjerojatno oko 14. stoljeća. Ustanovljeno je da se više od polovice vrsta koristi u medicinske svrhe u obje zajednice. Analiza provedena uspoređivanjem istih podataka s onima iz etnobotaničke literature Istre i regije Friuli Venezia Giulia u sjeverno-istočnoj Italiji pokazala je da je narodna fitoterapija različitih etničkih populacija koje žive u multikulturalnoj Istri vrlo slična.

### *Annex 1. List of the remedies of the folk medicine recorded among the Croatians living in Ćićarija.*

= Use(s), which have also been recorded among the Istro-Romanians; + use(s), which have not been recorded among the Istro-Romanians, where however the same taxon/remedy was used in the folk phytotherapy for other medical purposes; \* taxa/remedies and use(s), which have not been recorded among the Istro-Romanians.

*Allium cepa* L. (Alliaceae). Red onion. As a means of dyeing boiled eggs, which are brought to be consecrated in the Church at Eastern Day (and then ritually consumed). +

*Allium sativum* L. (Alliaceae) Garlic. Cultivated. Fresh bulb. Rubbed on the skin to treat insect bites. +

*Artemisia absinthium* L. (Asteraceae) Wormwood. Wild. Aerial parts. Used in infusion as digestive; thought to be poisonous in case of over-dosage. = (see *Balsamita major*).

*Balsamita major* Desf. (Astereaceae). Alecost. Cultivated. Leaves. Burned with wormwood and rose petals on June 21st; ill persons inhale the resulting vapours, which are thought to have a special healing power. \*

*Carum carvi* L. (Apiaceae) Caraway. Wild. Fruits. In infusions to treat intestinal pains. =

*Chelidonium majus* L. (Papaveraceae) Greater celandine. Wild. Latex. Externally applied on the skin to eliminate warts and also to treat wounds (together with *raki*). =

*Citrus limon* (L.) Burm. f. (Rutaceae). Lemon. Cultivated. Fruits. In decoction to treat intestinal troubles. \*

Cold water. A handkerchief soaked with fresh water and topically applied to the forehead to relieve headaches; thrown unexpectedly on the face to create a shock and arrest nose bleeding.

*Cornus mas* L. (Cornaceae) Cornelian cherry tree. Wild. Fruits. Consumed as snack. The very ripe fruits are fermented and distilled to give a very appreciated distillate (*raki*), sometimes used also as a digestive. +

Egg. Eaten, as a galactagogue.

Egg albumen. Scrambled and mixed with vinegar and applied externally to heal bruises (also in veterinary for horses).

Hot brick. Applied externally on the abdomen to treat intestinal pains.

Hot charcoal. Seven pieces of hot charcoal were ritually used to diagnose the evil eye in babies and children (symptoms: continuous crying, lack of appetite, fever): they were put in water, if they did not remain on the water surface, that was seen as a sign of the presence of the evil eye. Healing rituals included the consecration of the child with the remaining water where the charcoal pieces were immersed, and a Catholic prayer devoted to St. Thomas.

*Juglans regia* L. (Juglandaceae) Walnut tree. Semi-cultivated. Kernels. Eaten raw and believed to be good for all internal organs. \*

*Juniperus communis* L. (Cupressaceae) Juniper. Wild. Fruits. Digestive infusions. They can be also distilled and the resulting *raki* is used as a digestive too (in Zejane the plant is used externally as anti-rheumatic). +

*Malus sylvestris* Mill. (Rosaceae) Wild apple tree. Wild. Fruits. Macerated and fermented with water, sugar and yeast to give a home-made vinegar, which is used externally in compresses to treat rheumatisms, bruises, luxations, wounds and swollen skin inflammations; internally, for weight loss. =

*Matricaria recutita* L. (Asteraceae) Chamomile. Wild. Flowering tops. Used in very hot infusions against cough and toothaches. =

*Malva sylvestris* L. (Malvaceae) Mallow. Wild. Aerial parts. Boiled in milk, and the resulting macerate is applied on the facial skin as an emollient. Also used in external application to treat swollen or inflamed skin and muscular pains. =, +

*Melissa officinalis* L. (Lamiaceae) Lemon balm. Wild. Leaves. Used in infusion against sore throats and cough. \*

*Mentha arvensis* L. (Lamiaceae) Corn mint. Wild and cultivated in the home-gardens. Leaves. Used in infusion against sore throats, cough. The infusion is gargled to relieve toothaches. \*

Milk and butter. Consumed, as a galactagogue.

Oil. Externally, to treat burns.

*Plantago major* L. (Plantaginaceae). Plantain. Wild. Leaves. Heated on the fire and applied externally as a haemostatic and cicatrizing agent. =

*Rosa canina* L. (Rosaceae) Wild rose. Wild. Pseudofruits. In infusions for relieving gastro-intestinal pains. \*

*Rosa* spp. (Rosaceae). Garden rose. Cultivated. Petals. See *Balsamita major*.\*

*Ruta graveolens* L. (Rutaceae) Rue. Cultivated. Aerial parts. Macerated in *raki* to give it a special flavour and to make it digestive. \*

*Sambucus nigra* L. (Caprifoliaceae) Elder. Fruits. Cooked with sugar to prepare a syrup that is considered able to improve the blood circulation. Flowers. Fermented with water, sugar, and lemon to produce a beverage that is drunk in summer to quench thirst. +

*Sempervivum tectorum* L. (Crassulaceae) Houseleek. Leaf juice. Instilled into the ear against earaches. =

Stone. Put on the skin to relieve pain from insect bites. +

*Taraxacum officinale* Weber (Asteraceae). Dandelion. Wild. Flower. Macerated in water and sugar for ten days; the resulting syrup is thought to be a panacea and to quench thirst. +

Urine. Applied externally to cicatrize wounds.

*Urtica dioica* L. (Urticaceae). Nettle. Wild. Fresh aerial parts. Rubbed into the affected body parts to treat rheumatism. \*

*Vitis vinifera* L. (Vitaceae). *Raki* (grape distillate). Applied externally to heal wounds or to relieve toothaches (mixed with salt). =

Whey. Drunk to make the skin shiny.