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ETHNOBOTANY IN SEE-WB COUNTRIES; TRADITIONAL USES OF INDIGENOUS PLANTS

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SYMMARY

This paper presents the basic concepts encountered in ethnobotany. First of all, an attempt has been made to define the field of ethnobotany research, to explain the definitions, objectives, methods, and procedures of research, to answer some questions, to resolve a dilemma faced by researchers in this field. It was a challenge to present a special view of the traditional use of plants in SE Europe and Western Balkans which are rooted in cultural patterns, and phenomena characteristic of the entire Eurasian cultural space. Finally, some interesting examples should allow reader to contemplate ethnobotany in space and time tending; through mythology, tradition, legend; to understand religious character, or form; interpret the scientific merits or validity; understand cultural pattern; to note social, biological and linguistic phenomena that deals with this discipline.

Ključne reči: ethnobotany, South-East Europe, Western Balkans, indigenious plants, ethnomedicine.

THE PHENOMENON OF ETHNOBOTANY

The subject of this paper is ethnobotany, and the question is what that term exactly means? Is there a term ethnochemistry or, ethnoagronomy, perhaps ethnomathematics? Moreover, the term "ethnobotany" in Serbian language is very rarely used. More common terms are ethnopharmacy, or perhaps ethnomedicine. And, is there a difference between these two or three terms. Are ethnobotany, ethnopharmacy and ethnomedicine the same thing? The answer is no, they are not.

In essence, the end of the 19th century and Dr. John Harshberger, well-known botanist at the University of Pensilvania, will give us the answer.

Here we can see short history of its development.

In 1895, at a lecture in Philadelphia, Dr. John Harshberger, for the first time, used the term "ethno-botany" to describe his field of inquiry, which he defined as the study of "plants used by primitive and aboriginal people" [1].

One year later, for the first time, he published the term and suggested "ethno-botany" to be a field which elucidates the "cultural position of the tribes who used the plants for food, shelter or clothing".

In 1916, Robbins et al., noted that ethnobotany is more than collecting plants and procuring native names, but a *scientific work* worthy of scientific methods of investigation [2]. They suggested that ethnobotanists should strive to explain deep understandings of plant life and plant relationships as perceived by the indigenous people.

During the XX century the area of interest of ethnobotany was moved from the natural history of plant used by primitive people, to a wide range of interests of plants, dominating cultural and especially ecological and environmental contexts.

Finally at the end of XX century, Richard Ford described a New Synthesis of ethnobotany, noting that modern ethnobotanists must be able:

- to identify what plants are significant for one culture,
- to discover how the people classify, identify, and relate to them (including all segments of human life),
- to examine how the perception of the plant world, actually guides their action toward that plants (and/or to examine feedback effect).

After all, Richard Ford concluded following: "Ethnobotany is the study of the direct interrelations between humans and plants" [3].

WHAT IS THE AIM OF ETHNOBOTANY?

The shortest answer will be: to study how plants are used in a particular culture. And the full answer will be: ethnobotany studies how plants are used by the indigenous people of a particular culture or region. Uses of the plant may include for food, medicine, customs, ceremonies and rituals, for religious occasions, hunting, clothing etc. All cycles of life from the beginning, from birth until death are 'celebrated' with plants.

Ethnobotany is the systematic study of the relationships between plants and people. It is not simply the study of the human "use" of plants; rather, ethnobotany locates plants within their cultural context in particular societies, and situates people within their ecological contexts.

I will mention just a few of many questions that etnthnobotanists ask themselves, trying to give the best answer:

- when treating diseases with plants begun,
- how economic and cultural specificity influenced the development of using herbs,
- who were first experts in herbs,
- what written records we have about medicinal plants,
- what is the proportion of herbs in the total medical patients treatment,
- how specific religion and religious beliefs influence the use of plants,
- the magical properties of herbs, and
- many other issues.

TRADITIONAL USES OF INDIGENOUS PLANTS

So we can conclude that ethnobotany is a quite wide concept, and only one segment studies following topic: *Traditional uses of indigenous plants*.

When talking about the traditional use of spontaneous plants in SEE and WB countries it is necessary to know which nations, cultures, religions have had an impact on this area. These were the ancient Greek culture, then thoughts of the ancient philosophers, pagan cultures, Slavic myths and legends, Christian thoughts, Byzantium ideas, the strong penetration of Islam and Arab medicine, and the influence of European trends from the West.

In other words, traditional uses of indigenous plants in SEE and WB countries are rooted in cultural patterns and phenomena that are characteristic of the entire Eurasian cultural space. Or to simplify, in the SEE and WB countries are present impacts of all the cultural patterns of Europe and the Middle East. So let's say, that is a cradle of civilization.

Therefore I intend to show below some interesting examples, to point some questions, to give some facts, and to present the world of herbs in a different light.

All cycles of life are “celebrated” with plants, from the beginning, from birth until death. Let’s start from the birth.

Holy basil, sweet basil, *Ocimum basilicium*

What is the plant we put the newborn child under the pillow; Holy Basil (*Ocimum basilicum*), of course.

Very famous Serbian anthropologist, Veselin Čajkanović, who has studied Serbian customs, traditions and beliefs, considered basil for a divine flower [6]. It is a plant associated with Orthodox Church, dedicated to Virgin Mary. At Christmas and the patron holiday’s basil is put on icons. Exaltation of the holy cross is dedicated to basil. Especially in Greek churches on 14th September the

cross will be richly adored with basil. Greek word *basilicos* means *belonging to the king*. Legend said that this fragrant herb was found growing in the place where Saint Helen, mother of Constantine the Great, found the true cross of Christ in Palestine. When Epiphany, people put into the water dried twigs of basil. This holy water is stored and later used on many occasions, for washing, bathing mothers, infants, weak and sick. At the Easter ritual this water serves for washing faces of every child in the house, to be healthy and strong. On Pentecost, crosses are decorated with twigs, and on All Souls Day are mandatory to be the table decoration. At St. George's day shepherds used it for washing sheep.

Great Serbian naturalist and botanist Josif Pančić wrote about this plant: It is written in archaic Serb language and little difficult to translate "*...This plant is to our people much more beloved from many others that are higher in growth, with more beautiful flowers and smells. That is because basil follows the Serbs through all the serious events in life: from birth, where a bouquet of Basil sanctified in the holy water is put in the cradle near head, until his death, where his sister or cousin plants it on the grave...*" [4].

Newborn baby was blessed making a cross on the forehead with sanctified basil. Lock of baby's hair was kept with a branch of basil. In some areas there is a cap, called Smiljevac or basil cap, which was knitted with basil and immortelle (very common relationship of these two plants), which the bride must wear forty days after the wedding.

One legend says that *the Paradise is full of basil*, while the popular proverb says that *the soul of a good man smells like basil*.

Mandrake, *Mandragora officinalis*

Monasteries were places where medicinal plants were respected and often used. Their knowledge, monks passed down from generation to generation. An interesting story comes from Sir Arthur Hill, Director of the Royal Botanic Gardens at Kew, London. He described his visit to Mount Athos in 1934:
…The official botanist monk ... was a remarkable old man with an extensive knowledge of plants and their properties ... he traveled very quickly, usually on foot, and sometimes on a mule, carrying his flora with him in a large black bulky bag ... his flora was nothing less than four manuscript volumes of Dioscorides, which apparently he himself had copied out. This flora he invariably used for determining any plant which he could not name at sight, and he could find his way in his books and identify his plants to his own satisfaction with remarkable rapidity'. This indicates the powerful influence of De Materia Medica up to the twentieth century… [5].

Pedanius Dioscorides lived in the first century. He was a Greek physician who served as a surgeon in army. He wrote several books on materia medica describing more than 500 different plants.

One of them is mandrake. Over the ages, mandrake has been followed with a wonderful and mystical aura. Many secrets are related to its harvesting. While being dig out from the ground, mandrake would scream horribly and it would be fatal to the harvester who hears it. So, if someone simply pulled the plant, he would either die or go mad. To avoid that fate, the plant could be partially dug with a few remaining roots staying in the ground. Then a dog should be tied to the mandrake. The harvester, with plugged ears, would throw some food to the hungry dog. When the animal approach for food, the mandrake would be completely unrooted and the terrible scream would kill the dog instead of a man.

Mandrake was used for anesthetic properties and Dioscorides is the first who described it. It is a plant so shrouded in secrecy and mythology, used in magic rituals and sorcery, and so much valued as a talisman. Everything about it is mystical, and many nations have their own tradition concerning it. Mandrake is in fact human soul trapped in the body of the plant. It was used as an ingredient of magical potions, but mostly as a talisman that encourages love and fertility. If the owner of the root doesn't take care of it or treat it badly, it becomes a demon, which can kill the owner. Mandrake root, which has a strong resemblance to the male or female character, was a rare, prized and expensive.

During the middle Ages, witches, very often and gladly used the so-called "witch ointment" that was prepared from the mandrake root, for coating the flanks, elbows, armpits. After that they would use the broom smeared with this ointment and believe they could fly. The background of many similar stories related to mandrake and witchcraft is related to the power of flight, or as the German professor Erich Puker described, hallucinations caused by scopolamine. He described that poisoning with scopolamine is usually linked with flying, with insight into new dimensions and termination of any stable fulcrum.

Illusion and attraction of mandrake, urge us to ask whether it is magic or myth, poison or drug, inspiration or fake. The real answer probably lies somewhere in the middle...

FOLK CLASSIFICATION

Very important part of ethnobotany is so called *Folk classification*, and refers to how members of a language community name and categorize plants. This type of ethnobotanical study relies on an emic approach: That is, a description of behavior in terms meaningful (consciously or unconsciously) to the actor.

The first man who studied an emic (originated from *phonemic*) perspective of the plant world was Leopold Glueck, a German physician working in Sarajevo.

His publication (1896) dealing with the traditional medicinal uses of plants by rural people in Bosnia, may be considered the first modern ethnobotanical work [7].

One of the conclusions was that the names of the plants usually indicates the purpose of use, distinguish it from other plants, makes it easy to recognize, talks about the place where it grows, and generally describes some of the properties of interest. Something that people who gave the name wanted to be a specificity and diversity for it.

So, when we hear names like ranik, ranilist, ranjenik, trava od poseka, we know it is used for treating the wounds. Names like plućnik, plućnjak means that people use it for lungs. Podbel means white on the reverse side, čemer, čemerica, čemerika indicates that the plant is very bitter and possibly poisonous, sunčanica, suncokret, suncogled, sunčac, sunčenjak, unlike hladolež (ladolež) means, needs a lot of sun or opposite.

Or, take this example. Raskovnik was a legendary type of plant that was believed to have the ability to pick locks, remove nails, break chains and allows freeing hidden treasure. The myth is very specific in Easter Balkan countries, and still attracts many people. No one has so far found it, but if you find the place where rainbow touches the ground, who knows...

ETHNOMEDICINE

As I said, the field of ethnobotany experienced a shift from the raw compilation of data to a greater methodological and conceptual reorientation. This is also the beginning of academic ethnobotany. The so called "father" of this discipline is Richard Evans Schultes. Today the field of ethnobotany requires a variety of skills: botanical training for the identification and preservation of plant specimens; medical training, anthropological training to understand the cultural concepts around the perception of plants; linguistic training, at least enough to transcribe local terms and understand native morphology, syntax, and semantics.

The study of medicinal plants used in folk medicine, conversation with ordinary people, talking with native healers and herbalists, and making interviews with traditional country people give us a lot of quality material for the hypothesis. Results are sometimes confusing, usually amazing, but always astonishing.

Finally, I will mention several herbs used in traditional medicine, pointing to the major diseases and disorders they are used for. In most cases, the official medicine completely agrees with these applications, and that should present significant contribution of ethnomedicine and ethnopharmacy to the global medical knowledge [8, 9]:

- *Abies alba,* needles and cones for neuralgia, rheumatism, catarrh of the respiratory tract.

- *Achillea millefolium,* aerial parts for loss of appetite, dyspeptic complaints, diarrhea, cramps, bleeding hemorrhoids, menstrual complaints, as cholagogue, in home made preparations for varicose veins. Externally, for inflammation of the skin and mucous membranes.
- *Agrimonia eupatoria,* aerial parts for diarrhea, inflammation of kidney and bladder. Externally, for inflammation of the skin, mouth and pharynx.
- *Ajuga reptans,* aerial parts for gall bladder, and stomach disorders. Externally, for inflammation of mouth and larynx.
- *Alchemilla vulgaris,* aerial parts for mild and nonspecific diarrhea, menopausal complaints, dysmenorrhea. Externally, for ulcers, eczema, skin rushes.
- *Anthyllis vulneraria,* flowers as a diuretic, for blood purifying, ulcers and wounds (internally and externally).
- *Arctostaphylos uva-ursi*, leaves for infections of the urinary tract.
- *Asarum europaeum*, roots as an emetics in the treatment of alcoholism.
- *Asperula odorata,* aerial parts as a mild sedative, gall and liver disorders, expectorants.
- *Betonica officinalis,* aerial parts as a mild sedative, for neuralgia, anxiety, diarrhea, expectorant (coughs, bronchitis, asthma).
- *Betula pendula,* leaves for bacterial and inflammatory disease of the urinary tract, and for kidnystones. Externally for hair loss and dandruff.
- *Capsella bursa pastoris,* aerial parts for pre-menstrual syndrome, mild menstrual disorders. Externally for nose bleeds and superficially skin bleedings, wound sand burns.
- *Centaurium erythraea*, aerial parts for dyspeptic complaints, loss of appetite, for diabetes.
- *Chelidonium majus*, aerial parts for liver and gall bladder complaints. Externally for skin conditions such blister rashes, scabies and warts.
- *Cichorium intybus,* aerial parts and roots for loss of appetite, dyspeptic complaints, and as diuretic.
- *Cornus mas*, fruit as a tonic, for mild diarrhea.
- *Crataegus monogyna*, leaves with flowers, and fruit for senile heart, ischemia of the heart, mild forms of cardial arrhythmias, as cardiotonic, sedative, and for hypertension.
- *Epilobium angustifolium*, aerial parts for benign prostate hyperplasia.
- *Equisetum arvense,* aerial parts as diuretic and spasmolytic for infections of the urinary tract, kidney and bladder stones. Externally for wounds and burns.
- *Euphrasia officinalis*, aerial parts, externally for the inflammation of the eye.
- *Filipendula ulmaria*, flowers for cough, bronchitis, fever and cold, for rheumatism of the joints and muscles.
- *Frangula alnus*, bark for constipation.

- *Gentiana asclepiadea,* roots for loss of appetite, as a stomachic, gall and liver diseases.
- *Gentiana cruciata*, roots and aerial parts for loss of appetite, as a stomachic, as well as a component in home made preparations showing beneficial effects in gall and liver diseases.
- *Gentiana lutea,* root for loss of appetite, as a stomachic as well as a component in home made preparations showing beneficial effects in gall and liver diseases.
- *Geranium macrorrhizum*, aerial parts, externally for inflammation of the skin and mucous membranes.
- *Geranium robertianum,* aerial parts for diarrhea, gastritis, inflammatory conditions gall bladder and its ducts, kidney and bladder. Externally, for poorly healing wounds and mild rashes.
- *Heracleum sphondylium,* root and aerial parts for stomach disorders, digestion problems, diarrhea.
- *Hypericum perforatum*, aerial parts, for anxiety, depressive moods, gastritis. Externally for inflammation of the skin, blunt injuries, wounds.
- *Juniperus communis,* fruit for inflammatory diseases of the lower urinary tract.
- *Matricaria chamomilla*, flowers for inflammatory diseases of gastrointestinal tract, gastrointestinal spasms, cough, bronchitis, fever end colds. Externally for inflammation of the skin, mouth and pharynx, wounds and burns .
- *Ononis spinosa*, roots for inflammation of the urinary tract, kidney and bladder stone, gout, rheumatic complaints.
- *Origanum vulgare*, aerial parts for inflammation of the urinary tract, respiratory disorders, digestive disorders.
- *Petasites hybridus*, leaves and roots for kidney and bladder stone, respiratory disorders, gastrointestinal disorders, migraine and tension headaches.
- *Plantago, lanceolata*, leaves for common cold, cough, bronchitis, fevers. Externally for inflammation of the mouth, pharynx and skin.
- *Plantago major*, leaves for respiratory and digestive disorders. Externally for hemorrhoids, inflammation of the skin.
- *Polygonum bistorta*, rhizomes and roots for diarrhea, hemorrhoids. Externally for inflammation of the skin and mucous membrane.
- *Potentilla erecta,* rhizomes for diarrhea. Externally for inflammation of the mouth and pharynx and for poorly healing wounds.
- *Primula veris*, root and flowers for cough and bronchitis, as an expectorant, insomnia, anxiety.
- *Prunus spinosa*, flowers and fruit for common colds, diseases of the respiratory tract, obstipation. Externally for inflammation of the mouth and pharynx.
- *Rhamnus fallax*, bark for constipation.
- *Rosa canina*, fruit for colds, for disorders of the urinary tract and kidney stones.

- *Rubus fruticosus,* leaves for diarrhea. Externally for inflammation of the mouth and pharynx.
- *Rubus idaeus,* leaves and fruit for diarrhea. Externally for inflammation of the mouth and pharynx
- *Salix alba*, bark for fever, rheumatism, headaches and pain caused by inflammation.
- *Sambucus nigra*, flowers and fruits for colds, influenza.
- *Solidago virgaurea*, aerial parts for inflammation of the urinary tract, kidney stone, nephritis, cystitis, gout. Externally for healing wounds.
- *Taraxacum officinale*, leaves and roots for lack of appetite, dyspeptic complaints, gall bladder, and gout. Externally for eczema and acne.
- *Teucrium montanum*, aerial parts for respiratory and gastrointestinal disorders.
- *Thymus serpyllum*, aerial parts for gastrointestinal and respiratory disorders, spasmodic cough.
- *Tussilago farfara*, leaves and flowers for catarrh of the respiratory tract with cough.
- *Urtica dioica*, roots and leaves as a cleansing tonic and blood purifier, fever, arthritis, anaemia, inflammatory diseases of the urinary tract, enlarged prostate glands (root). Externally for skin complaints, neuralgia, hemorrhoids, hair problems.
- *Vaccinium myrtillus*, fruit and leaves. Fruits for unspecific acute diarrhea, blood purifier, inflammation of the mouth and throat, and leaves for hyperglycemia.
- *Valeriana officinalis*, roots and rhizome for nervousness, anxiety, restlessness, sleeping problems, irritable bowel syndrome, menstrual problems.
- *Verbascum phlomoides,* flowers for catarrh of the respiratory tract, cough, bronchitis.
- *Veronica officinalis*, aerial parts for bronchitis, rheumatic complaints. Externally for healing skin diseases and wounds.
- *Viola odorata,* roots for unspecific cough, bronchitis.
- *Viola tricolor*, aerial parts for bronchitis, whooping cough, rheumatism, cystitis, seborrheic skin, eczema, psoriasis.

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ETNOBOTANIKA U ZEMLJAMA JUGOISTOČNE EVROPE I ZAPADNOG BALKANA; TRADICIONALNA UPOTREBA AUTOHTONIH BILJAKA

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IZVOD

U radu je dat prikaz osnovnih pojmova koji se susreću u etnobotanici. Pre svega uložen je napor da se definiše oblast istraživanja etnobotanike, da se objasni definicijs, ciljevi, prikažu metode i postupke istraživanja, da se odgovori na pitanja i razreše neke dileme sa kojima se istraživači u ovoj oblasti najčešće susreću. Dat je poseban osvrt na tradicionalnu upotrebu biljaka u zemljama jugoistočne Evrope i zapadnog Balkana koji su ukorenjeni u kulturnim obrascima i pojavama karakterističnim za čitav evroazijski kulturni prostor. Na kraju je dato nekoliko zanimljivih primera bi trebalo da omoguće da se etnobotanika sagleda u prostoru i vermenu; kroz mitologiju, tradiciju, legendu; da se shvati religijski karakter ili obrazac; protumači naučna osnovanost ili opravdanost; da se shvati kulturni obrazac; da se uoče socijalni, biološki i jezički fenomeni kojima se ova disciplina bavi.

Ključne reči: etnobotanika, jugoistočna Evropa, zapadni Balkan, autohtone biljke, etnomedicina.