Acta Sci. Pol.
Silv. Colendar. Ratio Ind. Lignar. 24(2) 2025, 249–257
ACTA FORESTRY
www.forestry.actapol.net pISSN 1644-0722 eISSN 2450-7997 https://doi.org/10.17306/J.AFW.2025.2.19

ORIGINAL PAPER

Received: 31.08.2025
Accepted: 30.09.2025

"A BLACK DROP OF TAR, A HUNDRED DROPS OF CLOUDY SWEAT". THE PRODUCTION, TRADE, AND USE OF WOOD TAR IN THE KINGDOM OF YUGOSLAVIA DURING THE INTERWAR PERIOD

Jelena Rafailović✉

Institute for Recent History of Serbia, Belgrade, **Serbia**

ABSTRACT

This paper examines the use of wood tar in the Kingdom of Yugoslavia, focusing on its production, trade, and everyday applications. It highlights both industrial dry distillation and traditional methods, with particular attention to the latter. Drawing on historical sources such as newspapers records and ethnographic accounts as well as relevant scholarly literature, the study reconstructs the traditional tar production process in detail, the ways tar was distributed and used in daily life. The methodological approach combined qualitative content analysis of written sources with a comparative review of previous research, enabling the identification of both local specificities and broader regional patterns.

Keywords: tar, Kingdom of Yugoslavia, kiridžije, wood, forestry, Zlatibor mountain

INTRODUCTION

The forests of the Kingdom of Yugoslavia not only constituted a natural resource but were also a foundation for the development of various traditional and industrial practices closely tied to the state economy and everyday life. According to official data from 1929, approximately 30.5% of the total territory of Yugoslavia was covered by forests, amounting to an area in the region of 7,720,015 hectares. With this share, Yugoslavia ranked fifth in Europe in terms of forest resource wealth. The most widespread were mixed deciduous forests (30.1%), which included species such as beech, oak, elm, ash, maple, birch, willow, and poplar. These were followed by beech forests (24.3%), oak forests (18.3%), mixed deciduous and coniferous forests (15.7%), and pure coniferous forests (11.6%). It was estimated that approximately 80% of the total forest stock consisted of deciduous trees, while coniferous species accounted for about 20% (Lakatoš, 1933).

Thanks to this significant forest potential, forestry and the wood industry held a prominent position not only in the industrial development of the Kingdom of Yugoslavia but also in its broader economic and social life. The development of the wood industry progressed steadily, though it was partially hindered by the consequences of uncontrolled deforestation during the 19th century, which was primarily carried out to obtain arable land. Such land was often transferred into private ownership, both legally and illegally. In response to these processes, the state introduced a series of legal measures aimed at limiting forest exploitation, regulating property rights over appropriated forest land, and establishing professional oversight of forest resources

✉jelena.rafailovic@inis.bg.ac.rs; https://orcid.org/0000-0003-3693-7391

(Begović, 1978; Đurović, 1983; Vučo, 1981). Despite the implementation of regulatory frameworks, forests continued to represent a long-term source of income and material goods for the local population. Among the various forest products used in daily life, wood tar played a key role due to its widespread application in households and crafts activities.

Tar (Serbian: "katran") is a dense, oily liquid obtained through the process of dry distillation of natural fuels such as wood, peat, lignite, and bituminous coal. From a chemical perspective, tar is a complex mixture of hydrocarbons and their derivatives. Its chemical composition, as well as the quantity and quality of the final product, largely depends on the distillation temperature and the type and quality of the raw material used (Gabrić, 1949; *Hrvatska enciklopedija,* 2025). In industrial practice, particular emphasis is placed on tar derived from coal distillation; however, in the context of this study, special attention is devoted to traditional methods of wood tar production, in line with the thematic framework of the research.

METHODOLOGY

This study employs a classical historical research methodology, encompassing the identification of a research topic, systematic inquiry, and the analysis of both primary and secondary sources. The research is grounded in an analytical and descriptive approach, aiming to reconstruct the processes, uses, and socio-economic role of wood tar based on available documentation and historical evidence. Within this historical framework, the paper offers an overview of the key aspects of traditional wood tar production in the Yugoslav territories during the first half of the 20th century, including a brief examination of industrial production to provide a broader contextual understanding.

The study draws on a range of available historical sources, including newspaper articles from the period that reported on tar production, local economic reports, and trade surveys prepared by relevant institutions and individuals. It also incorporates post-World War II ethnographic studies, in which researchers collected first-hand data on traditional tar production practices in the field. In addition, primary archival materials, such as official correspondence, and administrative records, offer direct insight into the organization and operation of tar production during the period under research. By integrating these diverse historical sources with relevant scholarly literature, the research presents a comprehensive reconstruction of the tar production process, its economic importance, and its social role within local communities.

TRADITIONAL TAR PRODUCTION

Traditional tar production was practised to varying extents in regions rich in pine and beech forests, particularly within the territories of present-day Montenegro, Croatia, western Serbia, and Bosnia and Herzegovina (Vladisavljević, 1983; Živaković-Kerže, 2017). Among these regions, western Serbia emerges as the most prominently documented area in the historical and scholarly literature concerning traditional pine wood tar production (Đenić, 1968; Marković, 1958; Milošević-Brevinac, 1954; Stanojević, 2015; Vladisavljević, 1983). Accordingly, this study places special emphasis on providing a detailed account of the traditional tar extraction and trading methods specific to this region. The mountainous areas of Zlatibor, Tara, and Golija, including their foothills, served as the main centres of this type of production.

Villages in region of the Zlatibor, such as Dobroselica, Stubla, Jablanica, Mokra Gora, Kršnja, Zaovina, Kremna, Bioska, Vrutak, Šljivovica, Semegnjevo, Sirogojno, Kriva Reka, and others, along with settlements in the Studenica region, were well known for the traditional production of tar from pine, locally referred to as "pečenje katrana" (tar roasting; tar distilling). Besides livestock breeding and modest agriculture, the population of these mountainous areas engaged in this distinct craft which constituted a source of income, especially during the 19th century and the first half of the 20th century. This is also evidenced by testimonies from those times: "There the pine grows and people are poor – two conditions for a man to become a kiridžija[1]" (Stefanović, 1937).

According to available data, by the 1930s, over 1,000 households in the Zlatibor district were engaged

[1] The term "kiridžija" refers to a merchant heading the caravan who transported goods using animals, most commonly horses or mules. In most cases, the "kiridžija" was also the producer of the tar – "katrandžija".

in tar production using the traditional “pečenje” (distilling) method. Although this activity was organized within households and lacked an industrial character, it nonetheless played a significant role in the rural economy of western Serbia. Tar was distributed through a well-established network of “kiridžije”, who transported and sold it across Serbia, either for cash or through barter exchange involving goods such as salt, corn, or wheat. In addition to individual traders, larger quantities of tar were also purchased and marketed by trading houses based in Užice (Đenić, 1968; Marković, 1958; Stanojević, 2015).

The sole raw material used for this type of production was black pine (*Pinus nigra*), with particular value placed on wood from stumps. From approximately 800 to 1000 kilograms of wood, it was possible to obtain between 100 and 150 kilograms of tar, depending on the resin content of the raw material. The highest-quality material came from stumps of black pine growing on sun-exposed mountain slopes (locally known as “prisoji”), as these contained the greatest concentration of resinous substances (Đenić, 1968; Jevtić, 1987).

Although the technical process of tar production was relatively simple, it required significant physical effort as well as endurance and skills from the local population, as vividly reflected in the title of the study “A Black Drop of Tar, a Hundred Drops of Cloudy Sweat” (Stefanović, 1937). The first stage of the process involved the preparation of raw materials, which was a lengthy and labour-intensive task. The material was collected throughout the year, especially during periods of reduced agricultural activity. Whole trees of black pine were most commonly used, manually split to separate the resin-rich inner wood known as “luč” (kindling wood). Old stumps remaining after logging were frequently extracted manually by digging around the roots, with great care taken to preserve as many roots as possible. It was believed that resinous “luč” from the roots was of the highest quality and richest in resin. After collection, the “luč” was split into smaller pieces, wood chips, which were then stacked into piles to remain until the start of the tar distilling process. (Đenić, 1968; Marković, 1958; Stanojević, 2015; Vladisavljević, 1983). “Luč” was, in some cases, extracted from standing, non-felled trees through a process of gradual incision. Shavings or splinters were systematically removed from one side of the trunk, up to the height accessible by axe. This unilateral extraction progressively weakened the structural integrity of the tree, causing it to become increasingly hollow on that side. Ultimately, the tree would collapse either under its own weight or as a result of external forces such as wind (Petrović, 1933).

Numerous travelogues and contemporary accounts, which are recorded in the works of S. Vladisavljević and Milošević-Brevinac, testify to the significance and scale of pine forest exploitation. Among these, S. Vladisavljević cites a detailed observation by Milan Janjušević, who, traveling through Tornik and Zlatar between the two World Wars, noted: “I saw so many fallen pines that one could walk all day from trunk to trunk. Some were already rotten, others freshly felled, all cut down by peasants solely to use the stumps for resin-rich wood and tar.” (Milošević-Brevinac, 1954; Vladisavljević, 1983) This description shows how much the natural landscape was changed and highlights how intensely local forests were used for traditional tar production.

The tar roasting process took place within a specially constructed structure known as a “katrana” (derived from the Serbian word “katran”, meaning tar), and in some regions also referred to as “santrač” or “doganj”. These “katrana” were typically built at the foot of hills, near streams, in locations sheltered from the wind, which ensured process stability and easier access to water. The basic construction involved embedding a wooden box in an earthen slope. The box was made of horizontally arranged coniferous logs about 2 metres in length, with a width ranging from 1 to 2 metres. Three sides of the box were enclosed with logs, while the fourth, frontal side remained open and was buried in the ground. The entire inner surface of the box was lined with fine clay to ensure impermeability and resistance to high temperatures. At the bottom of the box, beneath the open side, an opening was left for the placement of a pipe – a drainage channel through which the finished tar would flow out upon completion of the process. Dry wood chips from “luč” were manually packed into the box, using mallets or pickaxes to reduce air presence and maximize the amount of material per unit volume. The resulting pile of compressed “luč” was then covered with a layer of straw and subsequently sealed with clay to provide

complete insulation and prevent air inflow. A small opening was left at the top of the pile, into which a lit "zublja" (a piece of glowing resinous wood) was inserted to initiate the distilling process. Ignition typically occurred in the evening hours, and the complete thermal treatment of the material took place in a closed environment without oxygen. The high temperature caused the resin in the "luč" to heat and melt, resulting in the tar being condensed and released. Due to the risk of cracks forming in the clay lining from the high temperatures, the person supervising the process had to constantly have fresh clay ready to seal any cracks during roasting, thereby preserving the structural integrity of the "katrana". The duration of the tar distilling process depended on the size of the "katrana" and the quantity of material loaded, ranging from two to seven days. Upon completion of the thermal treatment, the pipe was opened, and the finished tar slowly drained into a previously dug pit or container placed beneath the outlet (Đenić, 1968; Jevtić, 1987; Marković, 1958; Petrović, 1933; Stanojević, 2015).

Once the thermal processing was completed, the tar was left to cool naturally, during which water was drained from it. Only after it had completely cooled was the tar ready for packaging and transportation. For this purpose, special containers, most commonly made of wood or metal, were prepared, into which the tar was poured for storage or distribution. One "katrana" could be used for multiple roasting cycles, and each household traditionally engaged in this activity possessed its own "katrana". Its size and construction primarily depended on the available quantity of kindling wood and the labour capacity within the household. An average "katrana" had the capacity to hold approximately 50 sacks of kindling wood, from which about 250 kilograms of finished tar could be obtained (Đenić, 1968; Jevtić, 1987; Marković, 1958; Petrović, 1933; Stanojević, 2015). Generally, from around 100 kilograms of kindling wood, approximately 10 kilograms of tar were produced, with the final yield depending on the quality of the raw material, the resin content in the kindling wood, as well as the skill and experience of the operator during the roasting process (Jevtić, 1987).

The tar obtained through this traditional distilling process, a specific form of dry distillation of (black) pine kindling wood, exhibited the characteristics of a viscous liquid with a dark brown colour. This contrasts with industrially produced tar, which is black in colour, reflecting differences in the raw materials used and the conditions of the distilling process (Jevtić, 1987).

This process is described in detail in the daily newspaper *Vreme* from that period: "During the summer, when fieldwork is at its peak, a true kiridžija will always find time to work on the santrač (wooden crate). At the very least, he'll split some pine heartwood. (…) By the end of summer, the tar is ready! You split a bit of wood here, a bit there, and in four months, you've got a hundred bags of heartwood. That's five meters of tar, each meter weighing a hundred kilos. At two dinars per kilo - that's a thousand dinars. (…) When the fieldwork is finished and the grapes are harvested, tar burning begins in the villages of Zlatibor. The kiln is made of simple wicker, shaped like a pyramid with one of its longer sides left open. The inside is lined with earth, and the pine heartwood is stacked into a pyramid. The kiln is usually built in a shaded forest area on steep terrain. The top of the pyramid is set on fire, and once the flames spread, the structure is covered with earth to ensure slow burning. The baking process can last up to a week. Someone must always keep watch – if the tar leaks from the canal and catches fire, fifty wages could go up in flames in an instant. (…) Once the tar is drained, only a tenth of the work is done. The next challenge is selling it. The katrandžija now becomes a kiridžija. And that takes horses and carts" (Stefanović, 1937).

According to available data, the production of tar under traditional conditions was a labour-intensive process requiring a significant number of workdays (daily wages), depending on the quantity of processed material. For one "katrana" with a capacity of one hundred sacks of wood chips, approximately 4,000 kilograms of kindling wood, it was necessary to engage between 40 and 50 wages. The construction of the "katrana" itself, including the assembly of the structure and site preparation, required the work of two workers over two days, totalling four wages. Preparing the raw material, transporting it to the distilling site, and shredding it into an appropriate chip structure constituted the most demanding phase, requiring between 20 and 30 wages. Subsequently, the process of loading the chips into the "katrana", compacting them, and covering them with straw and clay demanded an additional seven wages. The roasting process itself, involving the thermal treatment of the material, also required

workers' constant presence and active supervision throughout, which was estimated at approximately seven additional wages. In total, the completion of one roasting cycle in a medium-sized "katrana" involved between 40 and 50 daily wages, clearly illustrating the scale and complexity of this activity despite its relative technological simplicity (Vladisavljević, 1983).

During the interwar period, the *Zlatibor Cooperative for Resin, Tar, and Pitch Processing*, based in Mokra Gora (Zlatibor), operated for a short time as the only organization engaged in the traditional production of tar. Established in 1931, it was the first cooperative of its kind in the Kingdom of Yugoslavia. In an effort to support its development, the Central Cooperative Union assigned a specialist, a Russian émigré named A. Malakhov[2], to assist the cooperative. He introduced more rational and efficient methods for processing pine wood. Following his recommendations, distillation facilities were constructed, equipped with iron cauldrons and barrels for the distillation of pine wood. Despite these efforts, the cooperative survived only a few years due to persistent financial difficulties (AJ, Data concerning the Zlatibor Cooperative for the Processing of Resinous Wood, Tar, and Pitch, Mokra Gora, Zlatibor District, 1934.)

When examining the issue of traditional tar production in the interwar period, it is also essential to consider the phenomenon of "kiridžijstvo", that is, the organized caravans which represented one of the oldest and most distinctive forms of goods transportation at the time. This form of commercial mediation played a key role in the distribution of tar and other local products from mountainous regions to wider markets. During that period, Zlatibor was isolated due to poor road infrastructure, and horses were the primary means of transport, enabling the safe and reliable conveyance of goods. One of the important products transported by the "kiridžija" caravans was precisely tar. Within households or cooperatives, the "kiridžija" was usually the most literate family member, who managed the trade and organized the journeys (Đenić, 1968).

The "kiridžija" caravans from Western Serbia used established trade routes: to Šumadija and Eastern Serbia, the paths led through Požega and Čačak, while the routes to Valjevo and Belgrade passed through Karan and Bukovo. Before setting out on their journey, tar producers were required to possess a certificate from the municipal court confirming that the tar was produced on their own property or forest, and that they had not used wood from municipal or national reserves, aiming to prevent illegal logging. After World War I, "kiridžije" were gradually replaced by "rabadžije" (freight haulers) and the railway, but a portion of the "kiridžije", and thus the tar producers, continued operating until the 1970s. Immediately prior to World War II, tar producers transported their goods using horse-drawn carts, illustrating the persistence of traditional forms of transport (Stanojević, 2015).

Before World War I, the price of tar ranged from 5 to 15 paras per kilogram, while in the interwar period the price increased to between 1 and 4 dinars per kilogram. The usual exchange for tar was made in kind, where a trader could receive about one kilogram of grain, most often corn, for one kilogram of tar. 700 kilograms of tar brought an income of approximately 1,400 to 2,800 dinars, depending on market conditions. If the "katrandžija" used his own wood chips and materials for production, his gross earnings in 1923 were in the region of 35 dinars per workday, rising to roughly 70 dinars by 1929, reflecting changes in the economic situation and the value of labour during that period (Đenić, 1968; Vladisavljević, 1983).

Tar had a wide range of uses in traditional communities, both in everyday life and in industrial and pharmacological fields. In folk medicine, tar was used to treat various illnesses. For tuberculosis and consumption, an inhalation method was used involving breathing in steam produced by boiling pine branches, tar and salt in water for 24 hours. In treating scabies, tar was part of a ritual where the affected areas were rinsed in "nine waters", after which the tar was applied to the skin lesions. To relieve toothache, tar was combined with walnut leaves to create a mouthwash. Additionally, to prevent hair loss, tar was added to water in which wild cherry leaves were boiled, and this

[2] Alexander Malakhov, Russian chemical technologist. Prior to the First World War, he was involved in promoting forestry cooperatives and served as the president of the Union of Tar Cooperatives in northern Russia. After the war, he emigrated to the Kingdom of Yugoslavia, where he promoted cooperatives for processing pine resin, tar, turpentine and resin. Beyond the Zlatibor District, Malakhov extended his activities to other regions as well, including southern Serbia and the Poreč District (Baranac, 1934).

water was subsequently used to rinse the hair (Đenić, 1968; Milošević-Brevinac, 1954).

Beyond medical uses, tar had significant industrial applications. It was used in shoemaking, for roofing and insulation, as a component of asphalt, and in the manufacture of cable pipes. In rural households, tar served multiple purposes: it was used to lubricate wooden ox carts, by rural carpenters to coat various beams, to treat livestock to protect against parasites, especially flies (Golubac flies), to prevent foot diseases (Foot-and-mouth disease) in animals, and etc. According to folk beliefs, tar also played a magical, protective role and was used to coat doors of village houses and barns as a means to protect against vampires (Jevtić, 1987; Milošević-Brevinac, 1954).

INDUSTRIAL TAR PRODUCTION

To gain a fuller understanding of the significance and application of tar obtained from wood resin, it is also necessary to consider its industrial production.

Industrial tar production in the Kingdom of Yugoslavia was limited to only two enterprises, both utilizing the dry distillation technique: 1. Distillation of Wood DD, Teslić (Bosnia and Herzegovina); 2. Distillation of Wood S. H. Gutmann DD, Belišće (Croatia) (Alaupović, 1938). The annual consumption capacity of beech wood at the Belišće plant ranged between 100,000 and 120,000 m^3, while the Teslić plant processed up to 200,000 m^3. Through the process of dry wood distillation, a variety of valuable by-products were obtained, including charcoal, wood oil, tar, resin, synthetic resin, derivatives of crude methanol, calcium acetate compounds, and others (Marinović, 1926).

The Belišće Distillery, established in 1884 in Slavonia, a region endowed with extensive forest resources, benefited from an abundant supply of timber. Over the years, particularly during the interwar period, the industrial complex expanded significantly. At its peak, the enterprise managed approximately 50,000 jutars of forest and incorporated an impressive array of facilities, including 11 gatera (sawmills), four smaller

Table 1. Summary table of traditional and industrial tar production from wood
Tabela 1. Tabelaryczne podsumowanie tradycyjnej i przemysłowej produkcji dziegciu drzewnego

Aspect	Traditional tar production	Industrial tar production (wood dry distillation)
Location	Serbia (Zlatibor, Tara, Golija), Montenegro, Croatia, Bosnia and Herzegovina	Teslić (Bosnia and Herzegovina), Belišće (Croatia)
Organization of production	Individual and family-based; Cooperative in Mokra Gora (c. 1931)	Industrial factory
Main raw material	Black pine (Pinus nigra), especially stumps and resin-rich wood	Beech wood
Production method	Burning in "katran" – wooden box lined with clay, without oxygen	Dry distillation in factories
Capacity	800–1000 kg wood yields 100–150 kg tar (avg. 10 kg tar per 100 kg wood)	Belišće: 100,000–120,000 m³ beech wood/year; Teslić: up to 200,000 m³/year.
Labor	Mostly family labour	Belišće: about 4,000 workers; Teslić: about 2,500 workers
Production capacity	Household level, local market and barter trade	Belišće: 210 wagons of tar/year; Teslić: 350 wagons of tar/year
Trade	Trade caravans ("kiridžije") using horses and carts; barter and cash trade (1–4 dinars/kg price)	Industrial sales on market; 1925 price: 1 dinar/kg
Tar usage	Medicinal (inhalations, treatments), industrial (roofs, footwear, insulation), livestock care	Similar uses, plus specific products like varnishes, railway sleeper impregnation

sawmills, various workshops, and a tannin factory producing roughly 400 wagons of extract annually. In addition, a dry wood distillation plant was equipped with five large retorts and five generators, and further diversification of production was achieved with a parquet factory yielding in the region of 60,000 square metres per year and a barrel factory manufacturing approximately 30,000 barrels annually. The complex's infrastructure also included a stone quarry, a fishpond, and a dedicated forest railway. Collectively, the Gutmann factories boasted a total motor capacity of 2,000 HP and employed around 4,000 workers, positioning them among the largest industrial enterprises of the time. Within this diversified production framework, the Belišće factory specialized in tar production, manufacturing two distinct types: a light tar oil suitable for varnish production and a raw tar oil used for impregnating railway sleepers. By the 1920s, the annual production of tar had reached approximately 210 wagons (Lakatoš, 1924; Marinović, 1926; S.H. Gutman DD – Belišće, 1931; 1937).

The dry wood distillation plant in Teslić (Vasić, 2014), founded in 1896, was the largest facility of its kind within the Kingdom of Yugoslavia. Situated in a densely forested region of Bosnia and Herzegovina, the plant processed up to 200,000 m^3 of beech wood annually. Its extensive production included 350 wagons of tar (or alternatively 20 wagons of creosote oil, 10 wagons of light oil, and 70 wagons of resin) (Lakatoš and Despić, 1924). Operating with a total power of 1,100 HP and employing approximately 2,500 workers, the factory manufactured a wide range of wood-derived products: beech charcoal, wood lime and its derivatives, methyl alcohol and its compounds, wood tar, creosote, wood lacquer, quicklime, and synthetic resins. According to available data, in 1925 alone, the factory shipped 30,663 kg of wood tar within the territory of the Kingdom of SCS, sold at a price of 1 dinar per kilogram (*Izveštaj o privrednim prilikama i radu komore u godini 1925.*, 1926).

CONCLUSION

The study of traditional tar production in the Kingdom of Yugoslavia, especially the mountainous regions of western Serbia, provides valuable insight into the interdependence of environmental resources, local knowledge systems, and rural economic in the first half of 20th century. The process of tar production, although technologically simple, was extremely demanding and required prolonged physical labour from the local population. The marginal, and mostly primitive, practice of tar distillation, locally known as "pečenje katrana" emerges as a highly specialized craft that reflects a complex interaction between human labour, material conditions, and community organization. This form of production was not merely a technical activity but a culturally and economically embedded system. It relied on intimate knowledge of the forest, particularly the properties of black pine and its resin content, as well as on seasonally adapted labour rhythms. In this context, the "katrana" was not only a place of production but also a symbolic place of connection, linking households, forest, and trade routes within the rural economy.

The significance of tar production extended beyond mere economic subsistence. It supported the development of informal logistical networks ("kiridžijstvo") and demonstrated the multifaceted role of tar within traditional communities, where it was used in folk medicine, veterinary care, construction, etc.

Traditional tar production enables a better understanding of how rural communities in Yugoslavia used environmental knowledge, labour organization, and economic problems within the broader historical transformations. In this context, we should consider viewing traditional tar production not only as a relic of a pre-industrial past, but as a response to economic conditions.

ACKNOWLEDGEMENT

This article is based upon work from COST Action CA22155, supported by COST (European Cooperation in Science and Technology)

REFERENCES

AJ (Archives of Yugoslavia). (1934). Data concerning the Zlatibor Cooperative for the Processing of Resinous Wood, Tar, and Pitch. Fund: Ministry of Trade and Industry (65), Folder 671, Unit 1395. Mokra Gora, Zlatibor District,.

Alaupović, R. (1938) "Naša industrija suhe destilacije drveta" [Our Wood Dry Distillation Industry]. Jugos. Rotar, 14.08.1938, 7–9.

Baranac, S. (1934). Šumari, osnivajte šumarske zadruga [Foresters, establish forestry cooperatives]. Šumar. List, 10, 497–516.

Begović, B. (1978). Razvojni put šumske privrede u Bosni i Hercegovini u periodu austrougarske uprave (1878–1918) sa posebnim osvrtom na eksploataciju šuma i industrijsku preradu drveta. [The Development Path of the Forest Economy in Bosnia and Herzegovina during the Austro-Hungarian Administration (1878–1918) with a Special Focus on Forest Exploitation and Industrial Wood Processing]. Sarajevo: Akademija Nauka i Umjetnosti Bosne i Hercegovine.

Đenić, L. (1968). Kiridžije i katrandžije sa Zlatibora: prilog građi za etnografsko proučavanje Zlatibora. [Kiridžije and Katrandžije from Zlatibor: A Contribution to the Ethnographic Study of Zlatibor]. Čajetina: Narodna biblioteka "Dimitrije Tucović".

Đurović, S. (1983). Zavođenje dirigovana drvne privrede u međuratnoj Jugoslaviji. [Establishment of Directed Economy in Forestry in Interwar Yugoslavia]. Acta Hist. Oecon. Iugosl. Časop. Ekon. Pov. Jugosl., 10(1), 117–142.

Gabrić, M. (1949). Katran i njegova prerada. [Tar and Its Processing]. Beograd: Rad.

Izveštaj o privrednim prilikama i radu komore u godini 1925. [Report on Economic Conditions and Chamber Activities in the Year 1925]. (1926) Sarajevo: Trgovačka i obrtnička komora za Bosnu i Hercegovinu [in Cyrillic].

Jevtić, J. (1987). Osvrt na nekadašnju proizvodnju katrana od borovog luča. [A Review of Former Production of Tar from Pine Heartwood]. Šumarstvo (3–4), 79–82 [in Cyrillic].

Katran (2013). Hrvatska enciklopedija, mrežno izdanje. Leksikografski zavod Miroslav Krleža. Retrieved June 13th 2025 from: https://www.enciklopedija.hr/clanak/katran

Lakatoš, J. (1924). Industrija Hrvatske i Slavonije. [The Industry of Croatia and Slavonia]. Zagreb: Jugoslovenski Lloyd.

Lakatoš, J. (1933). Jugoslovenska privreda. Jubilarno izdanje "Jugosl. Lloyda". [The Yugoslav Economy. Jubilee Edition of "Yugoslav Lloyd"]. Zagreb: Jugoslovenski Lloyd.

Lakatoš, J., Despić, A. (1924). Industrija Bosne i Hercegovine. [The Industry of Bosnia and Herzegovina]. Zagreb: Jugoslovenski Lloyd.

Marinović, M. (1926). Prilog proučavanju izvoza i uvoza šumskih produkata u kraljevini SHS za god. 1919–1924/5. [A Contribution to the Study of the Export and Import of Forest Products in the Kingdom of SCS for the Years 1919–1924/5]. Beograd: Ministarstvo Šuma i Rudnika. Generalne Direkcije Šuma.

Marković, Z. (1958). Pečenje katrana na Zlatiboru [Tar Distillation on the Mountain Zlatibor]. Glasnik Etnografskog muzeja u Beogradu, XXI, 215–230 [in Cyrillic].

Milošević-Brevinac, M. (1954). Proizvodnja i prodaja katrana u Studenici. [Production and Sale of Tar in Studenica]. Beograd: [b. i.]. [in Cyrillic].

Petrović, D. (1933). Iskorišćavnje luča i katrana u Južnoj Srbiji. [The Utilization of Resinous Wood and Tar in Southern Serbia]. Šum. List, 11, 659–667.

S.H. Gutman DD – Belišće (1931). Analiza bilansa, dodatak Narodnom blagostanju, III, 19, 09.05.1931, 167–168.

S.H. Gutman DD – Belišće (1937). Analiza bilansa, dodatak Narodnom blagostanju, IX, 22, 29.05.1937, 71–72.

Stanojević, D. (2015). Užičke kiridžije i rabadžije [Kiridžije and Rabadžije of Užice]. Čajetina: Biblioteka "Ljubiša R. Đenić" [in Cyrillic].

Stefanović, V. (1937). „Kiridžije – katrandžije: Crna kap katrana, sto kapljica mutnog znoja" [Kiridžije – Katrandžije: A Black Drop of Tar, a Hundred Drops of Cloudy Sweat]. Vreme, August 22 [in Cyrillic].

Vasić, D. D. (2014). Teslić i okolina u vrijeme transformacije feudalizma u kapitalizam: (1878–1941). [Teslić and Surroundings During the Transition from Feudalism to Capitalism: (1878–1941)]. Filozofski fakultet: Banja Luka [in Cyrillic].

Vladisavljević, S. (1983). O proizvodnji luča i katrana [On the Production of Resin and Tar]. Užički Zbor., 12, 409–429 [in Cyrillic].

Vučo, N. (1981). Razvoj industrije u Srbiji u XIX veku. [Development of Industry in Serbia in the 19th Century]. Beograd: SANU [in Cyrillic].

Živaković-Kerže, Z. (2017). Šuma/drvo – iskorištena ili ne iskorištena mogućnost. Prilog povijesnom razmatranju drvne eksploatacije na prijelazu 19. u 20. stoljeće. In: R. S. Dinko Župan (Ed.), Slavonske šume kroz povijest [Forest/Wood – Utilized or Untapped Potential. A Contribution to the Historical Consideration of Timber Exploitation at the Turn of the 19th to the 20th Century] (pp. 261–280). Slavonski Brod: Hrvatski institut za povijest. Podružnica za povijest Slavonije, Srijema i Baranje.

Rafailović, J. (2025). “A black drop of tar, a hundred drops of cloudy sweat”. The production, trade, and use of wood tar in the Kingdom of Yugoslavia during the interwar period. Acta Sci. Pol. Silv. Colendar. Ratio Ind. Lignar., 24(2), 249–257. https://doi.org/10.17306/J.AFW.2025.2.19

„CZARNA KROPLA SMOŁY, STO KROPEL MĘTNEGO POTU” – PRODUKCJA, HANDEL I WYKORZYSTANIE SMOŁY DRZEWNEJ W KRÓLESTWIE JUGOSŁAWII W OKRESIE MIĘDZYWOJENNYM

ABSTRAKT

W artykule przeanalizowano zastosowanie smoły drzewnej w Królestwie Jugosławii, koncentrując się na jej produkcji, handlu i codziennych zastosowaniach. Omówiono zarówno przemysłową suchą destylację, jak i tradycyjne metody, ze szczególnym uwzględnieniem tych drugich. Na podstawie źródeł historycznych i literatury przedmiotu przedstawiono tradycyjny proces wytwarzania smoły drzewnej, jej znaczenie gospodarcze i społeczne dla lokalnych społeczności oraz sposoby dystrybucji i wykorzystania w życiu codziennym.

Słowa kluczowe: dziegieć, Królestwo Jugosławii, kiridžije, drewno, leśnictwo, góra Zlatibor