

ЛЕСОТЕХНИЧЕСКИ УНИВЕРСИТЕТ ФАКУЛТЕТ ПО ГОРСКО СТОПАНСТВО
Регистрационен индекс на дата
ФРС-51866/20.04-23

REVIEW

on the documents and materials for participation in competition for acquiring of academic position "Professor" in scientific field 6. Agricultural sciences and veterinary medicine, in professional direction 6.5. Forestry, scientific specialty "Forestry (incl. Dendrology)", subject "Phytocoenology", announced from University of Forestry – Sofia in State Gazette No. 26/21.03.2023, code of the procedure FOR-P-0223-102.

Applicant to participate in the competition: Assoc. Prof. Marius Alipiev Dimitrov, PhD

Reviewer: Prof. Dimitar Petkov Pavlov, DSc, scientific field 6. Agricultural Sciences and Veterinary Medicine, in professional direction 6.5. Forestry, scientific specialty "Forestry (incl. Dendrology)", designated as a member of the scientific jury by order No. ZPS-224/15.05.2023 by the Rector of University of Forestry.

1. Short biography of the applicant.

Assoc.Prof. Marius Dimitrov was born on 20.05.1966. In the period 1986-1991, he was a student at Higher Forestry Institute (now University of Forestry – UF) and obtained a master's degree in forestry engineering, specialization "Protection of the natural environment". His PhD thesis on the "Floristic classification of the vegetation on the territory of the Experimental and Training Forestry Services – Yundola" was defended in 2004. From 1992 to 2006 is an assistant and after 2006 – associate professor in the Department of Dendrology. He led exercises and educational practices in the academic disciplines of Botany and Phytocenology and led lecture courses on Phytocoenology, Botany and Ornamental plants from the flora of Bulgaria..

In addition to teaching and research activities at UF, Associate Professor M. Dimitrov also has administrative commitments, holding elected positions: Since 2007 until 2016 is Deputy Dean for Academic Activities of the Faculty of Forestry, and since 2016 – Dean of the faculty. He is a member of the editorial board of the *яъсехшсось тджихъвя* Forestry ideas (Bulgaria) and Forestry review (Republic of North Macedonia). He is a member of the Bulgarian Phytocoenology Society, the Bulgarian Botanical Society, the Union of Scientists in Bulgaria and the Eastern Alpine and Dinaric Vegetation Research Society. Participates in 2 international scientific networks and in national councils, working groups and departmental commissions.

2. Compliance of the submitted documents and materials of the applicant with those required under the Regulation for Development of Academic Staff at the University of Forestry

The documents submitted by Assoc. Dr. Marius Dimitrov show that the procedure for announcing the competition has been followed. The presented materials are in accordance with the requirements of Art. 60 of Law on the development of the academic staff in the Republic of Bulgaria and the Regulations for its application. The documents are also in accordance with the Regulations for the development of the academic staff at UF.

A comparative assessment of the indicators presented in the Individual Report, with the minimum national requirements for occupying the academic position of "professor", shows that Assoc. Prof. Dimitrov meets the minimum national requirements for scientific and teaching activities for acquiring the academic position of "professor". In total, for all indicators, with a minimum requirement of 550 points, the candidate has achieved 3105.46 points.

A comparative assessment of the indicators presented in the Individual Report

Group of indicators	Minimum number of points for "Professor"	Completed number of points
A	50	50
B Indicator 4	100	181,1
C Sum of indicators 6-8 and 11	200	224,46
D Sum of indicators 11 and 13-15	100	2465
E Sum of indicators 17-23	100	185
Total points	550	3105,46

3. Learning activity

Assoc. prof. Dr. Marius Dimitrov is the holder of the academic disciplines Phytocoenology and Botany. Leads the lecture courses on Phytocoenology for the students from the specialty Forestry and Ecology and Environmental Protection - Academic degree (AD) "Bachelor" and Landscape Architecture - AD "Master". He also conducts the lectures on Botany for the students of the EOOS specialty - AD "Bachelor" and Landscape Architecture - AD "Master".

Assoc. Prof. Dimitrov is the co-author of a textbook on Botany and a textbook on

Phytocoenology. He is the co-author of an exercise manual in Botany and a manual in Plant Anatomy. He is the co-author of 2 manuals for determining natural habitats in Bulgaria and 2 other methodological manuals. Scientific supervisor and scientific consultant is for 2 successfully defended doctoral students and scientific supervisor for 1 doctoral student with the right to defend. Under his leadership, 4 graduates defended their degrees.

4. Scientific activity

4.1. Scientific, applied and educational projects

Assoc. Prof. Dr. Marius Dimitrov has participated in the implementation of 2 international and 4 national scientific projects. Participated in 54 research and applied projects and in 25 international symposia and conferences. He was the chairman of the organizing committee of 1 international scientific conference and a member of the organizing committees of 3 international scientific conferences. He also participated in the annual conferences of the Deans and Directors of the European Forestry Faculties and Schools (ConDDEFFS) held in Spain (2012), Serbia (2014), Bulgaria (2015) and Romania (2018).

Assoc. Prof. M. Dimitrov is the co-author of 4 practical guides, 3 popular science books and 6 popular science articles.

4.2. Characteristics of published scientific results

The total number of publications submitted for participation in the competition is 39, of which 20 publications are in scientific journals, respectively: 13 in refereed and/or indexed in world-renowned databases (6 in journals in Web of Science with IF, 3 in journals in Web of Science without IF, 5 in Scopus journals with SJR and 7 in non-refereed with peer review). The list also includes 5 reports in edited collective volumes, 14 monograph/book chapters. There are 3 self publications, with one co-author – 13, with two - 7, with three or more co-authors - 16. First author or co-author is on 15 publications, second - on 10, third - on 9, fourth or later - 5. Language of publications: Bulgarian – 19; English – 29. Red Book of Bulgaria (Biserkov et al. /Eds/ 2015) is published in Bulgarian and in English. The book includes 9 chapters with author/co-author Assoc. Prof. M. Dimitrov.

4.3 Impact of the applicant's scientific activity in the literature (citations)

The submitted reference shows that a total of 14 scientific papers of the candidate have been cited, which represents a significant part of the total scientific work. Five papers were cited 138 times in scientific publications referenced and indexed in world-renowned databases of scientific information or in monographs and collective volumes (Group of indicators E13). In monographs and peer-reviewed collective volumes, 4 works were cited 9 times (Group of indicators E14) and in non-refereed journals with scientific review, 5 works were cited 61 times.

The number of noted citations shows that the topic on which Assoc. Proff. M. Dimitrov works is relevant and significant for modern science.

4.4. Contributions (scientific, applied)

I accept the references submitted by the candidate for the scientific contributions in the 10 articles of the habilitation thesis and in the remaining 29 articles. I note the following contributions as being more significant in my judgment:

Contributions to enrich scientific knowledge

- The compiled classification scheme of plant communities in Bulgaria, including syntaxa from 39 classes, 67 orders, 94 alliances, 218 associations and 48 subassociations (C4.1). A total of 66 classes and 224 alliances, distributed by zones and belts, have been characterized. An actual indicative map of the vegetation in Bulgaria has been compiled (D11.13).
- The elaborated classification of some forest phytocoenoses (C4.5–9, D7.4, D8.7, D11.1). 11 new associations and 4 subassociations are described (C4.5).
- The elaborated classification and ordination of the thermophilous oak forests in Bulgaria. 19 associations and subassociations and two plant communities have been identified. 6 new associations (*Hedero heliis-Quercetum cerridis* Tzonev et al. 2019, *Moehringio pendulae-Quercetum petraeae* Tzonev et al. 2019, *Haberleo-Quercetum petraeae* Tzonev et al. 2019, *Rusco aculeati-Quercetum frainetto* Tzonev et al. 2019, *Calluno-Quercetum polycarpae*, *Trachystemone orientalis-Quercetum polycarpae* Tzonev et al. 2019) and four new subassociations are described (*Genisto januensis-Quercetum pubescentis* Jakucs 1961 *carpinetosum orientalis* Tzonev et al. 2019, *Genisto januensis-Quercetum pubescentis*

- Jakucs 1961 *dianthetosum gracilis* Tzonev et al. 2019, *Cisto incani-Quercetum pubescentis* Gogushev 2009 *juniperetosum deltoidis* Tzonev et al. 2019, *Genisto carinalis-Quercetum petraeae* Bergmeier in Bergmeier et Dimopoulos 2008 *aceretosum monspessulani* Tzonev et al. 2019). Indicative maps of the distribution of syntaxa in Bulgaria have been made (C4.6). For the first time, the presence of phytocoenoses from the alliance *Alnion incanae* (community of *Alnus glutinosa* and *Aegopodium podagraria*) was established (C4.7).
- The established relationships between Macedonian pine forests (*Pinus peuce*) and soils on the territory of North Macedonia, developed on different bedrocks (C4.8).
 - The elaborated syntaxonomic scheme of the forest communities on the territory of the NP "Central Balkan", including 5 classes, 8 orders, 12 alliances, 18 associations, 3 subassociations and 15 groups of communities. 5 new provisional associations have been proposed (*Daphno blagayanae-Ostryetum carpinifoliae*, *Anthyllio vulnerariae-Ostryetum carpinifoliae*, *Umbilico erecti-Ostryetum carpinifoliae*, *Seslerio latifoliae-Fagetum sylvaticae*, *Galio intermediae-Carpinetum betuli*) (C4.9).
 - The established syntaxonomy of Horse chestnut (*Aesculus hippocastanum*) forests on the territory of the Balkan Peninsula. An new association has been described, including the horse chestnut communities in Bulgaria (*Staphyleo pinnati-Aesculetum hippocastani* Tzonev et al. 2023). It has been proven that communities have a natural relict character (D7.4).
 - The results of the studies of the boreo-montane coniferous forests and the related birch forests on the territory of the Central Balkan National Park. Two new associations are described: *Adenostylo alliariae-Pinetum peucis* Nikolov et Dimitrov 2015 and *Ranunculo oreophili-Piceetum abietis* Nikolov et Dimitrov 2015 (D8.7). The plant associations of the beech forests in the Western Stara Planina have been established, in which the bioproductivity has been assessed (D11.1).
 - The developed classification of shrub phytocoenoses (C4.1, C4.10). For the first time in Bulgaria, communities from the alliance *Brachypodio pinnati-Juniperion communis* have been described.
 - The compiled classification scheme of herbaceous phytocoenoses in Bulgaria (C4.1) and on the territory of PP "Vitosha", where the distribution of communities of 3 classes, 3

orders, 5 unions, 6 associations, 3 subassociations is confirmed. 5 plant communities have been identified and characterized (D8.6).

- The results of studies of the dynamics of different types of plant communities – herbaceous (D7.2), shrub (C4.10) and forest (D8.1, ΓD.8).

Methodological contributions

- As a methodological contribution, I appreciate the developed GIS model for determining and mapping habitats from Annex 1 of Directive 92/43/EEC in Bulgaria. Data are presented for nine natural habitats with limited distribution (D8.3). A combined application of remote mapping methods and phytocenotic classification of vegetation by the Braun-Blanquet method is proposed.
- An original model for determining the criteria and categories for habitat threat assessment, based on the IUCN methodology has been developed (D11.8). The structure and content of habitat articles are defined (D11.8). Based on field studies, summarized up-to-date information on 17 forest (D11.3, D11.4–7, D11.9) and 6 herbaceous habitats (D11.4–5, D11.7, D11.10–11).
- The distribution of some habitats in Bulgaria has been mapped on the basis of GIS models (C4.2–3, C4.9, D8.3) and a method has been developed for the identification and mapping of habitats applicable for the purposes of managing protected territories and protected zones and for monitoring (C4.9).

Scientific and applied contributions

- As a scientific-applied contribution, I appreciate the candidate's participation in the creation of a Balkan plant database, including phytocoenological relevés covering different types of vegetation in six countries of the Balkan Peninsula (Albania, Bosnia and Herzegovina, Bulgaria, Kosovo, Montenegro and Serbia) and containing 9 580 relevés (B4.4). The database has been expanded and supplemented (with relevés from Greece, Croatia and North Macedonia), with the number of relevés reaching 18,306 (G8.9). The formed database can be used to carry out generalizing complex regional classifications and to classify certain types of vegetation.

- Practical application may have: The established relationships between forest plant communities and the types of natural habitats (C4.9, D11.1); The recommendations made for monitoring the dynamics of vegetation and for preventing degradation processes (D7.2, D8.1, D8.8); The recommendations made for maintaining and improving the nature conservation status of the habitats (C4.2–3, D7.2).
- The information on natural habitats in Bulgaria is widely applicable in studies of their various components – flora, fauna and plant communities, as well as in the preparation of various environmental expertise related to monitoring, environmental impact assessments and compatibility assessments (D11.3–7, O11.9–11).

5. Assessment of the personal contribution of the applicant.

In stand-alone papers and articles in which the applicant is the first author, the personal contribution is clearly delineated. The accumulated scientific and teaching skills of the applicant for more than 25 years and the participation in numerous scientific and scientific-applied projects give me reason to judge that he has equal participation in the collective publications and in the realized scientific, scientific-applied and applied contributions.

5. Critical remarks and recommendations.

I have no critical remarks on the presented materials and articles. In the future work, I recommend the applicant to focus on monographic developments of syntaxa of various level and on active participation in the doctoral level of training.

7. Personal impressions.

My personal impressions of the applicant are from his student years and from our joint work as teachers at UF. With broad interests in various fields, he stands out for his thoroughness in acquiring knowledge, in teaching students and in research. Demonstrated organization and collegiality in team development is a prerequisite for participation in various teams and for achieving significant scientific and scientific-applied results.

8. Conclusion

The scientific production of the applicant in specialized scientific publications, the scientific and scientific-applied contributions made in the fields of phytocenology, flora, vegetation, natural

habitats and protection of biological diversity, which have found an echo in the scientific community, expert activity in the implementation of national and international projects, the published textbooks and teaching aids and the use of modern information technologies in the education of phytocoenology, give reason to give a high assessment of the results of his overall activity. With the presented materials, the minimum national requirements laid down in the Law on the development of the academic staff in the Republic of Bulgaria, the Regulations for the implementation of the ZRAS and the UF Regulations for occupying the academic position "professor" have been met.

Based with the above, I strongly propose that the applicant Assoc. Prof. Dr. Marius Alipiev Dimitrov take the academic position of "Professor" in scientific field 6. Agricultural sciences and veterinary medicine, in professional direction 6.5. Forestry, scientific specialty "Forestry (incl. Dendrology)", subject "Phytocoenology".

19.07.2023

Sofia

REVIEWER: .

/ prof. D. Pavlov, DSc/