|  |  |  |
| --- | --- | --- |
| **Українське товариство генетиків і селекціонерів ім. М.І. Вавилова** |  | **Vavilov Society  of Geneticists and Breeders of Ukraine** |
| 03143, м. Київ – 143,  вул. Акад. Заболотного, 150. тел. 526-07-98, факс (044)526-07-59; е-mail: [kunakh@imbg.org.ua](mailto:kunakh@imbg.org.ua) www.utgis.org.ua |  | 150, Zabolotnogo str., Kyiv, Ukraine, 03143 Tel. (38044)5260798, fax (38044)5260759 е-mail: [kunakh@imbg.org.ua](mailto:kunakh@imbg.org.ua) www.utgis.org.ua |

№ \_\_\_\_ December 24, 2020

**Invitation letter № 1**

***Dear colleagues!***

On behalf of M.I. Vavilov Society of Geneticists and Breeders of Ukraine (VSGBU) we are pleased to inform that the **XVI International Scientific Conference** **«Factors in Experimental Evolution of Organisms»** is planned for September 2021. Since the Conference in September 2020 was cancelled because of coronavirus pandemic, it is planned to hold both the **XV** and **XVI International Scientific Conferences «Factors in Experimental Evolution of Organisms» in late September 2021** in **Kamianets-Podilskyi** (Khmelnytskyi region, Ukraine). The co-organizers of this event are VSGBU, the Kamianets-Podilskyi National Ivan Ohiienko University and the Institute of Molecular Biology and Genetics of NAS of Ukraine.

The work of the Conference will cover the ***following areas***:

1. **Genome Evolution in Nature and in Experiment**
2. **General and Population Genetics**
3. **Molecular Genetics and Genomics**
4. **Cytogenetics**
5. **Applied Genetics and Breeding**
6. **Human Genetics and Medical Genetics**
7. **Analysis and Evaluation of Genetic Resources**
8. **Molecular and Cell Biotechnologies**
9. **Ecological Genetics**
10. **Bioinformatics and Computer Biology**
11. **History of Biology, Issues of Teaching Genetics, Selection and Evolutionary Theory**

**Internatinal Committee of the Conference:**

Kunakh V.A. – Dr. Biol. Sciences, Corresponding Member of the NAS of Ukraine, Kyiv, Ukraine (Chairman)

Kopylov S.A. – Dr. Historical Sciences, Prof., Kamianets-Podilskyi, Ukraine (Co-Chairman)

Drobyk N.M. – Dr. Biol. Sciences, Prof., Ternopil, Ukraine (Deputy Chairman)

Golubenko A.V. ‑ Ph.D., Kyiv, Ukraine (Secretary)

Azizov І. – Dr. Biol. Sciences, Corresponding Member of the Academy of Sciences of Azerbaijan, Baku, Azerbaijan

Blume Ya.B. – Dr. Biol. Sciences, Academician of the NAS of Ukraine, Kyiv, Ukraine

Volkov R.A. – Dr. Biol. Sciences, Prof., Chernivtsi, Ukraine

Volkova N.E. – Dr. Biol. Sciences, Odessa, Ukraine

Hudkov I.M. – Dr. Biol. Sciences, Academician of the NAAS, Kyiv, Ukraine

Dubrovna O.V. – Dr. Biol. Sciences, Kyiv, Ukraine

Yemets A.I. – Dr. Biol. Sciences, Corresponding Member of the NAAS of Ukraine, Kyiv, Ukraine

Kilchevsky A.V. – Dr. Biol. Sciences, Academician of the NAS of Belarus, Minsk, Belarus

Kovtun S.I. – Dr. Agricultural Sciences, Academician of the NAAS, Kyiv region, Ukraine

Konet I.M. –Dr. Physics and Mathematics Sciences, Prof., Kamianets-Podilskyi, Ukraine

Kornelyuk O.I. – Dr. Biol. Sciences, Corresponding Member of the NAS of Ukraine, Kyiv, Ukraine

Kuchuk N.V. – Dr. Biol. Sciences, Corresponding Member of the NAS of Ukraine, Kyiv, Ukraine

Lukash L.L. – Dr. Biol. Sciences, Prof., Kyiv, Ukraine

Liubynskyi O.I. – Dr. Agricultural Sciences, Prof., Kamianets-Podilskyi, Ukraine

Makai Shandor – Dr. habil., Prof., Mosonmagyarovar, Hungary

Rashal I.D. – Dr. Biol. Sciences, Academician of the Latvian Academy of Sciences, Salaspils, Latvia

Rashydov N.M. – Dr. Biol. Sciences, Prof., Kyiv, Ukraine

Reshetnikov V.N. – Dr. Biol. Sciences, Academician of the NAS of Belarus, Minsk, Belarus

Satarova T.M. – Dr. Biol. Sciences, Prof., Dnipro, Ukraine

Sedel’nikova T.S. – Dr. Biol. Sciences, Krasnoyarsk, Russia

Sidorov V.A. – Dr. Biol. Sciences, Corresponding Member of the NAS of Ukraine, Kyiv, Ukraine – United States

Sokolov V.M. – Dr. Agricultural Sciences, Corresponding Member of the NAAS of Ukraine, Odessa, Ukraine

Telegeev G.D. – Dr. Biol. Sciences, Kyiv, Ukraine

Fedak G. – Dr. Biol. Sciences, Prof., Ottawa, Canada

Fedorenko V.A. – Dr. Biol. Sciences, Prof., Lviv, Ukraine

Fedorchuk I.V. – Ph.D., Associate Professor, Kamianets-Podilskyi, Ukraine

Hasterok R. – Dr. habil. Biol., Prof., Katowice, Poland

Hotyleva L.V. – Dr. Biol. Sciences, Academician of the NAS of Belarus, Minsk, Belarus

Chebotar S.V. – Dr. Biol. Sciences, Corresponding Member of the NAAS of Ukraine, Odessa, Ukraine

**Organizing Committee:**

Kunakh V.A. – Dr. Biol. Sciences, Corresponding Member of the NAS of Ukraine, Kyiv (Chairman)

Liubynskyi O.I. – Dr. Agricultural Sciences, Prof, Kamianets-Podilskyi (Co-Chairman)

Blume Ya.B. – Dr. Biol. Sciences, Academician of the NAS of Ukraine, Kyiv (Deputy Chairman)

Drobyk N.M. – Dr. Biol. Sciences, Prof., Ternopil (Deputy Chairman)

Kovtun S.I. – Dr. Agricultural Sciences, Academician of the NAAS of, Kyiv region (Deputy Chairman)

Golubenko A.V. – Ph.D., Kyiv (Secretary)

Twardovska М.О. – Ph.D., Kyiv (Secretary)

Andreev I.O. – Ph.D., Kyiv

Bilynska O.V. – Ph.D., Kharkiv

Bilyavska L.G. – Ph.D., Associate Professor, Poltava, Ukraine

Harbar V.V. – Ph.D., Kamianets-Podilskyi

Herts A.I. – Ph.D., Ternopil

Hordii N.M. – Ph.D., Kamianets-Podilskyi

Hrytsak L.R. – Ph.D., Ternopil

Humenyuk G.B. – Ph.D., Ternopil

Kazanishena N.V. – Ph.D., Associate Professor, Kamianets-Podilskyi

Kasiianyk I.P. – Ph.D., Associate Professor, Kamianets-Podilskyi

Kozak M.I. – Ph.D., Associate Professor, Kamianets-Podilskyi

Kolodii V.A. – Ph.D., Kamianets-Podilskyi

Konvaliuk I.I. – Ph.D., Kyiv

Liubinska L.H. – Dr. Biol. Sciences, Associate Professor, Kamianets-Podilskyi

Mamalyga V.S. – Ph.D., Prof., Vinnitsa

Matvieiev M.D. – Ph.D., Associate Professor, Kamianets-Podilskyi

Mozhylevska L.P. – Researcher, Kyiv

Navrotska D.O. – Ph.D., Kyiv

Nuzhyna N.V. – Ph.D., Kyiv

Opalko A.I. – Ph.D., Prof., Uman

Optasiuk O.M. – Ph.D., Associate Professor, Kamianets-Podilskyi

Prokopiak M.Z. – Ph.D., Ternopil

Rubanovska N.V. – Ph.D., Kamianets-Podilskyi

Suprovych T.M. – Dr. Agricultural Sciences, Prof, Kamianets-Podilskyi

Tarasenko M.O. – Ph.D., Kamianets-Podilskyi

Tymchuk S.S. – Ph.D., Kamianets-Podilskyi

Tiutiunnyk O.S. – Ph.D., Kamianets-Podilskyi

Fedorchuk I.V. – Ph.D., Associate Professor, Kamianets-Podilskyi, Ukraine

**Working languages of the conference:** Ukrainian, English, Russian.

All accepted materials will be published as a collection of scientific papers «Factors in experimental evolution of organisms» (*manuscript requirements see below*) prior to the beginning of the conference. Before preparing the article, please pay attention to the **CHANGES** in the below mentioned **Manuscript requirements.**

All materials submitted as scientific papers in Ukrainian, English or Russian will be published in a collection of scientific papers in the source language only after **prepayment**.

**The publication fee** is equivalent:

* for members of VSGBU from Ukraine – **700 hryvnias**,
* for members of VSGBU from other countries – **25 euros**,
* for participants, who are not members of VSGBU from Ukraine – **1000 hryvnias**,
* for participants, who are not members of VSGBU from other countries – **40** **euros.**

Publication fee must be paid by **March 1, 2021** on the operating account of VSGBU: Kyiv, AT Raiffeisen Bank Aval, MFO 380805, USREOU code 21 676 925, **IBAN UA38 3808 0500 0000 0026 0012 4706 4** indicating **only the first author’s surname**. Since VSGBU does not have a foreign currency account, foreign participants can transfer money to the treasurer of the VSGBU Society (150, Zabolotnogo str., Kyiv, Ukraine, 03143, Institute of Molecular Biology and Genetics NAS of Ukraine for ***Tvardovska Mariana Ostapivna*** on demand). Contact telephone of Tvardovska M.O. – +38(097)4085337, *e-mail*: utgis.site@gmail.com, maryana.tvardovska@gmail.com.

The following materials should be sent to the Organization Committee by e-mail **faktory2016@gmail.com**:

* Manuscript (text of the paper with figures and tables) as a file in .**doc** or .**docx** format. The file name should contain the *first author’s last name in Latin letters and the number of the area* (scientific direction, see above). *For example*, Bublyk\_1.docx (first author Bublyk, area 1).
* Manuscript layout with inserted figures and tables as a .**pdf** file. The file name should contain the *first author’s last name in Latin letters and the number of the area* (scientific direction, see above). *For example*, Bublyk\_1.pdf.
* Figures can be colour (for online-version) and/or grayscale (for printed version) and should be submitted as **.jpg files**. The file name should contain the *first author’s last name in Latin letters and number of figure.* *For example*, Bublyk\_fig1.jpg (first author Bublyk, Figure 1).
* A scanned copy of payment receipt.

The **subject** of the e-mail message must include the first author’s surnamein English and the area number, *for example*, Bublyk\_5.

**Manuscripts received after March 1, 2021 or materials that do not meet the requirements** (*see below***) will not be accepted!** Please check all the materials before sending.

**Address for correspondence**: faktory2016@gmail.com.

DEAR COLLEAGUES! When sending manuscripts and other documents, please carefully check the address you send them to (see above)!

**Contacts:**

+38(044)5260798 – Viktor A. Kunakh, Mariana O. Tvardovska;

+38(096)3182387 – Anastasiia V. Golubenko;

+38(097)4725350 – Nadia M. Drobyk;

+38(097)5449672 – Mariana Z. Prokopiak.

The second Information letter will be sent in **June 2021**.

**PLEASE NOTE** that the second Information letter will be sent only to the **e-mail addresses provided by the authors** in the submitted manuscripts.

If you are planning to participate in the conference without publishing any materials, please inform the Organizing Committee about this by e-mail faktory2016@gmail.com or by telephone on the above listed numbers before **June 1, 2021**.

**Collection of scientific papers**

**«FACTORS IN EXPERIMENTAL EVOLUTION OF ORGANISMS»**

ISSN 2415-3826 (Online), ISSN 2219-3782 (Print)

Collection of scientific papers **«Factors in Experimental Evolution of Organisms»**:

1. Included in the list of scientific professional publications of Ukraine, where the results of dissertations for obtaining PhD or DSc degrees in biological sciences can be published (biological specialties – 091, **Category "B"**, Order of the Ministry of Education and Science of Ukraine № 409 from 17.03.2020).
2. Indexed in the international scientific database **Index Copernicus**.

**The language in which articles are published:**

Ukrainian, English, Russian.

**Requirements for manuscript preparation:**

1. The **total number of pages** is 5-7, including abstracts, tables and figures, A4 (297 х 210 mm). Margins: left – 3.0 cm, other – 2,0 cm.
2. **Font** – Times New Roman, 12 pt, text justified in width, single spaced, indention – 1 cm.
3. Pages are not **numbered**.
4. The text of manuscript should begin with the **UDC** index.
5. Author(s) name (last name, initials), affiliation (institution), country, full address and e-mail (12 pt, *italics*), *see the example* *below*.
6. After the affiliation(s) address, write e-mail and phone number of the corresponding author, 10 pt, *italics*. The corresponding author in the list of authors should be marked by a superscript symbol (), *see the example* *below*.
7. **Title** of the article should be short (not more than 120 symbols, including the spaces), accurately reflecting the article content.
8. **Text of the article is structured according to the following:** the abstract in the language of the article, (without heading), introduction (without heading), materials and methods, results and discussions, conclusions, references, abstract in English (without heading), if the article is written in Russian, this part is provided in Ukrainian (without heading). If the article is written in English you should keep to the following structure: abstract (without heading), introduction (without heading), materials and methods, results and discussion, conclusions, references, abstract (in Ukrainian) (without heading).
9. **Abstract** should be submitted in two languages – English and Ukrainian, if the article is written in Russian the abstract should be in three languages – Russian, Ukrainian and English. The abstract in the language of the article should be placed at the beginning; abstracts in other languages should be placed after the references. **Abstract** should include the following sections: “Aim(s)”, “Methods”, “Results”, and “Conclusions” (*see the example below*). It should be **at least 1000** **symbols,** but **not exceed 1500 symbols,** with spaces and punctuation marks, including the **article title** and the **key words**or **phrases** **(not more than five)**.
10. **Abbreviations** should be used after the first mentioning and placed consistently thereafter. *For example*, Carpathian biosphere reserve (CBR).
11. **Figures** (line drawings, graphs, images and photographs) should be embedded in text and also submitted as separate .**jpg** files, which should have a resolution of 200-400 dpi. In addition, authors may also submit files with color images for publication in the electronic version of the collection. Lettering within the figures should be no smaller than 10pt, font Times New Roman or Arial, the same font must be used for letterings throughout all figures in the paper (*see the example below*). **Do not include** figure legends in the image. Scale the figures to fit in the column width. The figures must be up to 80 mm (one column) or 180 mm wide (two columns) and not higher than 234 mm including the legend. If it is planned to use the figures which were previously published by other authors, the author of the manuscript is obliged to indicate the author of the figure or provide a reference to its source, or documentary proof of permission to use these figures from the copyright owner.
12. **Tables**. Font for the text in the table should be Times New Roman, 11 pt, *see the example below.* **Notes for tables** must be provided below the table, in Times New Roman 10 pt. font. For example,

*Note.* M – molecular mass marker.

*Notes:* \* callus-derived regenerants (primer A11), M – molecular mass marker.

**The number of tables and figures together should not exceed 4-6!**

1. **Information about financial support for the research and acknowledgements** should be placed after the conclusions, Times New Roman 10 pt in *italics*.
2. **References**. References in the text should be cited in square brackets. *For instance*, [1]. **Do not refer to unpublished materials. Avoid citation** of **dissertations and conferences proceedings.** It is desirable to cite papers published after 2010. Avoid excessive self-citation.

The list of references (References) should be set out **in the order of their appearance in the manuscript.** For references from Ukrainian or Russian sources, the authors’ surnames and the periodical title should be indicated as they appeared in the English version of the abstract or the contents of the original periodical, indicating the language of the original work in square brackets (for example [in Ukrainian]. Names of publishing houses and journals (when there is no English name) should be transliterated in Latin alphabet. If a DOI (digital object identifier) is assigned to an article, include it at the end of the reference entry.

The **number of literature sources** should not exceed **15** for **an experimental article** and **25** for **a review article**.

**Example of an article**

**UDC**

**IVANCHENKO O.M.1, SAFAROV I.O.1,2, NIKOLAIENKO I.Yu.2** 

*1 Institute of Molecular Biology and Genetics of Natl. Acad. Sci. of Ukraine,*

*Ukraine, 03143, Kyiv, Akad. Zabolotnogo str., 150, е-mail: ivanov@imbg.org.ua*

*2 Yurii Fedkovych Chernivtsy National University,*

*Ukraine, 58012, Chernivtsi, Kotsiubynskogo str., 2, e-mail: nikolaev@gmail.com*

*nikolaev@gmail.com, (050) 254-56-88, (097) 562-44-66*

[1 line]

**TITLE OF THE ARTICLE** (in BOLD CAPITALS)

[1 line]

Abstract (in the language of the paper, without heading)

Introduction (without heading)

**Materials and methods**

**Results and discussion**

**Conclusions**

Information about financial support, acknowledgements (if any, without heading).

[1 line]

**References**

[1 line]

Abstract in English (if English is not the language of the paper, without heading)

**Example of illustration**

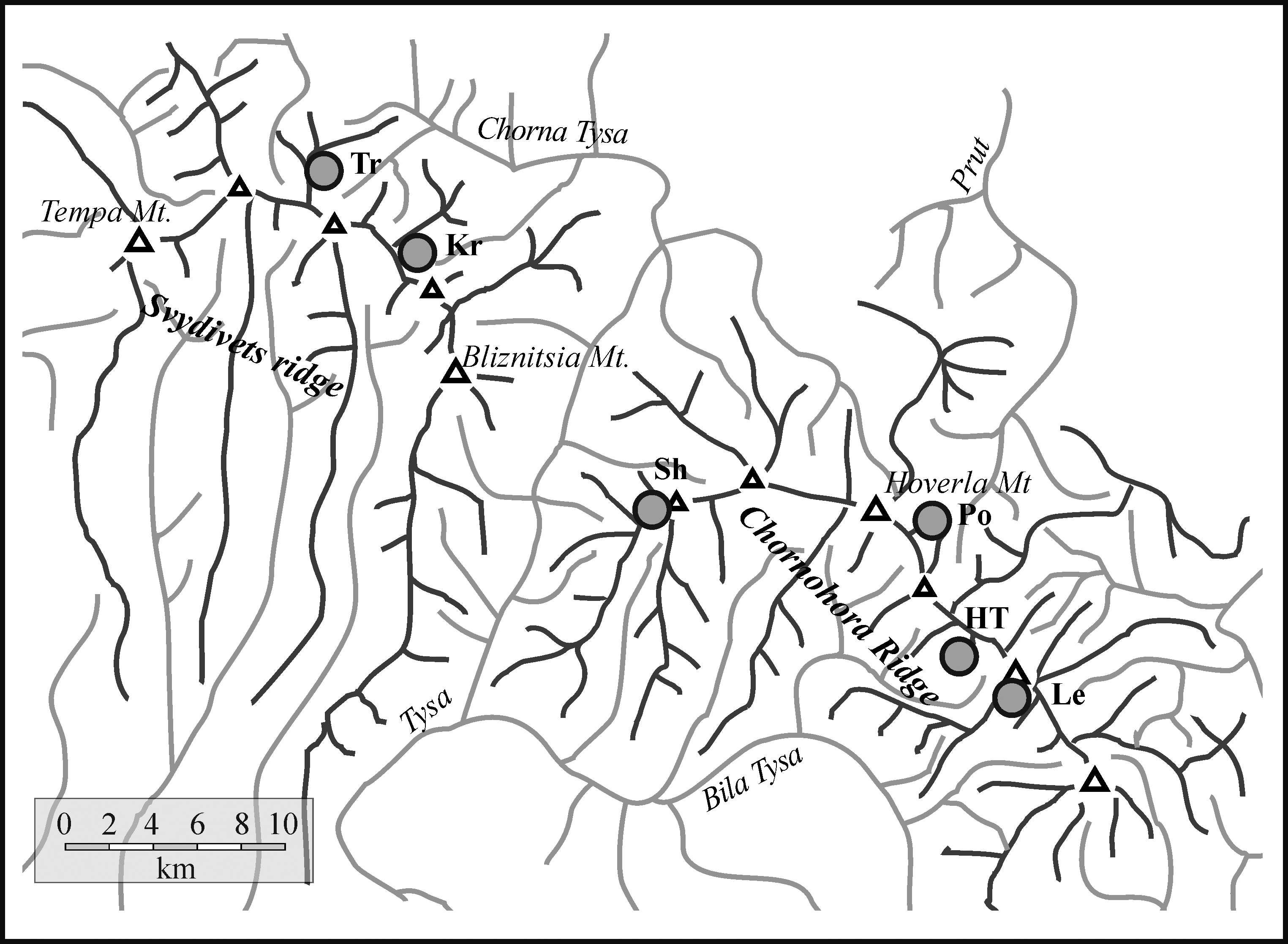


Fig. 1. Map of sampled populations of *G.lutea* in the Ukrainian Carpathians (represented by grayed circles). Kr – polonyna (mountain grassland) Krachuneska; Tr – the ridge slope between Troyaska and Tataruka Mountains; Sh – Sheshul and Pavlyk Mts.; Po – Pozhizhevska Mt.; HT – Hutyn Tomnatek Mt.; Le – polonyna Lemska.

**Example of table**

Table 1. Primers with the highest values of discriminating power (DL) selected for the use in population genetic studies of *G. lutea*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Primer | Rp\* | DL\* | ND30 | Nt\*\* | ND86  estimated | ND86  experimental |
| 1 | UBC#807 | 11.9 | 0.967 | 0 | 32 | 0 | 4 |
| 2 | UBC#811 | 12.3 | 0.964 | 1 | 38 | 8.4 | 3 |
| 3 | A18 | 7.7 | 0.956 | 5 | 21 | 42.0 | 52 |
| 4 | UBC#840 | 7.2 | 0.953 | 5 | 23 | 50.4 | 21 |
| 5 | А07 | 5.4 | 0.953 | 6 | 26 | 50.4 | 24 |
| 6 | UBC#889 | 8.7 | 0.953 | 7 | 26 | 50.4 | 20 |
| 7 | UBC#835 | 4.7 | 0.951 | 7 | 25 | 58.8 | 16 |
| 8 | ERF-F | 9.1 | 0.949 | 8 | 23 | 67.2 | 56 |
| 9 | MYB | 7.7 | 0.949 | 8 | 22 | 67.2 | 106 |
| 10 | 1962 | 6.1 | 0.949 | 8 | 17 | 67.2 | 58 |
| 11 | B01 | 5.5 | 0.944 | 10 | 20 | 84.0 | 34 |
| 12 | A19 | 7.3 | 0.942 | 11 | 18 | 70.2 | 28 |

*Notes:* \* – value calculated for the sample of plants of two populations (n = 30); \*\* – value calculated for the sample of plants of six populations (n = 86).

**Examples of references**

* **Articles:**
* Gamelin F.X., Baquet G., Berthoin S., Thevenet D., Nourry C., Nottin S., Bosquet L. Effect of high intensity intermittent training on heart rate variability in prepubescent children. *Eur. J. Appl. Physiol*. 2009. Vol. 105. P. 731–738. doi: 10.1007/s00421-008-0955-8.
* Nikolaiev R.O., Vivcharyk M.M., Chernykh S.I., Tkachuk Z.Yu. Influence of oligoribonucleotides on the conformation and stability of interferon. *The Bulletin of Vavilov Society of Geneticists and Breeders of Ukraine*. 2019. Vol. 17 (2). P. 165–171. doi: [10.7124/visnyk.utgis.17.2.1217](file:///E:\Journal_Faktors_in_exp\Kam_Pod_2021\Inf_letter_2021\10.7124\visnyk.utgis.17.2.1217). [in Ukrainian]
* **Books, manuals:**
* Lersten N.R. Flowering plant embryology. Ames (USA): Blackwell Publishing, 2004. 212 p.
* Mel’nychuk M.D., Novak T.V., Kunakh V.A. Plant Biotechnology. Kyiv: Polihraf Konsaltyng, 2003. 520 s. [in Ukrainian]
* **Digital Sources** (if you have a doi, you do not need to provide a link to the Web address)**:**
* Hammerli M. Molecular aspects in systematics of *Gentiana* Sect. *Calathianae* Froel. (Doctoral dissertation) Neuchâtel, 2007. 99 p. Retrieved from: <https://doc.rero.ch/record/8521/files/these_HaemmerliM.pdf>.
* **Patents:**
* Drobyk N.M., Melnyk V.M, Hrytsak L.R., Leskova O.M., Kunakh V.A. Method of microclonal multiplication of *Gentiana lutea* L. and *Gentiana acaulis* L.: Patent for utility model 21499 Ukraine. No u200610671; applied on 09.10.2006, published on 15.03.2007, bulletin № 3.
* A way of *in vitro* rooting of *Carlina sirsioides* Klok. ta *Carlina onorordifolia* Bess. ex Szaf., Kulcz. Et Pawl. plants: pat. 116640 Ukraine: MPK (2017.01) S12 N 5/00, 5/04 (2006.01); A 01 N 4/00. No u 2016 13335; appl. 26.12.2016; publ. 25.05.2017, Bul. No°10. 4 p. [in Ukrainian]

**Example of abstract**

**IVANOV O.M.1, SAFAROV I.O.1,2, NIKOLAIEV I.Yu.2**

*1 Institute of Molecular Biology and Genetics of Natl. Acad. Sci. of Ukraine,*

*Ukraine, 03143, Kyiv, Akad. Zabolotnogo str., 150, е-mail: ivanov@imbg.org.ua*

*2 Yurii Fedkovych Chernivtsy National University,*

*Ukraine, 58012, Chernivtsi, Kotsiubynskogo str., 2, e-mail: nikolaev@gmail.com*

[1 line]

**COMPREHENSIVE EVALUATION OF *IRIS PUMILA* L. POPULATIONS STATUS IN UKRAINE**

***Aim***. *Iris pumila* L. (Iridaceae), typical steppe xerophyte, which is protected in several regions of Ukraine. Area of the species range has suffered a significant decline and fragmentation over the recent centuries. The comprehensive population studies were conducted to elucidate the effects of these processes and determine the indices that can be used as well-timed signals of species extinction risk. ***Methods***. Ecological and population studies were combined with ISSR-analysis of genetic diversity to characterize the populations of *I. pumila*. ***Results***. A number of population and ecological indicators suggests that *I. pumila* in Ukraine may be referred to regressive species threatened by genetic erosion. Moreover, the results of ISSR-analysis of plants from four populations in Mykolayiv and Poltava regions showed relatively high levels of the species genetic diversity and weak divergence of isolated populations. ***Conclusions***. The reduction and fragmentation of *I. pumila* habitat first of all is accompanied by decline in ecological and population indicators, but depletion of the populations’ gene pool occurs much slower. To adequately determine the risk of genetic erosion in particular species, apart from assessment of population and ecological indicators, evaluation of species genetic resources using molecular markers is needed.

*Keywords*: genetic resources, *Iris pumila* L., population studies, PCR markers, threatened species.