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STATEMENT

On the materials for participation in a competition for acquiring the academic position of Associate Professor of professional direction 6.5. Forestry, scientific specialty "Silviculture, including Dendrology", announced by Forest Research Institute at the Bulgarian Academy of Sciences in State Gazette No 29/31.03.2023

Applicant to participate in competition: Senior Assistant Professor Mira Lyubcheva Georgieva, PhD

Author of the statement: Assoc. Prof. Georgi Hinkov Ivanov, Forest Research Institute at the Bulgarian Academy of Sciences

1. Brief biographical data

Mira Lyubcheva Georgieva graduated from the Vocational High School of Tourism Aleko Konstantinov - Bankya in 1995. She graduated 2001 with a Master's degree in "Ecology, Conservation and Restoration of the Natural Environment" at the University of Forestry in Sofia. In the period from 2006 to 2013, she worked at the University of Forestry. In 2006, she held the position of organizer of educational activities in the "Dendrology" department. From 2009 to 2012, she was an inspector in the "International Collaboration" department, where she was responsible for contacts and joint activity with other universities, organizations and scientific institutes at the national and international level. From 2012-2013, she was an inspector in the "Development of academic staff and quality control of training" department of University of Forestry. Her main activities for which she is responsible are the administrative and organizational provision of the procedures for the development of the academic staff according to the Law on Higher Education in Bulgaria. In the period 2014-2017, she was "Office Manager" in the company "Alpha Commercial Services LLC.

Mira Georgieva joined the Forest Research Institute in July 2017 and until October 2018 worked as an ecological engineer in the "Forest Genetics, Physiology and Plantation" section. From 2018 to the present, she is Senior Assistant Professor in the same section. Her main activities and responsibilities are: research, preservation and use of forest genetic resources, selection of valuable species and forms, study of biological diversity and methods for its preservation and improvement. Conducted doctoral studies in the period 2003-2017 at University of Forestry on the topic: "Study of the genetic diversity of the oriental plane (*Platanus orientalis* L.) in Bulgaria".

2. Conformity of the submitted documents and the materials of the applicant with the minimum requirements, according to the Regulations for acquiring the scientific degrees and holding academic positions of the Forest Research Institute at the Bulgarian Academy of Sciences (BAS)

The documents and materials submitted by the candidate Mira Georgieva correspond specific requirements adopted by the Scientific Assembly of the Forest Research Institute - BAS. No gaps found and no remarks. Based on the specified scientometric indicators A through E and additional indicators, all performed above expectations. On the two most important indicators B and D, the points are 187.6 and 210.8, respectively. Of the total required 500 points, 658 were achieved.

3. General description of the submitted materials

The summary list of scientific publications includes 54 articles. Three are related to the

doctoral studies and 3 are presented in the competition for "Chief Assistant" in the Forest Research Institute. The remaining 48 titles are for the competition for the academic position "Associate Professor". The publications that are evaluated in this opinion are as follows: 18 issues in publications that are referenced and indexed in world-renowned databases of scientific information, and 5 of them are in impact-ranked journals (*Ecologia Balkanica*, *Botanikai Közlemények*). The other 30 publications are papers published in conference proceedings or edited collective volumes.

4. Main directions in the research work of the applicant and the most important scientific and scientific-applied contributions

Chief assistant Dr. Mira Georgieva publishes in the following three main areas of research work:

1. Population-genetic studies of *Platanus orientalis* in Bulgaria
2. Floristic, dendrofloristic and dendrological studies
3. Phytocenological studies

The first direction includes topics that relate to the *Platanus orientalis*, namely:

- 1.1. Genetic differentiation
- 1.2. Variability of leaves
- 1.3. Risks when applying methods to protect genetic resources in rare species

The following research topics have been developed for the second direction:

- 2.1. Morphological and anatomical
- 2.2. Horological
- 2.3. Floristic and dendrofloristic
- 2.4. Surveys of invasive alien species

The third direction refers to various studies of: ruderal communities in coastal areas; plantations of black pine with an undergrowth of *Fraxinus ornus* in part of the mountainous areas around the city of Sofia - Vitosha, Plana, Lozenska Planina and Stara Planina; update of the map of the potential vegetation in the Iskar river gorge between Plana and Lozenska mountain; assessment of synanthropization in buffer forest belts in the Knezha region.

As a major scientific contribution, the comprehensive study carried out for the first time in Bulgaria on the genetic diversity of *Platanus orientalis*, based on neutral biochemical markers and adaptive quantitative traits, can be mentioned.

– Intra-population and inter-population genetic diversity was measured and assessed. Indicators of polymorphism, heterozygosity, degree of genetic distance and differentiation between populations were established.

– For the first time, results of a study of the differentiation between populations of *Platanus orientalis* based on quantitative traits have been published. The distribution of individual heterozygosity in 9 natural populations was determined. Based on 13 isozyme gene loci, the actual distribution of individual heterozygosity was compared with that theoretically expected in panmixia (free and random crossing).

– The results show that in the studied populations of *Platanus orientalis* there is crossbreeding close to panmixia, which fits the "ideal population" model. These populations produce seeds with a high degree of heterozygosity and, if necessary, can be used for the extraction of seed materials for the purposes of afforestation and preservation of the valuable genetic stock of the species by the *ex situ* method.

5. Reflection of the applicant's scientific publications in the literature

In total, positive citations of scientific works for participation in the competition for "associate professor" of Dr. Mira Lyubcheva Georgieva are 11 pieces. 9 publications where Dr. Mira Georgieva is a co-author are cited. All citations are in peer-reviewed publications, with 2 being in scientific publications, referenced and indexed in world-renowned databases of scientific information.

6. Participation in research projects

The candidate Mira Georgieva indicated that she participated in three projects - 1 international and 2 national, which are considered to meet the minimum requirements for this indicator. In the one project that is international with Romania, I have direct observations of her participation.

7. Teaching and learning activities (supervisor/PhD student's consultant, student training etc.)

No information about participation in educational and teaching activities is specified. Bearing in mind the long-term work of Mira Georgieva at the Forestry University in three important departments - in the "Dendrology" department as an organizer of educational activities, the "International cooperation" department, the "Academic staff development and training quality control" department, I am of the opinion that the educational activity is within the candidate's capabilities.

8. Assessment of the personal contribution of the applicant

Dr. Mira Georgieva participated in the competition for "associate professor" with 48 titles, in 15 of which she was the sole or leading author. Three of them are in refereed publications and 12 in non-refereed peer-reviewed scientific publications. Also in two titles she is first author in the "Chief Assistant" competition. According to the parameter "Assessment of the candidate's personal contributions", the requirements of the Regulations for the acquisition of scientific degrees and the occupation of academic positions at the Forest Research Institute - BAS are also met.

9. Critical remarks and recommendations

Small minor technical errors were found in the prepared habilitation documentation. As a note, the following text from the habilitation extended reference can be cited: "The dynamics of growth and dendrobiometric changes in stands formed by the two most aggressive and adaptive shrub species *Carpinus orientalis* Mill and *Fraxinus ornus* L. on the territory of Lozenska planina were investigated". Both species are believed to be trees, and the *Fraxinus ornus* reaching the size of a second-order tree over 20 meters tall.

I would recommend the candidate for the position of "Associate Professor" in the future scientific work to look for ways to participate in the COST program of the European Union, as well as to be involved in more national and international projects, where there are opportunities to write publications with an impact factor and an impact rank.

10. Personal impressions

I have good direct impressions of our joint work with Senior Assistant Professor Mira

Georgieva, especially on the international EBR project in 2019. My assessment of her scientific output is based entirely on the materials she presented.

11. Conclusion

In connection with the above, and due to the complete compliance of the presented materials with the necessary criteria, I offer the Senior Assistant Professor Dr. Mira Lyubcheva Georgieva to be elected as an "Associate Professor" in the professional direction 6.5. Forestry, scientific specialty "Silviculture incl. Dendrology".

Date 16.08.2023
Sofia

Member of the Scientific Jury.....
(Assoc. Prof. Georgi Hinkov)