

<https://doi.org/10.15407/ggcm2024.195-196.126>

UDC 553.495+551.1(477)

**Mariia MEREZHKO**

Institute of Geological Sciences  
of the National Academy of Sciences of Ukraine, Kyiv, Ukraine,  
e-mail: [geoinsgeo@gmail.com](mailto:geoinsgeo@gmail.com)

**RESEARCH ON THE HISTORY  
OF STUDYING ALLUVIAL TITANIUM DEPOSITS  
(using the example of the Volyn titanium-bearing region,  
the slope of the Ukrainian shield)**

This article explores the historical progression of research into titanium-bearing alluvial deposits, focusing on the Volyn titanium-bearing region in Ukraine. The study highlights three primary stages of exploration: the early period, the Soviet era, and the contemporary period following Ukraine's independence, each representing a unique phase in the understanding and utilization of titanium mineral resources.

During the early period, titanium minerals were occasionally mentioned in studies, mostly as incidental observations of titanium-bearing crystalline rocks, with limited systematic interest in their exploration. However, the Soviet era marked a transformative phase in the study of these resources. As demand for rare elements surged, comprehensive geological exploration efforts intensified. Geological expeditions and research groups were established, laying the groundwork for a more structured approach to titanium resource exploration. This era also saw the formation of the "Ukrainian Titanium School", which brought together researchers and production teams for collaborative study and development of titanium deposits.

The contemporary period, beginning in 1991, is characterized by advancements in methodologies and technologies. Research on titan-zirconium placers in the Volyn region has continued, now emphasizing the role of modern techniques, including Geographic Information Systems. The ongoing collaboration between research institutions and production enterprises, exemplified by the Ukrainian Titanium School, has driven significant progress in the field, facilitating a foundation for further industry development.

Despite the considerable advancements in understanding titanium deposits, challenges persist, underscoring the need for continuous research and the integration of innovative methods. The article concludes by emphasizing the importance of the rational utilization of titanium resources in driving Ukraine's economic growth, creating new employment opportunities, and attracting investments in titanium extraction and processing.

*Keywords:* titanium deposit, historical exploration, Volyn region, Ukraine, mineral resource.

© Mariia Merezhko, 2024

ISSN 0869-0774. Геологія і геохімія горючих копалин. 2024. № 3–4 (195–196)

**Introduction.** Ukraine stands as one of the leading countries in the extraction of titanium minerals, including ilmenite and rutile, and exports its raw materials to over 30 countries worldwide. The Volyn titanium-bearing region in Ukraine is a unique geological structure with significant potential for the extraction of titanium resources. Therefore, it plays a decisive role in Ukraine's position as a key player in the world titanium market. However, despite its importance in the mineral resource base of Ukraine, the history of studying this region remains relatively unexplored.

**The relevance** of researching the history of studying alluvial titanium deposits lies in uncovering the historical aspects of exploring such deposits, using the example of the Volyn titanium-bearing region, and identifying possible pathways for the further development of the titanium mining industry in Ukraine.

**This work is aimed** at systematizing and investigating of the history of studying alluvial titanium deposits, focusing on the specific example of the Volyn titanium-bearing region in Ukraine. The main objectives include a detailed examination of the chronology and significant events related to the study of titanium deposits in this region from ancient times to the present, highlighting the current level of scientific research and technological approaches in studying alluvial titanium deposits, as well as identifying modern challenges faced by researchers in this field.

Additionally, the work is aimed at discussing of possible perspectives for further exploration and utilization of titanium deposits. In the context of researching the geology of titanium alluvial deposits in Ukraine, particularly in the Volyn titanium-bearing region, three main stages can be distinguished: the early (or first) stage, the Soviet (or second) stage, and the modern (or third) stage.

**Previous studies.** P. K. Zamoysky (1939), K. M. Theofilaktov (1868) and many others have mainly looked at the general geology, geochemistry, and economic potential of titanium resources in the Volyn region. However, there hasn't been enough exploration of the historical aspect of research in this area, including the thorough examination and development of scientific approaches. This research aims to address this deficiency by refining existing knowledge and uncovering areas where the understanding of the history of studying alluvial titanium deposits is lacking. Additionally, it is aimed at identifying key areas for further research to learn more about this region and its potential.

**Materials and methods.** In this study, we focused on analyzing archival materials sourced exclusively from the library's collection. The research methodology involved a thorough examination of historical documents, geological maps, and relevant publications related to the Volyn titanium-bearing region.

*Data Collection.* Archival materials, including geological reports, maps, and scientific publications, served as the primary sources of information. These documents covered the early period marked by incidental mentions of titanium-bearing crystalline rocks, the Soviet era characterized by systematic exploration, and the contemporary period following Ukraine's independence.

*Data Analysis.* A systematic approach was employed to extract valuable insights from the archival materials. We conducted a chronological examination of the documents to understand the evolution of research methodologies and the progression of knowledge regarding alluvial titanium deposits in the Volyn region.

*Visualization Techniques.* To enhance the presentation of our findings, we employed data visualization techniques. Graphs were created to illustrate the key milestones in the exploration of titanium deposits over the different historical stages.

**Results.** *Early Stage of Research (up to the 1920s).* The early stage is characterized by incidental mentions of titanium-bearing crystalline rocks. The first indications of them appeared in the late 19th century. In 1872, K. M. Feofilaktov first included the distribution of granites, syenites, and anorthosites on the geological map, noting the significant presence of labradorites along the Irsha River (Theofilaktov, 1851, 1868) G. J. Ossovsky and N. P. Barbot-de-Marni (1872–1873) created a detailed geological map of the Kyiv, Volyn, and Podillia gubernias, indicating the presence of anorthosites (Barbót de Marni & Karpinsky, 1973; Ossovsky, 1868).

M. M. Miklouho-Maclay (1890) analyzed the crystalline rocks of Volyn and identified olivine gabbro as the most widespread.

V. E. Tarasenko, in his monograph (1895), stated that all gabbro rocks in the pluton are part of one geological body and represent various variants of gabbroic magma.

V. I. Luchytskyi (1912) provided a detailed description of rapakivi granites and similar rocks, concluding a genetic connection between granites and gabbro (Luchytskyi et al., 1947).

These early stages of research constitute the first period in the history of geological exploration of titanium alluvial deposits in Volyn.

*Second Stage (1920s–1990s).* The second stage lasted the longest – 67 years. The study of titanium alluvial deposits in the Ukrainian SSR on the territory of Volyn was described by S. V. Belsky during the period from 1924 to 1930. He noted that ilmenite was widespread not only in native rocks and primary kaolins but also in alluvial deposits of the Irsha, Trostyanitsa rivers, and others. During this period, reconnaissance work began within the Volyn titanium-bearing region.

A more organized search for titanium deposits took place from 1938 to 1941 when there was increased interest in rare elements in Ukraine. The placer exploration method gained popularity during this time. Before the start of World War II, a significant amount of work on placer exploration was conducted in the Volyn, Dnipropetrovsk and Zaporizhzhia regions, and along the coast of the Sea of Azov.

In 1938–1939, P. K. Zamoriy studied the geomorphology and Quaternary deposits of the Irsha River basin (Zamoysky, 1939), and D. K. Bilenko pointed out the distribution and concentration of ilmenite in Quaternary deposits and primary kaolins of the gabbro-anorthosite pluton of Volyn. F. E. Lapchik and A. E. Fursa in 1940 established that elevated concentrations of ilmenite are associated with Quaternary deposits, and rocks of the gabbro formation likely contain titanium-bearing minerals.

O. E. Fersman (1939) emphasized the possibility of forming large ilmenite placers during the destruction of anorthosite and gabbroid rocks in the Volyn region. In 1940, M. N. Ivantyshyn, based on placer sampling in the Chopovytske district, identified areas for the search for ilmenite placers in the area of the Trostyanitsa River and part of the Irsha River valley near the village of Shershni (Ivantyshyn, 1955).

In 1940–1941, P. K. Zamoriy and M. N. Antonovych, studying the geomorphology and Quaternary deposits between the Irsha and Trostyanitsa rivers, based

on placer exploration, identified the main genetic types of Quaternary and older deposits. During this period, extensive geological surveying with placer sampling of sedimentary deposits and weathered crusts of crystalline rocks in Volyn and other regions of the Ukrainian Shield was initiated by the Ukrainian Geological Administration starting in 1944, involving numerous researchers.

In geological reports (Vadymov, 1954) on the results of prospecting and evaluation works conducted in 1987–1991 in Zhytomyr region (USSR), researchers pointed out certain patterns in the distribution of widely spread minerals (ilmenite, rutile, topaz, zircon, tourmaline, apatite, and others) and recommended prospecting and exploration work within the Volyn region and other titanium-bearing regions of the Ukrainian placer subprovince.

A decisive moment in the study of titanium deposits in the Ukrainian SSR was the resolution of the Council of Ministers of the Ukrainian SSR in 1951 on the use of titanium in industry. This governmental task identified the necessity of identifying and prospecting titanium deposits (Vadymov, 1954). The Institute of Geological Sciences of the Academy of Sciences of the Ukrainian SSR, starting in 1944, conducted metallogenic studies to determine the chemical composition and accessory minerals of various magmatic and metamorphic complexes of the Ukrainian crystalline shield, which serve as the primary sources of supply for placers. These studies aimed at understanding the formation of titanium and other valuable minerals in placers. In the second half of the 20th century, detailed studies of titanium placers and rare metals were carried out jointly with expeditions from the Ministry of Nonferrous Metallurgy of the USSR.

A key role in the study and use of mineral resources in the region was played by the geological exploration expedition of the state enterprise “Pivnichukrgeologiya” (Mazko, 1959; Shvaiberov, 1991a and others). The collective of this expedition conducted reconnaissance of numerous ilmenite deposits. Geologists-explorers of different generations, including M. I. Ruban, V. P. Makarov, V. P. Lunko, G. P. Proskurin, S. K. Shvaiberov, L. G. Tokarska, L. P. Feshchenko, and many others, made a significant contribution to the discovery and development of these deposits.

*The Third Stage (post-1991).* The Third Period (or contemporary) begins with the declaration of Ukraine’s independence. Research on the titanium-zirconium placers of the Volyn Titaniferous Region continues, thanks to the efforts of numerous production teams (L. M. Bazaliiska, E. Yu Dudrovych, A. I. Nahorna, T. Nesterenko, H. P. Proskurin, M. I. Ruban, V. S. Tarasenko, V. M. Timofieiev, V. M. Trokhymenko, S. K. Shvaiberov, etc. (Bazaliiska, 2016; Bazaliiska & Vadymov, 1954; Shvaiberov, 1991b, 1994) and scientists (M. F. Veklych, L. S. Haletskyi, V. O. Mytrokhin, M. H. Diadchenko, O. O. Komlev, Yu. V. Kononov, Yu. A. Koshik, O. O. Remezova, T. V. Sivalneva, V. M. Timofieiev, A. Ya. Khatuntseva, D. P. Khrushchov, S. M. Tsymbal, and others (Galetsky, 2009; Galetsky & Remezova, 2011a, 2011b; Galetsky et al., 2010; Remezova, 2005a, 2005b; Remezova & Vasylenko, 2019; Svyvalneva, 2013) who have established the “Ukrainian Titanium School”.

Within the Volyn Titaniferous Region, production teams based on the Zhytomyr Geological Exploration Expedition, subordinate to the North Ukrainian State Enterprise “Pivnichheolohiia”, continue to work. They are engaged in detailed exploration of deposits (Zlobytske in 1994, Poromyvske in 2016) and geological-eco-

conomic assessments (Mezhirichynske in 2012). Despite the importance of geological exploration and deposit exploration, they currently face challenges associated with insufficient funding, leading to the practical cessation of their activities.

Alongside production teams, key participants in the search for innovative solutions to overcome challenges in the search for titanium resources are scientists from the “Ukrainian Titanium School”. Relying on the results of geological surveys, producers obtain crucial data for optimizing extraction, while scientists actively contribute to the development of approaches aimed at improving processes and increasing the profitability of the titanium industry. This collaboration between production enterprises and researchers defines the successful development and competitiveness of the industry.

Among the representatives of the “Ukrainian Titanium School”, special attention should be given to the research of L. S. Haletskyi, V. O. Mytrokhin, O. O. Remezova, M. S. Kovalchuk, T. V. Svivalneva, and others. They are actively involved in studying the geological processes underlying the formation of ilmenite placers.

In 2016, under the leadership of L. S. Haletskyi, a fundamental research project titled “Metallogeny and Predictive Assessment of Ukraine’s Titanium” was completed. It conducted a detailed analysis of deposits within the Ukrainian Placer Subprovince, including the Prydniprovsk, Pryazovsk, Azov-Black Sea, and Kharkiv-Sumy placer zones.

The report highlighted the complex nature of titanium ore deposits and discussed the state and prospects of the development of Ukraine's titanium mineral resource base. It identified objects for priority development and provided recommendations for the rational extraction of titanium ore deposits.

A separate mention should be made of the contribution of O. O. Remezova, who proposed considering gabbroid masses containing deposits of titanium-bearing ores as stratified intrusions. This approach allowed for the creation of the first geochemical models of the formation of titanium-bearing stratified gabbroid masses and the description of the conditions for the concentration of ores in them.

Exploration methods that allow the study of titanium-bearing deposits have led to the development of geochemical models of ore bodies and the investigation of the formation characteristics. However, due to rapid technological progress, modern researchers are rapidly adopting advanced technological approaches. In particular, the use of Geographic Information Systems (GIS) has become an integral part of improving scientific research in the geological field. GIS facilitates convenient analysis, integration, and visualization of geological data, contributing to the creation of complex geological models and the optimization of research and extraction processes.

Geographic Information Systems are a powerful tool for studying and analyzing geological data. GIS allows the integration of geological data in digital format and addresses complex tasks related to spatial information processing.

Advantages of building geological models using GIS include:

- simplification of the collection, organization, and visualization of geological data, facilitating work with observations and providing easy access to various types of information;
- use of different data layers and analysis of spatial relationships between geological elements;

Stage Deposit	Deposit pre-scouted	Deposit extensively scouted	Deposit in development	Deposit practically depleted	Geological model constructed
Irsynske		1954 p.	з 1963 p.	2023 p.	
Verkhnio-Irsynske		1964-1967 p.	з 1967 p.	2023 p.	
Lemnenske		1959 p.	з 1960 p.	2023 p.	
Mezhirichinske		1953-1958 p.	з 2008 p.		✓
Valky-Gatskivske	1971-1973 p.	1992-1998 p.	з 2003 p.		
Zlobytske	1971-1973 p.	1990-1994 p.			✓
Poromyvske	1971-1973 p.	2008 p.			✓
Livoberezhne	1969 p.	1972 p.			
Trostanetske	1975-1978 p.	1991-1999 p., 2008 p.			
Krasnorichinske	1971-1973 p.				✓
Pravoberezhne	1971-1973 p.				
Ushitske	1953-1958 p.				
Ushomyrske	1953-1958 p.				
Ivanivske	1974-1976 p.				
Stavyshanske	1987-1991 p.				
Selyshanske	1972-1975 p.				✓
Vydybirske	1975-1978 p.				
Fedorivske	1972-1975 p.				
Ocheretianske	1987-1991 p.				

Figure 1. Visualization of progress in works on alluvial titanium deposits of the Volyn titanium-bearing region

- creation of geological models, taking into account various parameters such as depth, structure, and types of rock formations;
- development of three-dimensional visualizations, facilitating the perception and understanding of geological formations and their relationships.

Significant contributions to the digitization and digitalization of graphical documentation of the Volyn Titaniferous Region deposits and the construction of their geological models were made by D. P. Khrushchov, M. S. Kovalchuk, T. V. Okholina, H.O. Kuzmanenko, and others (Ganzha et al., 2022; Khrushchov et al., 2013; Nestrenko, 2019; Vasylenko & Trokhymenko, 2014). This played a key role in improving the understanding of geological formations and optimizing various aspects of geological research.

To study the peculiarities of ore mineralization distribution, digital structural-lithological modelling was conducted on various compositionally diverse residual and placer deposits. Under the leadership of D. P. Khrushchov, a methodology for structural-lithological modelling of titanium-zirconium placers was developed (Khrushchov et al., 2017), which was successfully applied to the Zlobytske deposit.

Using GIS technologies, the laws of the territorial distribution of titanium placer mineralization and the nature of ilmenite distribution in alluvial deposits of the Zlobytske deposit were determined (Svyvalneva, 2011). The predominance of the Irshan ore district in the development of new promising objects for obtaining pigmented titanium dioxide was substantiated. T. V. Okholina identified

sources of ilmenite and zircon transportation, and an assessment of the prospects of individual deposits in this region (Zlobytske, Selyshanke, Poromyvske, etc.) was carried out (Svyvalneva, 2013).

The illustration (Figure 1) provides a visualization of the progress of research at each deposit, indicates the most likely deposits for further development, and emphasizes the presence or absence of a developed geological model for each deposit.

**Conclusions.** Research on the history of studying placer deposits of titanium, especially in the Volyn titanium-bearing region, is a key aspect of the development of the mineral resource base of Ukraine. Considering the strategic importance of titanium for various industrial sectors, further scientific research and rational utilization of this raw material will determine the economic and technological development of the country in the future.

Despite over a century of research, knowledge about titanium deposits has significantly expanded, but some questions remain unresolved, requiring further investigation. The current tasks include exploring new deposits and reassessing reserves using modern methodologies. The presence of unresolved issues necessitates the further development of contemporary methods and the use of GIS technologies to address geological and environmental challenges.

Continuing research and rational use of placer titanium deposits can be a crucial factor in promoting Ukraine's economic development. The effective utilization of this strategically important raw material will contribute to the creation of new jobs and the attraction of investments in the extraction and processing of titanium.

- Barbót de Marni, N. P., & Karpinsky, A. P. (1973). Geological research in the Volhynian province. In *Collection of the Mining Institute* (pp. 247–248). SPB. [in Russian]
- Bazaliiska, L. M. (2016). *Report on geological exploration of the Poromyvsky placer ilmenite deposit*. DNVP “Geoinform Ukraine”. Dnipro. [in Russian]
- Bazaliiska, L. M., & Vadymov, N. T. (1954). *Geological description of titanium deposits and ore manifestations on the territory of the USSR* (pp. 87–112). Kyiv: Ukr. Geol. upr. [in Russian]
- Fersman, A. E. (1939). The Search for Mineral Deposits on the Basis of Geochemistry and Mineralogy. *Geological and Mineralogical Studies*, 4(1), 187–194. [in Russian]
- Galetsy, L. S. (2009). *Status and prospects of titanium production in Ukraine* [Report]. Institute of Geological Sciences of NAS of Ukraine. Kyiv. [in Ukrainian]
- Galetsy, L., Khrushchov, D., Remezova, O., Kirpach, Y., Svyvalneva, T., & Stepanyuk, O. (2010). International conference “Titanium ore base in the CIS–2009”. *Geologist of Ukraine*, 1–2, 3–10. [in Russian]
- Galetsy, L. S., & Remezova, E. A. (2011a). The Role of Ukraine's Titanium Mineral Resource Base in the World. In *Proceedings of the International Conference “Ti–2011 in the CIS”* (Lviv, April 25–28, 2011) (pp. 22–28). Kyiv. [in Russian]
- Galetsy, L. S., & Remezova, O. O. (2011b). The strategy of titanium mineral-raw material base of the Ukraine. *Geological Journal*, 3, 66–72. <https://doi.org/10.30836/igs.1025-6814.2011.3.139209> [in Ukrainian]
- Ganzha, O., Kuzmanenko, H., Okholina, T., & Remezova, O. (2022). Current state of mineral base of titanium deposits of Ukraine. *Visnyk of Taras Shevchenko National University of Kyiv. Geology*, 4(99), 60–66. <https://doi.org/10.17721/1728-2713.99.08> [in Ukrainian]
- Ivantyshyn, M. M. (1955). Changes in the composition of accessory ilmenite and titanomagnetite in rocks of the Korosten intrusive complex. *Geological Journal*, 15(3). [in Russian]

- Khrushchov, D. P., Kovalchuk, M. S., Remezova, E. A., Lalomov, A. V., Tsymbal, S. N., Bosevskaya, L. P., Lobasov, A. P., Ganja, E. A., Dudchenko, Y. V., & Kroshko, Y. V. (2017). *Structural-Lithological Modelling of Sedimentary Formations*. Kyiv: Inter-service. [in Ukrainian]
- Khrushchov, D. P., Lobasov, A. P., Remezova, E. A., Vasylenko, S. P., Svalnieva, T. V., & Kravchenko, E. A. (2013). Digital structural-lithological models for Zlobychy and Motrona-Annyvske placer titanium-zirconium deposits. *Geological Journal*, 2, 26–36. <https://doi.org/10.30836/igs.1025-6814.2013.2.139337> [in Ukrainian]
- Luchytskyi, V. I., Semenenko, M. P., Tkachuk, L. H., & Usenko, I. S. (1947). *Ukrainian crystalline massif (geological-petrographic description with a map)*. [in Russian]
- Mazko, M. I. (1959). *Results of geological prospecting works performed by the Zhytomyr expedition in the Irsha River basin and the upper reaches of the Uzh River in Zhytomyr region, USSR, in 1953–1958* [Research report] (pp. 87–112). [in Russian]
- Miklukho-Maklay, M. N. (1890). Geological research of Novohrad-Volynskyi and Zhytomyr counties, Volyn province. In *Proceedings of the Mining Society* (p. 79). SPB. [in Russian]
- Nestrenko, T. P. (2019). *Reevaluation of the Geological and Economic Assessment of Reserves of the Mezhyrichne Titanium Ore Deposit (Sections Serednya, Emilivska, Yurska, Osynova, and Bukynska)*. Kryvyi Rih. [in Ukrainian]
- Ossovsky, G. O. (1868). Geological-geographical study of Volhynian province. In *Proceedings of the 1st Congress of Russian Naturalists* (p. 112). SPB. [in Russian]
- Remezova, O. O. (2005a). Problems of studying layered intrusive bodies of the Ukrainian Shield. *Geological and Mineralogical Bulletin*, 1(13), 61–67. [in Russian]
- Remezova, O. O. (2005b). Problems of studying the ilmenite deposits in the northwestern part of the Ukrainian Shield. *Collection of scientific works of the National Mining University*, 23, 22–27. [in Russian]
- Remezova, O. O., & Vasilenko, S. P. (2019). Significant contribution of the Department of Geology of Minerals of the Institute of Geological Sciences of NAS of Ukraine into the development of national geology during the Ukrainian independent. *Geological Journal*, 1(366), 45–58. <https://doi.org/10.30836/igs.1025-6814.2019.1.159240> [in Ukrainian]
- Shvaiberov, S. K. (1991a). *Report of the Zhytomyr GRE on the results of prospecting and evaluation works conducted in 1987–1991 in Zhytomyr region, USSR* (pp. 69–78). [in Russian]
- Shvaiberov, S. K. (1991b). *Exploration and Evaluation Works on Stavyschanska, Trostyanitska, and Ocheretyanska Placer Deposits of Ilmenite* [Research report]. Zhytomyr State Geological Exploration Expedition. [in Russian]
- Shvaiberov, S. K. (1994). *Detailed Exploration of the Zlobychske Placer Deposit of Ilmenite in Zhytomyr Region, Ukraine* (pp. 244–265). [in Russian]
- Svyvalneva, T. V. (2011). Geological-structural conditions for the formation of the Zlobychskoye placer ilmenite deposit. *Scientific principles of the geological-economic assessment of the mineral resource base of Ukraine*, 48, 212–214. [in Russian]
- Svyvalneva, T. V. (2013). Rating approach to the geological-economic assessment of titanium deposits with the construction of a model of one of the promising objects of the Volyn titanium-bearing region. In *Proceedings of the International Conference “Ti–2013 in the CIS”* (pp. 106–110). Donetsk. [in Russian]
- Tarascenko, V. E. (1895). On the Mountain Rocks of the Gabbro Family in Radomyshl and Zhytomyr Counties of Kyiv and Volyn Provinces. *Proceedings of the Kyiv Society of Naturalists*, 15(1), 89–91. [in Russian]
- Theofilaktov, K. M. (1851). On the crystalline rocks of the provinces of Kyiv, Volyn, and Podillya. In *Transactions of the Committee of Higher Educational Institutions at St. Vladimir University* (pp. 132–133). [in Russian]



- Theofilaktov, K. M. (1868). On the Results of Geological Research in Kyiv Province. In *Proceedings of the First Congress of Russian Naturalists in St. Petersburg, 1868* (p. 231). St. Petersburg. [in Russian]
- Vadymov, N. T. (1954). *Geological description of titanium deposits and ore manifestations on the territory of the USSR*. Kyiv. [in Russian]
- Vasylenko, A. P., & Trokhymenko, V. M. (2014). First results of monitoring and scientific support for the development of placer titanium deposits in the western part of the Ukrainian Shield. *Collection of scientific works UkrDGI, 1*, 33–39. [in Ukrainian]
- Zamoysky, P. K. (1939). *Geology and Quaternary deposits of the Irsha River interfluvium – Upper and Lower Irshytsia and Trostyaniitsa*. Funds of IGN NAS of Ukraine. [in Ukrainian]

Стаття надійшла:  
16.08.2024 р.

**Марія МЕРЕЖКО**

Інститут геологічних наук НАН України, Київ, Україна,  
e-mail: geoinsgeo@gmail.com

**ДОСЛІДЖЕННЯ З ІСТОРІЇ ВИВЧЕННЯ  
АЛЮВІАЛЬНИХ РОДОВИЩ ТИТАНУ  
(на прикладі Волинського титаноносного регіону,  
схил Українського щита)**

У цій статті досліджується історія пошуку титану в алювіальних відкладах. Зокрема йдеться про Волинський титаноносний регіон України. Дослідження охоплює три основні етапи: ранній період, позначений випадковими згадками про кристалічні породи, що містять титан; радянську епоху, що характеризується систематичними дослідженнями та підвищенням інтересом до рідкісних елементів; сучасний період після здобуття Україною незалежності. Помітні внески геологорозвідувальних експедицій та «Української титанової школи» підкреслюють спільні зусилля дослідників і виробничих груп.

Епоха після 1991 року свідчить про продовження досліджень титан-цирконієвих розсіпів Волинського титаноносного регіону, що підкреслює значну роль сучасних методологій і технологій геоінформаційних систем.

На завершення статті наголошується на ключовій ролі подальших досліджень та раціонального використання титанових родовищ для економічного розвитку України, створення робочих місць та залучення інвестицій у видобуток і переробку титану.

*Ключові слова:* родовище титану, історична вивченість, Волинська область, Україна, корисні копалини.