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STATEMENT

on the materials submitted for participation in the competition for the academic position "Associate Professor" in professional field 6.5 "Forestry", scientific specialty "Forestry, incl. Dendrology", announced by the Forest Research Institute – Bulgarian Academy of Sciences (FRI-BAS) in State Gazette no. 47/24.06.2022

Candidate for participation in the competition: Chief Assistant. Dr. Yonko Dobrinov Dodev

The statement was prepared by: Prof. Dr. Miglena Kircheva Zhiyanski, Forest Research Institute - BAS, professional field 6.1. "Plant breeding", scientific specialty "Soil Science", designated as a member of the Scientific Jury by Order No. ПД-15-367/09.08.2022 of the Director of FRI-BAS

1. Brief biographical data.

Chief Assistant Dr. Yonko Dodev was born on March 30, 1983 in Botevgrad. He graduated from higher education and acquired a master's degree in "Forestry" at the University of Forestry, Sofia in 2006. He started his professional career in 2005 as a forester at the "Etropole" State Forest Enterprise (SFE). In 2007, he worked as a Deputy Director at the "Botevgrad" SFE. In 2010, he started working as a forester at the FRI - BAS and manages the Beech Forest Experience Base. In the following years, Eng. Yonko Dodev's career development is related to scientific and practical work at the Forest Research Institute - BAS, and in 2011 he was appointed as an Assistant in Forestry. In 2015, he was enrolled as a doctoral student of independent preparation and in 2016 he successfully defended his Thesis, obtaining PhD degree in Forestry, incl. Dendrology, confirmed with Diploma No. 000826/05.01.2017 issued by BAS. In 2017, after a competition, Dr. Dodev held the position of "Chief Assistant" in Forestry, incl. Dendrology, confirmed with Certificate No. 001171/14.11.2017 and currently performs this position. For more than 13 years Dr. Yonko Dodev is the Deputy Chairman of the non-profit organization "Youth Movement for the Development of Rural Areas in Bulgaria" and actively participates in a number of successfully implemented and highly evaluated projects, programs and activities aimed at the integration of young people with a focus on environmental protection and rural development. Dr. Yonko Dodev speaks English and French and has leadership, organizational and communication skills that allow him to implement a wide range of scientific and practical activities at national and international levels.

2. Compliance of the documents and materials submitted by the candidate with the minimum requirements, according to the Regulations for the acquisition of scientific degrees and occupying academic positions at the Forest Research Institute - BAS.

The submitted documents and materials for the competition are in accordance with the requirements of the Law on Development of Academic Staff in the Republic of Bulgaria, the Regulations for its implementation, the Regulations of the BAS on the terms and conditions for the acquisition of scientific degrees and for holding academic positions and the Regulations for the terms and conditions for the acquisition of a scientific degree and for occupying academic

positions at the Forestry Research Institute - BAS. The reference-self-assessment presented by the candidate is supported by evidences provided in an electronic database. From the publications indicated in the reference, I consider that the published report under number Г 8.11. refers to another scientific specialty and field, and I do not accept it as related to the present procedure. In this regard, I accept the specified points in group of indicators Г with the reduction of points from material Г 8.11, equal to 205,54. A technical error in the sum of the total number of points in the detailed report-self-assessment is detected. The review of the submitted publications shows that the calculations by groups of indicators are indicated correctly, but the total sum of points is incorrectly indicated. According to the reference - self-assessment for the minimum national requirements for scientific and educational activities for occupying the academic position of "Associate Professor" and taking into account the above mentioned clarification /reducing 5 points. for Г 8.11./, Chief Assistant. Dr. Yonko Dodev exceeds the required points for the five groups of indicators (A, B, Г, Д and E). The total sum of the points is 693.11, at a required minimum of 500 points. The excess is the largest in group E, followed by groups B, Г and Д. More citations of the candidate's scientific works could be found in the international databases, and according to data from the Research Gate platform, the candidate has 2,877 reads and 43 recommendations of his publications, which is evidence of the significance and contribution of the candidate's work in the field of scientific research. The selection made by Dr. Yonko Dodev, regarding the presented references, forms a sum of points for this indicator that exceeds twice the required minimum. Regarding the citation of the publication: Yaneva, R., M. Zhiyanski, Y. Dodev. Bioaccumulation of potentially toxic elements within the soil-plant system in the Central Balkan region: analysis of the forest ecosystem capacity to mediate toxic elements. *Environmental Geochemistry and Health*, Special Issue, Springer Netherlands, 2022, DOI:0.1007/s10653-020-00756-3, SJR (Scopus):0.746, JCR-IF (Web of Science):3.472, the presented citation could be supplemented with the scientific one of Xue, R., L. Jiao, C. Qi, K. Chen, X. Liu, D. Du, X. Wu. 2021. Growth and response patterns of *Picea crassifolia* and *Pinus tabulaeformis* to climate factors in the Qilian Mountains, northwest China. *Dendrochronologia* Volume 71, February 2022, 125905 <https://doi.org/10.1016/j.dendro.2021.125905>. I conditionally accept the citation of Bech, J. 2021 to this publication, noting that it refers to a review and summary of journal articles prepared by the Editor-in-Chief. In the additional requirements of the FRI-BAN, the candidate has submitted information about his participation in national and international forums, where 29 items have been included.

3. General description of the presented materials.

Dr. Yonko Dodev has presented a complete set of materials for the competition, in accordance with the requirements of the LDASRB and the Regulations for its application, as well as the Regulations of the Forest Research Institute - BAS. The committee at FRI-BAS for acceptance of documents has not found any inconsistencies and reports for a complete set of the materials submitted by the candidate. The summary list of scientific production contains a total number of 42 scientific paper, 34 of which are after acquiring the academic position of "Chief Assistant". The publications subject to the evaluation under this procedure are distributed as follows: 15 issues in publications that are referenced and indexed in world-renowned databases with scientific information, 6 of which are in journals with an impact factor or impact rank, 1 Monography study, 1 Chapter of a collective monograph, and 13 Articles and reports in non-

refereed peer-reviewed journals or published in edited collective volumes. In addition, the candidate has submitted information on participation in 5 Projects - national and international, 23 participations in seminars, lectures and media events.

4. Main directions in the candidate's research work and the most important scientific and scientific-applied contributions.

The contributions in the scientific publications submitted for participation in the competition are related to the generation of new and/or enrichment of existing scientific knowledge, as well as to obtaining confirmatory data, and are summarized in the following two areas:

1. Forest management in the Lower forest vegetation zone of Bulgaria
 - 1.1. Management of Eastern hornbeam forests
 - 1.2. Management of coppice oak forests
 - 1.3. Management of coniferous plantations created outside their natural range
 - 1.4. Management of chestnut forests
 - 1.5. Surveys of invasive alien species
2. Studies on the cultural functions of forests

The candidate's contributions, which I consider to be of significant relevance to the contemporary challenges facing the forestry sector, and which affect the resolution of forestry and environmental issues, are summarized as follows:

- A complete and in-depth study of the Eastern hornbeam forests in Bulgaria was performed, describing the range of the species and its biological and ecological features. A classification of Eastern hornbeam forests has been developed according to habitat conditions. The natural regenerative and successional processes and the growth of the Eastern hornbeam in tufts were investigated. Based on the in-depth study of the species, scientifically based silvicultural systems have been proposed for the management of these forests in Bulgaria, depending on their sustainability and productivity. A specific variant of uneven-gradual felling has been developed to be applied to the regeneration of mixed stands. The economic efficiency of the proposed forestry systems has been analyzed. The need of revision and supplement the table used in forestry to determine the productivity of Eastern hornbeam stands has been identified.
- A silvicultural system has been developed and tested to convert the coppice oak forests into seed forests. It is intended for stands with a well-developed and dense understory, located on deep soils in the flat parts of Central Northern Bulgaria.
- The application of coppice with standard silviculture in part of the coppice oak forests with a dense undergrowth of Eastern hornbeam is argued in order to achieve their smooth transformation into high-stem forests, which meanwhile ensures the provision of various ecological, social and economic benefits.
- It has been pointed out that for coniferous plantations created outside their natural range, bonitation class cannot be used to determine their ecological suitability and to make robust estimates of their sustainability and longevity. It has been established that the massive

decay of these plantations is proportionally dependent on altitude, which is an indirect indicator for moisture and other environmental factors. On this basis, a method for determining the level of ecosystem compatibility of coniferous plantations is proposed. A model has been developed for deriving the growing cuttings in these plantations on the basis of optimal distances between trees according to their height. Criteria, stages and recommendations for their management and transformation into natural deciduous forests are defined.

- Specific silvicultural approaches and measures for the management of common chestnut (*Castanea sativa* Mill.) forests in Bulgaria are proposed, taking into account the biological and ecological characteristics of the species.
- The main characteristics of the recreational forests in Bulgaria were studied - species, distribution by ownership, altitude, age and tree composition. A critical analysis of their current management is prepared and recommendations are given to improve their management so that they fully fulfill their main function.
- The term "social services from forests" is defined in terms of social and cultural services for the population that are based on forests and forest resources and that aim to improve human health and well-being. The need to develop a comprehensive concept for Social Forestry Policy in Bulgaria and its implementation as part of the country's forestry is outlined.
- An integrated method for assessing and mapping the potential of forest territories for providing therapeutic services has been developed and tested, based on combining data from the traditional forest inventory in Bulgaria and from other open databases with modern methods for assessing and mapping ecosystem services. 7 groups of criteria and 22 indicators, assessed on a 5-point scale, are proposed to generate a comprehensive assessment at the forest subdivision level. The methodology was successfully tested for the pilot area of Smolyan municipality, but it is applicable on a wider scale, regardless of the type and ownership of the forests.
- With the help of tools for spatial statistics, territorial «hot spots» with potential for the development of forest therapy have been identified.

I would like to point out that the contributions in the habilitation extended reference are clearly and specifically defined. Regarding the contributions in the reference of more substantial scientific and scientific-applied contributions in the candidate's works, I would like to note that they could be structured and defined more specifically, differentiating the nature of each contribution - fundamental, scientific-applied or applied, as well as some to be summarized.

6. Reflection of the candidate's scientific publications in the literature.

The list of positive citations found (group of indicators Д) is presented in the documentation and confirms 18 references, 9 of them in scientific journals, refereed and indexed in world databases of scientific information, 5 in monographs and collective volumes with scientific review and 4 in non-refereed peer-reviewed journals. The total number of points for category Д is 205 and exceeds the required minimum of 100 points for this group of indicators. The high citation rate of the candidate's publications shows the relevance and significance of the conducted research, as well as that the scientific output of Dr. Yonko Dodev, are well known and accepted by the scientific community in Bulgaria and abroad.

7. Participation in scientific projects.

According to the "Reference-self-assessment for scientometric indicators" presented in the documents, in group E - leadership and participation in projects, Dr. Yonko Dodev has included participation in the implementation of 5 scientific and applied projects, 1 of them with international under the EU COST program and 4 national. Dr. Yonko Dodev was a leading person of 1 national project. This underpins that the candidate is demanded as an expert in scientific teams and has the capacity to develop and implement projects.

8. Educational and teaching activity (supervisor/consultant of doctoral students, training of students, etc.)

NA

9. Evaluation of the candidate's personal contribution.

The candidate's personal contribution to the presented scientific production is significant, assuming that the fundamental and scientific-applied achievements are his personal work. The submitted reference proves the candidate's ability both for independent work in the areas of his research and for collective research studies. In all co-authored materials, due to the absence of separation protocols, I assume that the participation of the authors is equal.

10. Critical notes and recommendations.

I have no significant critical comments on the candidate's works. I attribute the detected error in the total sum of calculated points by groups of indicators in the reference "Scientometric indicators" to an omission of a technical origin and allow myself to recommend the candidate to observe with increased attention and precision the preparation of such type of documents. I would recommend to the candidate, when presenting his work, to strive for completeness and comprehensiveness in terms of supporting information regarding the references of his scientific works. The scientific-applied aspect of the candidate's work could be strengthened by his participation as an expert in projects external to the FRI-BAS, in which he performed a very high level of professionalism.

The comments and recommendations do not diminish my positive assessment of the scientific products and contributions of Chief Assistant Dr. Yonko Dodev.

11. Personal impressions.

I know Chief Assistant Dr. Yonko Dodev since 2015, when as a young scientist he showed clear interest in the implementation of a project led by me and expressed his desire to participate as a guest at a scientific event in order to be informed about the results obtained. During his participation in the discussions of this event the high professionalism, sincere interest in solving scientific and applied tasks and the desire for joint work were expressed by him. In the period 2016-2022, I had the pleasure of working together with Dr. Yonko Dodev on several joint

publications and in the implementation of project tasks. I believe that Dr. Yonko Dodev is distinguished by a broad and critical view on the current ecological and forestry problems and possesses the capacity for independent and reasoned development of new ideas, concepts and possibilities for providing solutions. Correct, dialogical, organized and dedicated colleague, who can be relied on for quality work both in the field and behind the desk, performing professionally and on time his tasks. His excellent communication skills contribute to the establishment of fruitful and long-lasting contacts and cooperation with colleagues at the national and international level.

12. Conclusion.

The candidate Chief Assistant Dr. Yonko Dodev, meets the mandatory conditions and scientometric indicators for holding the academic position of "Associate Professor" at Forest Research Institute – Bulgarian Academy of Sciences, which is evident from the submitted documents, accompanying materials and scientometric references. Related with the above, I propose Chief Assistant Dr. Yonko Dodev to be elected as an "Associate Professor" in professional field 6.5 "Forestry", scientific specialty "Forestry, incl. Dendrology" at the Forest Research Institute – Bulgarian Academy of Sciences.

Date: 03/10/2022

Member of the Scientific Jury:
(Prof. Dr. Miglena Zhiyanski)