



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. Krasimira Nikolova Petkova DSc, department "Silviculture", University of Forestry, appointed member of the Scientific Jury by Order RD-15-213/29.05.2023 of the Director of the Forest Research Institute at the Bulgarian Academy of Sciences

1. Brief biographical data.

Senior Assistant Professor Mira Lyubcheva Georgieva, graduated 2001 with a Master's degree in "Ecology, Conservation and Restoration of the Natural Environment" at the University of Forestry - Sofia. She briefly worked as an office manager and personal assistant to the manager at BK COMMERCE LTD.

Until 2013, she successively held the positions of Educational Activity Organizer, inspector of the "International Cooperation" department and inspector of the "Academic staff development and quality control of training" department at University of Forestry. From 2014 to 2017 she was an Office Manager and Personal Assistant to the manager at ALPHA COMMERCIAL SERVICES LLC.

Since 2003, she has been a PhD student at the department of "Dendrology" at University of Forestry - Sofia. On 16.01.2017 she defended her PhD thesis. On 07/03/2017, she started working as an environmental engineer in the "Forest Genetics, Physiology and Plantations" section of the Forest Research Institute at the Bulgarian Academy of Sciences, and in October of the same year she was elected as a Senior Assistant Professor in the same field, in which she is still working.

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 applicant correspond to the minimum national requirements under Art. 2b of the Law for development of the academic staff in the Republic of Bulgaria and the specific requirements adopted by the Scientific Assembly of the Forest Research Institute - BAS. The reference shows that the applicant covers the required number of points for all indicators, and exceeds some of them.

The total number of points is 658.4 from a passing grade of 500 points. The distribution of the number of points collected by the individual indicators is as follows: indicator A – 50 points with the required 50 points; indicator B – 187.6 points for the required 100 points; indicator D –

210.8 points for the required 200 points; indicator D - 110 points for the required 100 points, indicator E - 50 points for the required 50 points and additional indicators - 50 points.

2. General description of the submitted materials.

To participate in the competition, the applicant should present a total of 48 items scientific publications, which are distributed as follows:

- Scientific publications in issues that are referenced and indexed in worldwide databases with scientific information (indicator B) – 10 pcs.
- Articles and reports published in scientific publications, referenced and indexed in world-renowned databases with scientific information (indicator G7) – 8 pcs.
- Articles and reports published in non-refereed peer-reviewed journals or published in edited collective volumes (indicator G8) – 30 pcs.

The applicant's publications are presented as:

- Independent - 6 pcs. one according to indicator B (B4.1) published in a refereed and indexed journal in global databases and 5 pcs. by indicator G (G8.1, G8.4, G8.5, G8.9 and G8.10) in reports of international and national scientific conferences with scientific review.
- First author – 8 pcs. of which one according to indicator B (B4.2) and 7 pcs. by indicator G (G8.2, G8.3, G8.6, G8.7, G8.8., G8.11 and G8.12).
- Second author – 19 pcs. of which three according to indicator B (B4.8, B4.9, B4.10) and 16 pcs. by indicator G (G7.3, G7.4, G7.5, G7.6, G7.7, G7.8, G8.14, G8.15, G8.16, G8.22, G8.23, G8.24, G8.25, G8.27, G8.29, G8.30)
- Third and subsequent author – 15 pcs. of which 5 pcs. by indicator B (B4.3, B4.4, B4.5, B4.6, B4.7) and 10 pcs. by indicator G (G7.1, G7.2, G8.13, G8.17, G8.18, G8.19, G8.20, G8.21, G8.26, G8.28).

Of the presented publications, 18 pcs. are in English, and the rest are in Bulgarian.

An extended habilitation certificate was developed based on ten scientific publications, referenced and indexed in internationally renowned scientific information databases with the title "Study of Biological, Ecological and Genetic Features of Autochthonous and Invasive Species with a view to preserving biodiversity in Bulgaria", which includes a literature review based on 25 references and identification of scientific contributions in three directions, namely Genetic studies and the health status of species from the Genus *Platanus* in Bulgaria, Study of island flooded river forests along the Danube River. Analysis of the dendroflora of Lozenska Mountain comprising of ecological structure, phytogeographical elements, relicts, anthropophytic and invasive species.

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

The most important scientific and scientific-applied contributions of the applicant can be grouped in the following directions:

1. Population-genetic studies of *Platanus orientalis* L. in Bulgaria, which prove the need to apply an appropriate conservation strategy (G8.1, G8.3, G8.5). The study of the variability of the leaves of eight populations of *Platanus orientalis* by eight traits is also of a contributing nature (G8.4).

2. Conservation of genetic resources - the main characteristics and methods used and applied in genetic conservation (G8.9) and for measuring genetic diversity (G8.10) have been analyzed.

3. Floristic, dendrofloristic and dendrological studies

The changes in the anatomical and morphological parameters of *Ligustrum vulgare* L. during the first 40 days after permanent mechanical damage occurred (G8.2) were researched.

For the first time, a case of albinism (no chlorophyll cells in the leaves) was reported in a cranberry individual, probably as a result of a spontaneous mutation (G8.7).

It has been established that the routes for off-road vehicles pose a real danger to the populations of plant species with a nature protection status on the territory of Lozenska Mountain (G8.13).

The honey-bearing tree, shrub and semi-shrub vegetation on the territory of Lozenska Mountain (G8.14) was studied.

A study of the floristic composition of black pine plantations with an understory of manna ash in the mountains around Sofia was carried out (G8.20).

A characterization of the semi-shrub dendroflora of Bulgaria (G8.26) and an ecological-phytogeographical analysis of the dendroflora of Lozenska Mountain (G8.15, G8.16) were made.

It has been statistically proven that stem height of *Impatiens glandulifera* Royle can serve as an indicator of changes in the morphology of populations of the species and their relationship to habitat characteristics (G8.11).

New localities of 13 plant species were established, most of which are invasive species and/or species with nature protection status (G7.4, G7.5, G7.8).

4. Studies of invasive alien plant species

It was established that in its only locality on the territory of Lozenska Mountain, the invasive alien species *Opuntia humifusa* (Raf.) Raf. is characterized by high adaptability and poses a threat to the populations of the autochthonous species with nature conservation status *Orchis purpurea* Huds. and *Stipa epilosa* Marthin., found in the same locality (G7.3).

Three localities of the invasive alien species *Lupinus polyphyllus* Lindl., in the Lozenska Mountain, are reported. This species adapts very well, spread rapidly and represent a potential threat to the diversity of the species in the Lozenska Mountain (G8.6).

For the first time, a study was conducted on the distribution and impact of the invasive alien species *Impatiens glandulifera* Royle along the Iskar River between Lozenska and Plana Mountains:

- A methodical approach has been developed for monitoring the population of the species, which allows tracking the biodiversity changes that *Impatiens glandulifera* Royle causes at different levels (G8.12).

- The species adapts very well and can recover even after severe mechanical damage to the stem, which threatens local plant species (G8.25).

- The resource potential of the *Impatiens glandulifera* (G8.17.) and the ecological risk of the species (G8.30) were assessed.

- As control measures against the species, the possibilities of mowing (G8.27) and manual eradication (G8.8), main types of herbicides – selective and total (G8.22), use of sheep and goat grazing (G8.24) were tested, species competing with the *Impatiens glandulifera* were studied, whose populations would help to limit its spread (G8.29).

5. Phytocenological studies

- A plant community dominated by *Hordeum leporinum* Link and *Bituminaria bituminosa* (L.) Stirt (Class Stellarietea mediae R. Tx., Lohmeyer et Preisling in R.Tx. 1950) is reported for the first time. It was found in four localities in the Black Sea region between the town of Ravda and

the town of Nessebar (G7.7).

- The map of the potential vegetation in the gorge of the Iskar River between Plana and Lozenska Planina, compiled 40 years ago, has been updated and a classification, in line with the floristic approach of the indigenous communities in this area has been presented (G8.18, G8.19).

- A floristic and phytocenotic characterization of field-protecting forest belts in the area of the city of Knezha and an analysis of synanthropization processes in them was made (G7.1).

- Phytocenotic studies were carried out in black pine plantations with an undergrowth of hornbeam in the mountains around Sofia (G8.21).

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

Eleven citations out of 9 publications are reported, of which 2 are in the Web of Science and Scopus (D.13), 7 are in monographs and collective volumes with scientific review (D.14) and 2 are in non-refereed editions with scientific review (D.15) with a total number of 110 points.

A total of 4 more citations were found: on publication B.4.9 in Georgiev, G. 2019. Sechkovtsi (Coleoptera: Cerambycidae) in Lozenska Mountain. Collection of scientific works 150 years Bulgarian Academy of Sciences, Academic Publishing House "Prof. Marin Drinov", ISBN: 978-619-245-001-4 (Print) 978-619-245-002-1 (Online), 35-39. and of publications B4.8, G8.8 and G8.24 in Kachova, V., S. Bogdanov, M. Bozhilova, E. Filipova 2020. Characteristic localities of the invasive alien species *Impatiens glandulifera* Royle in the gorge of the Iskar River between Plana and Lozenska Mountains. Proceedings of the 31st National Scientific and Practical Conference "Quality - for a Better Life", Sofia, November 12-13, 2020, Avangard Prima, 248-255, ISSN 1314-9563 (CD-ROM), ISSN 2603-4387 (Print), which brings the total number of points under the D indicator to 150.

The number of points and those indicated by the applicant, cover the requirement for an "Associate Professor" for indicator D.

6. Participation in research projects.

According to indicator E, the applicant indicates participation in 3 scientific projects, of which 1 is international and two are national. The total number of points for this indicator – 50 meets the minimum national requirements.

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

In the documents submitted by the applicant, no educational and teaching activity is indicated.

8. Assessment of the personal contribution of the applicant.

The applicant's personal contribution is evident from independent and lead author publications. In the other publications, I accept the participation of Senior Assistant Professor Georgieva as equivalent. They also emphasize her ability to work in a team.

9. Critical remarks and recommendations.

My main feedback for the applicant relates to the extended habilitation reference and the

reference to scientific contributions, which could be presented in a more concise way.

The fact that the competition for "Associate Professor" is announced for the needs of the "Forest Genetics, Physiology and Plantations" section, directs me to the recommendation, that the future research work of the Senior Assistant Professor Georgieva should be focused to a greater extent on research in the scientific fields of the section. It would be nice to submit more independent articles and publication in renowned foreign journals with a impact factor.

10. Personal impressions

I have known Senior Assistant Professor Mira Georgieva since 2000, when she was my student and performed excellently in the exam in the discipline "Establishment of Forest Plantations". Later, we got into contact during her work at the University of Forestry and she impressed me with her responsiveness, hard work and precision in her work. I participated in the department review of her dissertation, which she presented brilliantly, in a competent way and confidently answered the questions she was asked. I also have impressions of her competition for Senior assistant professor, in which her performance was also very good.

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 31.07.2023
Sofia

Member of the Scientific Jury.....
(Assoc. Prof. Krasimira Petkova, DSc)