

SCI-CONF.COM.UA

EUROPEAN SCIENTIFIC DISCUSSIONS



**ABSTRACTS OF III INTERNATIONAL
SCIENTIFIC AND PRACTICAL CONFERENCE
FEBRUARY 1-3, 2021**

**ROME
2021**

EUROPEAN SCIENTIFIC DISCUSSIONS

Abstracts of III International Scientific and Practical Conference

Rome, Italy

1-3 February 2021

Rome, Italy

2021

UDC 001.1

The 3rd International scientific and practical conference “European scientific discussions” (February 1-3, 2021) Potere della ragione Editore, Rome, Italy. 2021. 800 p.

ISBN 978-88-32934-02-1

The recommended citation for this publication is:

Ivanov I. Analysis of the phaunistic composition of Ukraine // European scientific discussions. Abstracts of the 3rd International scientific and practical conference. Potere della ragione Editore. Rome, Italy. 2021. Pp. 21-27. URL: <https://sci-conf.com.ua/iii-mezhdunarodnaya-nauchno-prakticheskaya-konferentsiya-european-scientific-discussions-1-3-fevralya-2021-goda-rim-italiya-arhiv/>.

Editor

Komarytskyy M.L.

Ph.D. in Economics, Associate Professor

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine, Russia and from neighbouring countries and beyond. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

e-mail: rome@sci-conf.com.ua

homepage: <https://sci-conf.com.ua>

©2021 Scientific Publishing Center “Sci-conf.com.ua” ®

©2021 Potere della ragione Editore ®

©2021 Authors of the articles

TABLE OF CONTENTS

AGRICULTURAL SCIENCES

1. *Parubok M. I., Osipov M. Yu., Voitovska V. I., Tretiakova S. O.* 15
ECOLOGICAL AND BIOLOGICAL BASES OF RHODODENDRON
INTRODUCTION.
2. *Карпенко О. В.* 27
ДОСЛІДЖЕННЯ ВПЛИВУ ТЕРМОРЕГУЛЯЦІЇ НА ОРГАНІЗМ КУРЕЙ.
3. *Каркач П. М., Костюк М. М., Машкін Ю. О.* 31
ПОКАЗНИКИ РОСТУ ТА М'ЯСНІ ЯКОСТІ ІНДИКІВ РІЗНИХ ПОРІД.

VETERINARY SCIENCES

4. *Suprovych T., Lysa I.* 37
SENSITIVITY OF BOLA-DRB3 GENE ALLELES TO COWS
ENDOMETRITIS.

BIOLOGICAL SCIENCES

5. *Aliyeva K. A., Guliyeva R. H.* 41
ETHNO-TERRITORIAL DISTRIBUTION OF THE C174M
POLYMORPHISM OF THE AGT GENE IN THE POPULATION OF THE
AZERBAIJAN REPUBLIC.
6. *Mirzayeva S. A., Ganbarov K. G.* 45
INFLUENCE OF SUGARS ON THE GROWTH OF LACTIC ACID
BACTERIA STRAINS ISOLATED FROM THE PHYLLOSPHERE OF
PLANTS.
7. *Балабак А. А., Балабак А. В., Василенко О. В.* 49
ЭЛЕКТРОМАГНИТНОЕ ИЗЛУЧЕНИЕ В ЭКОЛОГИЧЕСКОМ
СОСТОЯНИИ СОВРЕМЕННОЙ УРБОЭКОСИСТЕМЫ.
8. *Кременчуцкий Г. Н., Степанский Д. А., Турлюн С. А.* 54
МИКРОЦИНЫ - ЭКЗОМЕТАБОЛИТЫ АЭРОКОККОВ.
9. *Фішук О. С.* 60
МОРФОЛОГІЯ КВІТКИ TULBAGHIA VIOLACEA HARV.
(AMARYLLIDACEAE J. ST.-HIL.).

MEDICAL SCIENCES

10. *Baghirova N. A.* 63
PRESENCE OF FOUR ADDITIONAL GENE MUTATIONS ALAS2,
CYP21A2 AND LPL IN A PATIENT WITH NIEMANN-PICK A/B FROM
AZERBAIJAN.
11. *Croitoru Catalina, Agachie Lia-Mirela* 67
AWARENESS OF THE PROBLEM AND THE NEED FOR
INFORMATION ABOUT HEAT WAVES BY MEDICAL STUDENTS.
12. *Gorgiladze T., Chilingarashvili T., Kedelidze N.* 74
TO THE QUESTION OF REHABILITATION OF PATIENTS WITH
CHRONIC ISCHEMIA OF THE BRAIN.

AGRICULTURAL SCIENCES

UDC 574.91:582.688.32

ECOLOGICAL AND BIOLOGICAL BASES OF RHODODENDRON INTRODUCTION

Parubok Marharyta Ivanivna

Candidate of Biological Sciences

Associate Professor

Uman National University horticulture

street Institutskaya, 1, Uman

Cherkasy region, 20305, Ukraine

Osipov Mykhailo Yuriievych

Candidate of Agricultural Sciences, Associate Professor

Department of landscape gardening

Uman National University of Horticulture

1, Instytutaska Street, Uman, Ukraine, 20301

Voitovska Viktoriia Ivanivna

Candidate of Agricultural Sciences, Art. Researcher

Institute of Bioenergy Crops and

sugar beets NAAS of Ukraine

street Clinical, 25, Kyiv, 03110, Ukraine

Tretiakova Svitlana Oleksiivna

Candidate of Agricultural Sciences

Associate Professor Uman National University

horticulture, street Institutskaya, 1, Uman

Cherkasy region, 20305, Ukraine

Abstract. Rhododendrons, as highly decorative representatives of the world flora, are characterized by a variety of shapes, size and color of flowers and leaves, crown type and plant size. Under conditions of introduction, they can be deciduous, evergreen and semi-evergreen. All this contributed to the widespread popularization of these plants in Europe, Asia and North America. Wide ecological plasticity of

rhododendrons promotes their use in park building, landscaping of cities, settlements and industrial enterprises.

Key words: introduction, rhododendrons, species, landscape.

Introduction. Agriculture originates from the introduction of plants and their acclimatization. This began when man first transferred plants from nature to his home for their further permanent cultivation. It is believed that it began about 10 thousand years ago.

Borrowing new plants from other areas for cultivation in new places is called introduction, and the process of adapting new plants to new growing conditions is called acclimatization. The development of modern crop production is impossible without the involvement of new species, forms and varieties of plants from other geographical areas or the creation of new varieties by selection. This is the great practical importance of the introduction and acclimatization of plants.

In the literature and practice of introduction and acclimatization of plants, three main terms have been defined and commonly used: "introduction", "acclimatization", "naturalization".

The term "introduction" was proposed by the Danish botanist Hansen in the late nineteenth century and firmly established in the botanical literature. It comes from the Latin *introductio*, ie introduction. "Acclimatization" is a Latin-Greek phrase (which has become common in botanical terminology), formed from Latin (in relation to, respectively) and the Greek *klima* (climate).

Although the theory of plant acclimatization has a history of more than 1.5 centuries, there is still no consensus on the meaning of these terms. Therefore, before considering them in detail, it is necessary to define closely related concepts such as environment, environmental conditions and living conditions. The Russian botanist V. M. Sukachov clearly distinguished these concepts [8].

For V. M. Sukachov, habitat conditions, or environment - is the whole set of environmental factors that affect a given plant or group of plants. The same factors

that are necessary conditions for the existence of plants are called conditions of existence.

Most researchers understand the term "introduction" as the introduction of plants into culture, and some call the introduction into culture only of wild species.

M. M. Hryshko [7] proposed to use the term "cultivation of new plants" instead of the term "introduction", and M. A. Avroryn believed that introduction is the primary cultivation of plants of a certain species (or form or variety) in a given natural area.

But the most complete definition of the concept of introduction S. Ya. Sokolov [6]. According to S. Ya. Sokolov, introduction is a set of methods and techniques by which a person helps to successfully pass the acclimatization (adaptation) process that takes place in plants. And since this is an acclimatization process, it is clear that it is necessary for plants transferred to new conditions for them, ie for introduced plants.

As for the term "acclimatization", all researchers understand it as a process of adaptation of plants to new conditions for their existence. Some authors equate acclimatization with introduction [4, 5, 6].

However, acclimatization is a process of independent adaptation of plants to new living conditions. Man can only accelerate it by various methods of selecting the forms necessary for culture.

Although the introduction of plants, as already noted, began in prehistoric times, the theory of introduction and acclimatization of plants began only in the early XIX century. The beginning of its development was laid by the famous German botanist and geographer A. Humboldt - the founder of botanical geography. In his work "Ideen zu einer Geographie der Pflanzen" he first expressed the opinion that climatic indicators are of special importance for plant acclimatization, and that one of the most important factors in plant development is not the temperature of the environment in general, but the sum of temperatures during the growing season and for each.

A. Humboldt believed that for normal development requires a certain minimum of heat, which is not the average daily temperature, but is the sum of temperatures above 0 °C for the period from emergence to germination of plants, which has a minimum of climatic and meteorological factors that limit the spread of this plant species. until a certain phase.

Acclimatization of plants, according to Charles Darwin, is achieved by the following two main ways: obtaining varieties that are marked differently than other individuals of this species, organization and "habituation" to the new climate without significant changes in the organization. And the resulting varieties are able to acclimatize in two ways.

The first is that being seedlings or adult plants, they are already able to withstand extreme cold; second, they can adapt to a different climate from their homeland if they bloom and bear fruit sooner or later, which allows them to avoid frosts. The role of man in this is to select such forms. Seed propagation is crucial in the acclimatization of plants, because it allows you to choose the right varieties. These theoretical positions of Charles Darwin became the basis for the development of modern theory of introduction and acclimatization of plants.

Plant acclimatization is a natural process of adaptation of plants to new living conditions, which occurs regardless of human intervention. Under natural conditions, it occurs continuously and is associated with climate change and other environmental conditions, accompanied by species - and shaping. Man can intervene in this process and accelerate it by crossing plants with subsequent selection from the offspring of the forms he needs and appropriate to the climate and other living conditions. The highest degree of acclimatization of plants is their naturalization, which is manifested in such a complete adaptation to new living conditions that the plants successfully reproduce, enter the phytocenoses and compete with aboriginal species.

Plant introduction is a set of techniques and methods of introducing new plant species into culture. There are three stages in the introduction of plants: preliminary selection of the introducer, introduction without significant change in the nature of plants and introduction associated with a significant change in the heredity of this

species. Methods of climatic and agroclimatic analogues, comparative study of paleoareals and modern habitats of introducers, ecological-historical and method of phylogenetic complexes are used in the selection of introducers.

The main sources of species diversity of woody and herbaceous plants in the temperate zone, from where it is potentially possible to introduce most species to Ukraine, are North America, the Mediterranean, the Caucasus and Transcaucasia, Asia Minor, Central Asia, Central China, Himalayas, Primorye, Northeast China, Korea, Japan.

A number of herbaceous species can be introduced from the northern regions of the Hindustan Peninsula and the temperate zone of the Southern Hemisphere.

When comparing the climatic conditions of Ukraine and these regions on such indicators as the number of days a year with temperatures above + 5 °C and the sum of average monthly positive temperatures, we can find in these regions areas of climatic analogues of Ukraine.

Humidity coefficients combine the effects of so many components of the climate that in some cases can serve as almost universal indicators for different areas, making them (areas) comparable. This is of great importance for the introduction of plants, because it allows to find climatic analogues with great approximation.

For the success of the introduction of plants in Ukraine, the conditions of the cold months of the year and especially the regime of air temperature in winter are no less important than the humidity of the climate. Sharp and frequent temperature fluctuations, alternation of frosts and thaws have no less detrimental effect on plants than prolonged and severe drought in summer [5].

In Ukraine, it is advisable to identify the following zones of introduction opportunities: 1) the zone of the widest introduction (Transcarpathia), 2) the zone of wide introduction (Ukrainian Polissya and Forest-Steppe), 3) the zone of limited introduction (Steppe).

Characteristically, the duration of the second stage is determined mainly by the biochemical characteristics of the introducers and the reasons of ecological nature,

and the duration of the third stage depends on the reasons of ecological character, traditions of plant culture and so on.

Today, there are several reasons that significantly hinder the widespread introduction of rhododendrons in landscaping. One of them is the insufficient amount of planting material, because the existing nurseries of these plants in Ukraine are almost never grown. The second, no less important reason is the lack of awareness of landscaping specialists and amateur gardeners about the technology of creating and growing sustainable highly ornamental rhododendron plantations.

But the botanical gardens of Ukraine are successfully engaged in the introduction of rhododendron species. The vast majority of rhododendron species grow naturally in mountain forests, where they form undergrowth and have adapted to partial shade. Under the crowns of large trees, using their protective effect, rhododendrons find optimal conditions for their growth and development. However, some species, such as rhododendrons Caucasian, myrtle and others occupy places in the alpine belts of the mountains, ie in open, fully illuminated areas of the northern slopes, forming small thickets there.



Some species, such as rhododendrons camellia (*R. camelliaeflorum*), blueberry (*R. vaccinioides*) and others grow in humid tropical forests on the trunks and branches of large trees, developing as epiphytes. Characteristically, such species do not parasitize on these trees, but use them only as a place to grow, feeding on decomposed plant remains and without disturbing the diet of trees [1].

Almost all species of rhododendrons have adapted to high humidity and soil. That is why the mountainous regions of the globe with a temperate climate and high rainfall are the best for the growth of these plants. In winter in the mountains, as a rule, a lot of snow falls, which protects rhododendrons from severe frosts. And in summer, frequent rains saturate the air with water vapor, which has a positive effect

on the diversity of their species composition and promotes intensive growth and development.

As for soils, the best for rhododendrons are acidic (pH 3.5 - 5.5), enriched with humus, loose soils. On soils neutral or alkaline, as well as heavy, they almost do not grow.

All known species of rhododendrons form a superficial, fibrous, very compact root system, which is concentrated in a small lump. They need the top soil layer to be loose and breathable, ie to provide good aeration. It should also be noted that rhododendrons, although they need moist soil and air, but can not withstand high groundwater and stagnant water. The experience of growing rhododendrons in the park conditions of a large city and on the territory of industrial enterprises proves that the vast majority of these plants can withstand gassiness and dust in the air. By releasing essential oils and volatile oils, rhododendrons clean the air of pathogenic microorganisms and promote the health of the environment.

During the last decade, when market relations began to operate in Ukraine, the construction of individual houses, cottages and dachas has become widespread. An important part of such construction is its improvement and landscaping.

In this regard, the requirements for landscaping of both new and reconstructed buildings have increased significantly. Rhododendrons, along with other highly ornamental plants, are the most effective shrubs that have gained widespread popularity around the world. In spring they impress with bright colors, shades, sizes and shapes of inflorescences, and in autumn - with decorative colored leaves: golden, crimson, red.

During flowering, rhododendrons are not inferior to the most attractive shrubs. Not every inhabitant of our country knows about rhododendrons. And this is not surprising, because the main number of species of these woody plants in the wild grows in the mountains of China, Southeast Asia, the Far East, the Caucasus and North America, where they have adapted to humid climates and acidic soils. On the territory of Ukraine only 2 species of this genus grow naturally - yellow and myrtle rhododendrons.

However, many years of experience in growing these plants in some botanical gardens and arboretums of Ukraine convincingly shows that many species, varieties, hybrids and varieties of rhododendrons can be successfully cultivated in Polissya, Forest-Steppe and Prykarpattia. With their participation it is possible to create attractive and cozy places of rest not only in big gardens, parks and arboretums, but also in the territories of the enterprises and the organizations, on personal plots and summer residences [2].

The introduction of promising species and varieties of rhododendrons in ornamental horticulture in Ukraine began around the early 80's of the twentieth century and its volume is slowly growing every year. Today, there are several reasons that significantly hinder the widespread introduction of rhododendrons in landscaping. One of them is the insufficient amount of planting material, because the existing nurseries of these plants in Ukraine are almost never grown. The second, no less important reason is the lack of awareness of landscaping specialists and amateur gardeners about the technology of creating and growing sustainable highly ornamental rhododendron plantations.

The genus *Rhododendron* (*Rhododendron* L.) is the largest genus in the Veres family. The number of species of this genus is not precisely established, as from year to year researchers discover new species and forms. Literature data show that at different times botanists have discovered and described more than 1,200 wild species and varieties of rhododendrons.

The name rhododendron consists of two Greek words: rhodon - rose and dendron - tree. So this tree is a rose. The genus includes evergreen, semi-evergreen and deciduous shrubs or bushes, rarely trees.



Characteristic features of rhododendrons are different in shape and height of their bushes, different in shape and size of their leaves, different in size, shape and color of the flower. Some species are very short, such as the Kamchatka rhododendron (*R. camtchaticum* Pall.), The Celtic rhododendron (*R.*

Keleticum), which grow only a few centimeters, other rhododendrons are equally tall (*R. Fastigiatum*), and dense (*R. Impediatum*) - reach a height a few tens of centimeters, but most species are up to 1-4 m tall. Some species, such as the giant rhododendron (*R. giganteum*), grow to a height of 30 m.

Regarding the shape and size of the leaves, some species, such as the Celtic rhododendron, have leaves up to 1.5 cm long, in most species they are 10 - 15 cm, but there are those in which the leaves reach 30 and even 80 - 100 cm, for example, in rhododendron large notch (*R. Sinogrande*).

The flowers of some species, such as rhododendron small-flowered (*R. Micranthum*), are small up to 1.5 cm in diameter. In most species, they reach 6 - 12 cm, but there are those that form flowers up to 20 cm in diameter. In shape, they can be funnel-shaped, bell-shaped, tubular or wheel-shaped, in color - pink, purple, red, purple, yellow or white, and different shades.

Rhododendrons bloom in very bright colors, which makes it possible to create amazing landscapes from them. That is why they are very popular in ornamental horticulture [16].

Natural habitats of currently known wild species, species and forms of rhododendrons are distributed mainly in regions with temperate climates of the northern hemisphere. A large number of these plants occupy large areas in East Asia.



Here they grow in the mountains, in the basins of large rivers, as well as on the coasts of oceans and seas, where there is a lot of precipitation. Most of them are in the western provinces of China, the Himalayas and Japan. Many species of rhododendrons also grow in the mountains of Tibet, Korea, the Primorsky Krai of Russia and the Kamchatka Peninsula.

Only 2 species of rhododendrons grow naturally in Ukraine. Among them - yellow rhododendron (*R. luteum* Sweet), whose range consists of continuous and island locations, occupies the north - eastern part of Rivne and north - central part of

Zhytomyr region. This is a relic of the pre-glacial period, which is dying out and needs control over the state of populations.

The second species - myrtle rhododendron (*R. myrtifolium* Schott et Kotschy) grows in separate groups or thickets in the Carpathians.

There are also winter-hardy varieties *Rhododendron Smirnova* represented by varieties Aurora, Laika, Dagmar, Ligava. Varieties of the Yakushimsky species are Falling Snow, Emanuel, Sonatine, Maiden Bridge. Not all varieties of this species are able to tolerate cold winters. Large-leaved hybrids of album varieties Novum, Lumina, Gradito have high winter hardiness. Despite winter hardiness, they all need shelter in the winter, especially in light snow and cold winters in Siberia

The richness of decorative properties of woody plants and their ability to change over time creates unlimited properties for the formation of the appearance of green areas of settlements. Thanks to the plantings, it is better to combine buildings and their groups into one whole, and residential buildings and administrative institutions - into a single complex or quarter.

Decorative plantings improve the architectural appearance of cities, give them a variety of colors, create a three-dimensional - silhouette. In addition, the plantings can be used to regulate traffic and pedestrians, safety islands, camouflage unattractive objects and some elements of the city.

REFERENCES

1. Zarubenko A.U. (2001). *Rhododendrons (for ornamental horticulture)*, K. 78 p.
2. Zarubenko A.U. Rhythms of development of Far Eastern species of the genus *Rhododendron* in culture. // Study of the ontogenesis of plants of natural and cultural flora in botanical institutions of Eurasia. Uman, 1998. P. 48 - 56.
3. Barbarich A.I. (1987). Distribution of yellow rhododendron in Ukrainian Polissya and possibilities of its use. - bot. Journal, pp. 29 - 68.
4. Bazilevskaya N.A., Maurin A.M. (1982). Introduction of plants: history and methods of selection of initial material. - Riga: Ed. Latvian University, 103 p.

5. Rusanov F.N. (1954). Basic concepts of plant introduction and some of its examples // Tr. Botan. garden of the Academy of Sciences of the USSR. Issue. 4. P. 53 –85.
6. Sokolov C.Ya. (1957). The current state of the theory of acclimatization and introduction of plants / 7 Introduction of plants and green building // Tr. Botan. Institute of the USSR Academy of Sciences. 6, issue. 5. P. 34 –42.
7. Grishko N.N. (1953). Theoretical bases of acclimatization of plants // Thesis. Council. on the theory and methods of acclimatization of plants (Moscow, Oct. 1953). M. L.,. P.34 –35
8. Sukachev V.N. (1926). Acclimatization and dendrological study of tree species as a task of forest experimental work // Tr. on the forest. experience case of the RSFSR. -. - 17, issue 3/67. P.68 –87.
9. Belov S.V., Barbinov F.A., Kozyakov A.F. (1991). / Ed. Belova S.V. Environmental protection: A textbook for tech. special universities. - 2nd ed., Corrected. and ext. - M.: Higher. school,. - 319 p.
10. Gorelov A.A. (1998). Ecology: Textbook. - M.: Center,. - 240p.
11. Demina T.A. (1997). Ecology, nature management, environmental protection: Textbook. - M.143 c.
12. Derliy S.I., Ilyukha V.O. (2000). Principles of Ecology. Kyiv: Ukrainian Phytosociological Center Publishing House, 200 p.
13. Dzhyherei V.S. (2002). Ecology and environmental protection. Teaching. way. - 2nd ed., 203 p.
14. Conservation and monitoring of biological and landscape diversity in Ukraine. K.: National Ecological Center of Ukraine, 2000. 244 p.
15. Kalinichenko O.A. (1996). Formation of dendroflora and forest vegetation of Ukraine // Introduction and preservation of plant diversity. Issue 6. P. 113 –116.
16. Kapustin V.V. (2000). Conservation of introductory and aboriginal plant diversity in culture // Introduction and conservation of plant diversity. Issue. 3. P. 5 – 7.

17. Kormilitsyn V.I., Tsitskishvili M.S., Yalamov Y.I. (1997). Fundamentals of ecology: Textbook. M. 68 p.
18. Curly V.P. (2001). Ecology. Lviv: Svit, 500 p.
19. The program of perspective development of reserve business in Ukraine (Reserves). // Voice of Ukraine. 1994 P. 4 –5.
20. Sakhaev V.G., Shcherbitsky B.V. (1986). Directory of environmental protection. - K .152 p.
21. Sobko V.G., Haponenkom. M.B. (1996). Introduction of rare and endangered plants of flora of Ukraine. K., - 258 p.
22. Stetsenko M., Domashlinets V. (2000). Nature of Ukraine in the context of environmental policy // Conservation and monitoring of biological and landscape diversity in Ukraine. K .: National Ecological Center of Ukraine, pp. 34 –38.
23. Strategy of botanical gardens for plant protection. M .: Rosselkhozakademiya, 1994. 62 p.
24. Kharchyshyn V.T., Sobko V.G., Melnyk V.I., Sirenky S.P., Lysak G.A., Zhuravsky R.V., Derkach O.V. (2003). Rare and endangered plants of Ukrainian Polissya. - Kyiv: Ukrainian Phytosociological Center, 248 p.
25. Cherevchenko T.M., Moroz P.A., Kuznetsov S.I., Muzychuk G.M. (1999). The problem of preserving plant diversity ex situ II Introduction of plants. No1. 124 p.
26. Cherevchenko T.M. (2002). Botanical gardens and arboretums the main centers of introductory research and conservation of plant diversity // *Mater. II International. conf. "Theoretical and applied aspects of plant introduction and green building"*. Uman: Dendrological Park "Sofiyivka". P. 11 –16.

CERTIFICATE

is awarded to

Parubok Marharyta

for being an active participant in
III International Scientific and Practical Conference

“EUROPEAN SCIENTIFIC DISCUSSIONS”

24 Hours of Participation



ROME

1-3 February 2021

sci-conf.com.ua



CERTIFICATE

is awarded to

Osipov Mykhailo

for being an active participant in
III International Scientific and Practical Conference

“EUROPEAN SCIENTIFIC DISCUSSIONS”

24 Hours of Participation



ROME

1-3 February 2021

sci-conf.com.ua



CERTIFICATE

is awarded to

Tretiakova Svitlana

for being an active participant in
III International Scientific and Practical Conference

“EUROPEAN SCIENTIFIC DISCUSSIONS”

24 Hours of Participation



ROME

1-3 February 2021

sci-conf.com.ua



CERTIFICATE

is awarded to

Voitovska Viktoriia

for being an active participant in
III International Scientific and Practical Conference

“EUROPEAN SCIENTIFIC DISCUSSIONS”

24 Hours of Participation



ROME

1-3 February 2021

sci-conf.com.ua

