

**Marija S. Marković<sup>1\*</sup>, Dejan S. Pljevljakušić<sup>2</sup>, Anđela S. Pančić<sup>3</sup>,  
Ljubinko B. Rakonjac<sup>1</sup>, Biljana M. Nikolić<sup>1</sup>, Vesna P. Stankov  
Jovanović<sup>4</sup>**

<sup>1</sup>Institute of Forestry, Kneza Višeslava 3, 11030 Belgrade, Serbia

<sup>2</sup>Institute for Medicinal Plants Research „Dr. Josif Pančić“, Belgrade,  
Tadeuša Koščuška 1, 11000 Belgrade, Serbia

<sup>3</sup>University of Niš, Faculty of Medicine, Department of Pharmacy,  
Bulevar Dr. Zorana Đinđića 81, 18000 Niš, Republic of Serbia

<sup>4</sup>University of Niš, Faculty of Sciences and Mathematics, Višegradska  
33, 18000 Niš, Serbia

**Марија С. Марковић<sup>1</sup>, Дејан С. Пљевљакушић<sup>2</sup>, Анђела С. Пан-  
чић<sup>3</sup>, Љубинко Б. Ракоњац<sup>1</sup>, Биљана М. Николић<sup>1</sup>, Весна П.  
Станков Јовановић<sup>4</sup>**

<sup>1</sup>Институт за шумарство, Кнеза Вишеслава 3, 11030 Београд, Србија

<sup>2</sup>Институт за проучавање лековитог биља „Др Јосиф Панчић“, Бео-  
град, Тадеуша Кошћушка 1, 11000 Београд, Србија

<sup>3</sup>Универзитет у Нишу, Медицински факултет, Департман за фарма-  
цију, Булевар др Зорана Ђинђића 81, 18000 Ниш, Србија

<sup>4</sup>Универзитет у Нишу, Природно-математички факултет, Више-  
градска 33, 18000 Ниш, Србија

## **Ethnobotanical use of plants from the genus *Galium* in the Pirot District**

### **Етноботаничка употреба биљака из рода *Galium* у Пиротском округу**

*Abstract: The subject of this paper was the investigation of the ethnobotanical application of plants from the genus Galium in the Pirot District (South-eastern Serbia). The study was conducted in the form of surveys among the*

---

\* markovicsmarija9@gmail.com

rural population in four municipalities. The mentioned plant species from respondents were *G. aparine*, *G. odoratum* and *G. verum*. The use of *G. odoratum* against bile disease was mentioned. Both *G. aparine* and *G. verum* are used for the treatment of inflammation of the oral cavity. *G. aparine* is additionally useful for the treatment of cardiac diseases, and cancerous diseases. *G. verum* is also useful against fainting, hoarseness, kidney and bladder diseases, skin diseases, and diabetes. The mentioned ethnopharmacological uses of *G. aparine*, and uses of *G. verum* against fainting, inflammation of oral cavity, hoarseness, and diabetes, as well as the ritual use of *G. verum* against evil eye for women are different and new in presented investigation in comparison with previously conducted ethnobotanical studies in Serbia and Balkan Peninsula.

**Keywords:** *Galium aparine*, *Galium odoratum*, *Galium verum*, ethnobotanical use, Pirot District

**Сажетак:** Предмет овој рада било је истраживање етноботаничке употребе врста рода *Galium* у Пиротском округу (југоисточна Србија). Истраживање је сprovedено у виду анкете међу руралним становништвом у четири општине. Поменуће биљне врсте од стране испитаника су биле *G. aparine*, *G. odoratum* и *G. verum*. Поменућа је употреба *G. odoratum* против болести жуци. *G. aparine* и *G. verum* се користе за лечење ујала усне шупљине. *G. aparine* је такође корисна против срчаних и канцерогених болести. *G. verum* се такође користи против несвеснице, промуклости, болести бешике и бубрега, кожних болести и шећерне болести. Поменуће етнофармаколошке примене врсте *G. aparine*, као и примена врсте *G. verum* против несвеснице, ујале усне дупље, промуклости, шећерне болести, као и ритуална употреба врсте *G. verum* против урока код жена другачије су и нове у поређењу са другим етноботаничким истраживањима у Србији и на Балканском полуострву.

**Кључне речи:** *Galium aparine*, *Galium odoratum*, *Galium verum*, етноботаничка употреба, Пиротски округ

## INTRODUCTION

The herbaceous plant species from the genus *Galium* belongs to the family Rubiaceae, and comprises 145 species in Europe, of which 37 species are widespread in Serbian flora (Bradić, Petković, Tomović, 2021). The herbs *G. aparine* L., *G. odoratum* (L.) Scop. and *G. verum* L. were used as medicinal plants in Serbia according to Sarić (Сарић, 1989) and Tucakov (Туцаков, 1990). Among them, *Galium verum* L.

(Lady's Bedstraw) has the most common use in the traditional medicine of Serbia (Bradić, Petković and Tomović, 2021; Lakić, Mimica-Dukić, Isak, Božin, 2010).

According to Tucakov (1990), the above-ground part of *G. aparine* was used in folk medicine as a tonic, stomachic, antiscorbutic, for sedation, and in the treatment of skin diseases.

Gostuški (Гостушки, 1973) mentioned the use of *G. odoratum* against diseases of kidney, urinary disorders, as a sedative, and for strengthening the organism in the form of a vine called „majski napitak“. Tucakov (1990) mentioned *G. odoratum* as tonic, stomachic, aromatic, against catarrh of the respiratory organs, for the treatment of bile, and bath. According to Sarić (1989), the above-ground part of *G. odoratum* was used in Serbia as a spasmolytic, diuretic, aromatic, expectorant, for sedation, against bile and liver diseases, diseases of the meat around the teeth, for bath, wounds and skin diseases. Tasić, Šavikin Fodulović and Menković (2001) mentioned *G. odoratum* as an antiphlogistic, anti-inflammatory agent, antiedemic, expectorant, for sedation and against bile and liver diseases. Marković et al. (2010) and Marković, Rakonjac, Nikolić (Марковић, Ракоњац, Николић, 2020) mentioned *G. odoratum* as a widespread medicinal plant of the Pirot District, with the same use as previous authors, and the following local names: „lazarkinja“, „prvenac“, that are also the same according to the previous authors. *G. odoratum* is protected plant species in Serbia with national legislative (Службени гласник Републике Србије, 2010), and it can only be harvested with appropriate permits.

According to Gostuški (1973), the above-ground part of *G. verum* was used against epilepsy, hysteria and to reduce cancer pain. In folk medicine of Serbia, *G. verum* was considered a tonic, stomachic, and antiscorbutic, for sedation and to relieve nervous irritability, to induce sweating, against the outflow of blood (as styptic), and for the treatment of skin diseases (Сарић, 1989; Туцаков, 1990). Tasić, Šavikin Fodulović and Menković (2001) mentioned the use of *G. verum* as a diuretic, diaphoretic, spasmolytic, for sedation, against injuries and skin diseases. Marković et al. (2010) and Marković et al. (2020) mentioned *G. verum* also as a widespread medicinal plant of the Pirot District, with the same use as previous authors, and the following local names: „ivanjsko cveće“, „smaknež“. According to the folk beliefs in Serbia, the plants have the highest medicinal value on St. John's Day on July

7<sup>th</sup>, and it is the best time to collect the majority of plants for medicinal purposes. From the several most important herbs, of which the first is Lady's Bedstraw (*G. verum*) people knit a wreath which they put on the front door of the house.

The aim of the present study was to collect and analyze the traditional knowledge about plants from the genus *Galium* in Pirot District and their use for medicinal purposes and to compare the results with previous ethnopharmacological studies in surrounding areas. The goal of the research was to note the new uses of plants from the genus *Galium* in the Pirot District, which were not previously recorded in neighboring regions in Serbia and the Balkan Peninsula.

## METHODOLOGY

The study of the traditional use of medicinal plants in the Pirot District was carried out in the form of a population survey. The questionnaire about knowledge and use of plants for medicinal purposes included inhabitants of 144 villages in four municipalities of Pirot District: Pirot, Babušnica, Bela Palanka and Dimitrovgrad. A total of 631 informants were surveyed, of which 337 were man, and 294 woman (Marković, 2019; Marković, Pljevljakušić, Kojičić, Cupara, 2020; Marković, Pljevljakušić, Nikolić, Rakonjac, 2020; Marković, Pljevljakušić, Nikolić, Rakonjac, Stankov Jovanović, 2020; Marković et al., 2021a,b; Marković, Pljevljakušić, Papović, Stankov Jovanović, 2022; Papović, Pljevljakušić, Marković, 2021; Stankov Jovanović, Šmelcerović, Smiljić, Ilić, Marković, 2018).

The systematized results were presented in Table 1. The respondents mentioned the plants from the genus *Galium* and their traditional ethnobotanical use in municipalities Pirot, Babušnica and Bela Palanka.

## RESULTS AND DISCUSSION

A total of 14 reports of 4817 (0.29%) were mentioned by 12 respondents about the traditional use of plant species from the genus *Galium*, of which 7 were reported from men, and 7 were reported from women (Table 1). All of the respondents were of Serbian nationality. In the municipality, Dimitrovgrad, the species from the genus *Galium* were not mentioned. The gender of respondents who mentioned the plants from

the genus *Galium* was 39 to 68 ages. The mentioned plant species were *Galium aparine*, *Galium odoratum* and *Galium verum* (Table 1).

Table 1 Overview of the plants from genus *Galium* use survey results in the Pirot District population

Табела 1 Преглед резултата истраживања употребе биљака из рода *Galium* у популацији Пиротског округа

Plant	Municipality	Village	Gen.	Age	Application	Form	Medicinal use
<i>G. aparine</i>	Pirot	Brlog	M	64	Internal	Infusion	Inflammation of the oral cavity
	Pirot	Vojnegovac	F	60	Internal	Infusion	Cardiac diseases
	Pirot	Vojnegovac	F	60	Internal	Infusion	Cancerous diseases
<i>G. odoratum</i>	Pirot	Jelovica	F	56	Internal	Infusion	Uniknown use
	Pirot	Topli Do	M	62	Internal	Infusion	Bile diseases
<i>G. verum</i>	Pirot	Blato	F	39	Internal	Infusion	Against fainting
	Pirot	Brlog	M	64	Internal	Infusion	Inflammation of the oral cavity
	Pirot	Srećkovac	M	53	Internal	Infusion	Hoarseness
	Pirot	Temska	M	43	Internal	Infusion	Kidney and bladder diseases
	Pirot	Temska	M	43	External	Compress	Skin diseases
	Babušnica	Valniš	F	55	Internal	Infusion	Diabetes
	Babušnica	Radoševac	M	59	Internal	Infusion	Uniknown use
	Babušnica	Radoševac	M	63	Internal	Infusion	Against fainting
	Bela Palanka	Moklište	F	68	Ritual	Plant	Against evil eye for women

Three respondents mentioned internal use of the above-ground part of *G. aparine* in the form of infusion in the treatment of inflammation of the oral cavity (1 report), cardiac diseases (1 report), and cancerous diseases (1 report).

Two respondents mentioned the internal use of *G. odoratum*. One of them didn't know how to use it (1 report), and the other respondent reported the use against bile disease (1 report).

Nine reports were mentioned by eight respondents for ethnobotanical use of *G. verum*, of which eight reports were ethnopharmacological uses and one report was ritual use. The ethnopharmacological uses were with external application (1 report), and internal applications (7 re-

ports). The external application was against skin diseases in the form of compress (1 report). One respondent didn't know how to use *G. verum* (1 report), and the other respondents mentioned the following internal uses in the form of infusion: against fainting (2 reports), inflammation of the oral cavity (1 report), hoarseness (1 report), kidney and bladder diseases (1 report), diabetes (1 report). The ritual use was against the evil eye for women (1 report).

## DISCUSSION

Popović et al. (2012) at Deliblato Sands mentioned the use of *G. aparine* as diuretic, nerve relaxant, antiscorbutic, and external antiseptic, which were different uses in comparison with the present study. Matejić et al. (2020) found that the population of the Svrljig region used *G. aparine* as an anti-allergic agent, and in the treatments of skin wounds, which were also different uses in comparison with our study. Therefore, the internal uses of *G. aparine* in the treatment of inflammation of the oral cavity, cardiac diseases, and cancerous diseases, which were mentioned in our study, can be considered novelties of our study.

Šarić Kundalić, Dobeš, Klattel-Asselmeyer and Saukel (2010) in middle, south, and west Bosnia and Herzegovina mentioned the use of *G. odoratum* against digestive ailments. The mentioned use was different in comparison with our study. Menković et al. (2011) found that the population of Prokletije Mountains in Montenegro used *G. odoratum* as a mild sedative, expectorant, and against gall and liver disorders. The mentioned use against gall disorders was similar to our study of the Pirot District against bile diseases, while the other uses were different in comparison with our study. Jarić et al. (2015) mentioned that the population of Suva Planina Mts used *G. odoratum* against headache, neurosis, insomnia, tachycardia, stomach pains, liver, spleen, and kidney complaints, and for improving circulation, which were all different uses in comparison with the present study. Saric Kundalic, Mazic, Djerzic, Kerleta-Tuzovic (2016) mentioned the use of *G. odoratum* against increased urination, insomnia, migraine, restlessness, for blood purification, and regulation of heartbeat, which were also all different uses in comparison with our study. Matejić et al. (2020) in the Svrljig region, based on a survey of the local population, noted the use of *G. odoratum*

against arthritis, productive cough, and chills, which were also different uses in comparison with the present study in Pirot District.

Jarić et al. (2007) found that the population of Kopaonik Mt used *G. verum* as an astringent, in the treatments of skin ailments, wounds, ulcers, and acne, for sedative properties (nervous irritability and insomnia), which were different uses in comparison with our study. Menković et al. (2011) mentioned that the population of Prokletije Mountains in Montenegro used *G. verum* as a diuretic for bladder and kidney irritation, and externally for poorly healing wounds, which were different uses in comparison with our study. Popović et al. (2012) at Deliblato Sands mentioned the use of *G. verum* as a sedative and externally antiseptic agent which were also different uses in comparison with the present study. Rexhepi et al. (2013) mentioned the use of *G. verum* in the treatment of kidney and urinary problems, which were similar uses as in our study. Mustafa et al. (2015) mentioned the use of *G. verum* as an anti-hypertensive agent, which was different uses in comparison with our study. The same authors mentioned the use of *G. verum* against kidney disorders, and for skin regeneration, which were similar uses in comparison with our study. Jarić et al. (2015) mentioned the internal use of *G. verum* against malignant throat diseases in the form of tea, and external use against burns, which were different uses in comparison with our study. Matejić et al. (2020) in the Svrlijig region noted the use of *G. verum* against skin diseases, which was similar use as in our study, and for the treatment of abdominal pains and nervousness, which were the different uses in comparison with our study. The same author mentioned the use of *G. verum* in the Timok region against kidney colic, that was the similar use as in our study.

The uses of *G. aparine* in the treatment of inflammation of the oral cavity, cardiac diseases, and cancerous diseases, and the ethnopharmacological uses of *G. verum* against fainting, inflammation of the oral cavity, hoarseness, and diabetes, and ritual use against the evil eye for women were not mentioned in previously conducted ethnobotanical studies in neighboring regions of Serbia and the Balkan Peninsula.

## CONCLUSION

Based on the results of interviews of the local population in Pirot District done in this study, it can be concluded that above-ground parts of three plant species from the genus *Galium*, respectively *G. aparine*,

*G. odoratum* and *G. verum* were used for the treatment of some medical indications. *G. aparine* was used internally in the form of an infusion for the treatment of inflammation of the oral cavity, cardiac diseases, and cancerous disease. *G. odoratum* was used internally in the form of an infusion for the treatment of bile diseases. *G. verum* was used internally in the form of infusion against fainting, inflammation of the oral cavity, hoarseness, diabetes, kidney and bladder diseases, skin diseases, and against the evil eye for women.

The protection of the populations of *G. odoratum* should be taken into consideration. Special care in determining contingents for collection from the nature of the Pirot District is necessary for this species because it is on the list of protected species in Serbia.

The ethnopharmacological uses of *G. aparine* against inflammation of the oral cavity, cardiac diseases, and cancerous disease, obtained in this study, as well as the ethnopharmacological uses of *G. verum* against fainting, inflammation of the oral cavity, hoarseness and diabetes were different and new in comparison with previously conducted ethnobotanical studies in Serbia and Balkan Peninsula. This study provides valuable evidence on traditional knowledge about the medicinal purposes of mentioned plants from the genus *Galium*, and further chemical and pharmacological researches are necessary to make them a possible candidate for the new medicinal product.

**Acknowledgments:** This research is part of the project “Ethnopharmacological study of the region of southeastern Serbia, O-02-17”, supported by the Serbian Academy of Sciences and Arts, and also part of investigations supported by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia, contract no. 451-03-47/2023-01/200027.

## REFERENCES

- Гостушки, Р. (1973). *Лечење лековитим биљем* (6. изд.), Београд, Народна књига.
- Bradić, J., Petković, A., Tomović, M. (2021). Phytochemical and pharmacological properties of some species of the genus *Galium* L. (*Galium verum* and *mollugo*) - Fitohemijske i farmakološke karakteristike nekih vrsta iz roda *Galium* L. (belo i žuto ivanjsko cveće). *Serbian Journal of Experimental and Clinical Research*, 22(3), 187-193.



- Jarić, S., Popović, Z., Mačukanović-Jocić, M., Đurđević, L., Mijatović, L., Karadžić, B., Mitrović, M., Pavlović, P. (2007). An ethnobotanical study of the usage of wild medicinal herbs from Kopaonik Mountain (Central Serbia). *Journal of Ethnopharmacology*, *111*, 160-175. doi: 10.1016/j.jep.2006.11.007
- Jarić, S., Mačukanović-Jocić, M., Djurdjević, L., Mitrović, M., Kostić, O., Karadžić, B., Pavlović, P. (2015). An ethnobotanical survey of traditionally used plants on Suva planina mountain (south-eastern Serbia). *Journal of Ethnopharmacology*, *4(175)*, 93-108. doi: 10.1016/j.jep.2015.09.002
- Lakić, N. S., Mimica-Dukić, N. M., Isak, J. M., Božin, B. N. (2010). Antioxidant properties of *Galium verum* L. (Rubiaceae) extracts. *Central European Journal of Biology*, *5*, 331-337.
- Marković, M., Matović, M., Pavlović, D., Zlatković, B., Marković, A., Jotić, B., Stankov-Jovanović, V. (2010). Resources of medicinal plants and herbs collector's calendar of Pirot County (Serbia). *Biologica Nyssana*, *1(1-2)*, 9-21.
- Marković, M. (2019). Upotreba hajdučke trave (*Achillea millefolium* L.) u etnomedicini Pirotskog okruga (jugoistočna Srbija). *Arhiv za farmaciju*, *69(5)*, 367-384.
- Марковић, М., Ракоњац, Љ., Николић, Б. (2020). *Лековиће биље Пиротској округи*, Београд, Институт за шумарство.
- Marković, M., Pljevljakušić, D., Kojičić, K., Cupara, S. (2020). Ethnopharmacological application of chamomile (*Matricaria chamomilla* L.) in the Pirot County of Southeastern Serbia. *Arhiv za farmaciju*, *70*, 238-247. doi: 10.5937/arhfarm2004238M
- Marković, M., Pljevljakušić, D., Nikolić, B., Rakonjac, Lj. (2020). Application of dog rose (*Rosa canina* L.) in ethnomedicine of the Pirot County. *Pirotski zbornik*, *45*, 1-16. doi: 10.5937/pirotzbor2045001M
- Marković, M., Pljevljakušić, D., Nikolić, B., Rakonjac, Lj., Stankov Jovanović, V. (2020). Ethnomedicinal application of species from genus *Thymus* in the Pirot County (Southeastern Serbia). *Natural Medicinal Materials*, *40*, 27-32. doi: 10.5937/leksir2040027M
- Marković, S.M., Pljevljakušić, S.D., Nikolić, M.B., Miladinović, L.D., Djokić, M.M., Rakonjac, B.Lj., Stankov Jovanović, P.V. (2021a). Ethnoveterinary knowledge in Pirot County (Serbia). *South African Journal of Botany*, *137*, 278-289. doi: 10.1016/j.sajb.2020.10.025
- Marković, M., Pljevljakušić, D., Menković, N., Matejić, J., Papović, O., Stankov Jovanović, V. (2021b). Traditional knowledge on the medicinal

- use of plants from genus *Gentiana* in the Pirot County (Serbia). *Natural Medicinal Materials*, 41, 46-53. doi:10.5937/leksir2141054M
- Marković, M., Pljevljakušić, D., Papović, O., Stankov Jovanović, V. (2022). Ethnopharmacological use of burdock (*Arctium lappa*) in the Pirot County. *Pirotski zbornik*, 47, 133-142. doi: 10.5937/pirotzbor2247133M
  - Matejić, S.J., Stefanović, N., Ivković, M., Živanović, N., Marin, D.P., Džamić, M.A. (2020). Traditional uses of autochthonous medicinal and ritual plants and other remedies for health in Eastern and South-Eastern Serbia. *Journal of Ethnopharmacology*, 261, 28 October 2020, 113186, 1-28. doi: 10.1016/j.jep.2020.113186
  - Menković, N., Šavikin, K., Tasić, S., Zdunić, G., Stešević, D., Milosavljević, S., Vincek, D. (2011). Ethnobotanical study on traditional uses of wild medicinal plants in Prokletije Mountains (Montenegro). *Journal of Ethnopharmacology*, 133, 97-107. doi: 10.1016/j.jep.2010.09.008
  - Mustafa, B., Hajdari, A., Pieroni, A., Pulaj, B., Koro, X., Quave, C.L. (2015). A crosscultural comparison of folk plant uses among Albanians, Bosniaks, Gorani and Turks living in south Kosovo. *Journal of Ethnobiology and Ethnomedicine*, 11(39), 1-26. doi: 10.1186/s13002-015-0023-5
  - Papović, O., Plevljakušić, D., Marković, M. (2021). Ethnopharmacological application the plants from family Geraniaceae in the Pirot County, *Pirotski zbornik*, 46, 43-51. doi: 10.5937/pirotzbor2146043P
  - Popović, Z., Smiljanić, M., Matić, R., Kostić, M., Nikić, P., Bojović, S. (2012). Phytotherapeutical plants from the Deliblato Sands (Serbia): Traditional pharmacopoeia and implications for conservation. *Indian Journal of Traditional Knowledge*, 11(3), 385-400.
  - Rexhepi, B., Mustafa, B., Hajdari, A., Rushidi-Rexhepi, J., Quave, C.L., Pieroni, A. (2013). Traditional medicinal plant knowledge among Albanians, Macedonians and gorani in the sharr mountains (Republic of Macedonia). *Genetic Resources and Crop Evolution*, 60, 2055-2080. doi: 10.1007/s10722-013-9974-3
  - Сарић, М. (ур.) (1989). *Лековитие биљке СР Србије*, Београд, Српска академија наука и уметности.
  - Šarić Kundalić, B., Dobeš, C., Klatte-Asselmeyer, V., Saukel, J. (2010). Ethnobotanical study on medicinal use of wild and cultivated plants in middle, south and west Bosnia and Herzegovina. *Journal of Ethnopharmacology*, 131, 33-55. doi: 10.1016/j.jep.2010.05.061
  - Saric Kundalic, B., Mazic, M., Djerzic, S., Kerleta-Tuzovic, V. (2016). Ethnobotanical study on medicinal use of wild and cultivated plants on Konjuh Mountain, North-East Bosnia and Herzegovina. *Technics, Tech-*

*nologies, Education, Management*, 11(3), 208-222. [http://pdf.ttem.ba/ttem\\_11\\_3\\_web.pdf#page=9](http://pdf.ttem.ba/ttem_11_3_web.pdf#page=9)

- Службени гласник Републике Србије (2010). Правилник о проглашењу и заштити строго заштићених и заштићених дивљих врста биљака, животиња и гљива. Службени гласник Републике Србије, бр. 5/10, 47/11 и 32/16.
- Stankov-Jovanović, V., Šmelcerović, A., Smiljić, M., Plić, M., Marković, M. (2018). Ethnopharmacological application of St. John's wort in Pirot county (Etnofarmakološka primena kantariona u Pirotskom okrugu). *Пиротски зборник*, 43, 141-164. doi: 10.5937/pirotzbor1843141S
- Tasić, S., Šavikin Fodulović, K., Menković, N. (2001). *Vodič kroz svet lekovitog bilja*, Beograd, Samostalno izdanje.
- Туцаков, Ј. (1990). *Лечење биљем : фитотерапија* (5. изд.), Београд, Рад.

## РЕЗИМЕ

У раду је дат приказ традиционалних знања о употреби биљних врста из рода *Galium* у Пиротском округу. Као лековите врсте из рода *Galium* користе се следеће биљне врсте: *G. aparine* L., чији је народни назив у округу „тулица“ или „лепљивица“, *G. odoratum* (L.) Scop., чији је народни назив „лазаркиња“ или „првенац“, као и *G. verum* L., чији је народни назив „ивањско цвеће“ или „смакнеж“.

Рурално становништво у четири општине Пиротског округа је анкетирано о познавању и коришћењу биљака из рода *Galium*, а добијени резултати су упоређени са етноботаничким истраживањима која су спроведена у осталим пределима Србије и Балканског полуострва. Три испитаника су поменула унутрашњу употребу надземног дела врсте *G. aparine* за лековите сврхе: против упале усне дупље, против срчаних болести и канцерогених болести. Два испитаника су поменула употребу врсте *G. odoratum* за лековите сврхе, од којих један није знао употребу, а други је поменуо коришћење против болести жучи. Девет испитаника је поменуло употребу врсте *G. verum*, од којих је осам изјава било за лековите сврхе, а једна изјава је била ритаулног карактера. Поменута спољна лековита употреба врсте *G. verum* је била против кожних болести, а унутрашња против несвестице, упале усне дупље, промуклости, болести бешике и бубрега, шећерне болести. Поменута је и ритуална употреба врсте *G. verum* против урока код жена.

Резултати добијени анкетањем становништва у Пиротском округу о употреби биљака из рода *Galium* су упоређени са претходним ет-

ноботаничким истраживањима у Србији и на Балканском полуострву. Различите и нове употребе су следеће: употреба врсте *Galium aparine*, чији је локални народни назив „тулица“ или „лепљивица“, против упале усне дупље, срчаних болести и канцерогених болести; употреба врсте *Galium verum* против несвестице, упале усне дупље, промуклости, шећерне болести и против урока код жена.

У вези са поменутиим лековитим употребама, пре свега оних које нису поменуте у претходним етноботаничким радовима на Балкану, потребна су даља хемијска и фармаколошка истраживања како би поменуте врсте рода *Galium* постале могући кандидати за израду нових лекова.

Примљено/ Received on 12.06.2023.

Ревидирано/ Revised on 26.09.2023.

Прихваћено/ Accepted on 10.10.2023.