

Review

in relation to the procedure for an academic position “Professor”
at the Sofia University “St. Kliment Ohridski ”, Sofia
in scientific field 4 Natural science, mathematics and informatics,
professional field 4.3. Biological science, scientific specialty “Botany”

by **Professor Dr. Dimiter Asenov Ivanov, DSc**
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Institute of Biodiversity and Ecosystem Research, BAS, Sofia,
as a member of the scientific committee.

1. Brief introduction of the applicant

The only candidate for the competition announced in the State Gazette no. 59 from 26.07.2019, is Assoc. Prof. Dolya Kalcheva Pavlova-Tonkova, PhD, from the Department of Botany of the Faculty of Biology, Sofia University “St. Kliment Ohridski ”, Sofia.

Assoc. Prof. Dolya Kalcheva Pavlova-Tonkova graduated with a Master's Degree in 1984 from Sofia University "St. Kliment Ohridski ", Sofia, majoring in Biology, specializing in Botany. She has previously graduated from the Teachers' Institute “L. Stanev”, Pleven, majoring in Pedagogy, which definitely helped her in her later career as a university teacher. From 1984 to 1988 Pavlova was a PhD student at the Department of Botany, Faculty of Biology, Sofia University “St. Kl. Ohridski ”and successfully defended his dissertation on" Biosystematic study of the genus Astragalus (Klin) in Bulgaria ", gaining the degree of Candidate of Biological Sciences (PhD). From 1989 to 1997 she was a Assistant Professor at the Department of Botany, Sofia University “St. Kliment Ohridski”,

from 1997 to 2002, is Senior Assistant Professor, and from 2002 to present she is Associate Professor at the same department.

Assoc. Prof. Pavlova's scientific activity is on the topic of the competition - botany, and in particular in the field of higher plants - taxonomy, higher flora of Bulgaria, serpentine ecology, biosystematics - karyology, pollen morphology and more. Her teaching activity includes lectures and exercises in: Systematics of higher plants; Botany III; Taxonomy and evolution of higher plants; Higher flora of Bulgaria; Pre-diploma practicum and teaching practice of various courses.

Associate Professor Pavlova is a member of the editorial boards of 3 magazines: *Ot Sistematič Botanič Dergisiir*, *Godishnik na Sofiiskia Universitet - Book 2 Botany and Today Science*. She is a reviewer of a number of research projects, diploma papers and articles in specialist journals such as: *Australian Journal of Botany (IF)*; *Biology (IF)*; *Biological Trace Element Research (IF)*; *The Botanical Journal of the Linnean Society (IF)*; *Caryologia (IF)*; *Chemosphere (IF)*; *Journal of Pharmaceutical and Biomedical Analysis (IF)*; *Ecological Research (IF)*; *Periodico di mineralogia (IF)*; *Italian Journal of Agronomy*; *Botanica Serbica*; *Phytologia Balcanica*. This testifies to her qualities as an expert in botany.

2. General description of the submitted materials for the competition

Assoc. Prof. Dolya Kalcheva Pavlova-Tonkova presented a complete set of materials for the competition, in accordance with the requirements of the ZRASRB and the Regulations for its implementation, as well as in accordance with the Rules for the conditions and procedures for acquiring academic degrees and occupying academic positions at Sofia University "St. Kliment Ohridski: Application to the Rector of Sofia University for participation in the competition, curriculum vitae, diplomas for degrees and titles, references for contributions, quotations, publications, publications for participation in the competition and related materials. The tender documentation is correctly presented, no gaps and incomplete documents are noticed.

3. Evaluation of the applicant's scientific works

3.1. General characteristics of scientific production and publication activity

The candidate for the professor in this competition Assoc. Prof. Dolya Pavlova, PhD, has submitted a reference for the implementation of the minimum national requirements under Art. 2b of ZRASRB for the scientific area 4. Natural sciences, mathematics and informatics, Professional field 4.3. Biological Sciences.

Group of Indicators A - Indicator 1: Thesis for the award of educational and scientific degree "Doctor" - 50 points, which covers the required minimum.

Indicator group B - C 4. Habilitation work - scholarly publications in publications that have been referenced and indexed in world-renowned scientific information databases (Web of Science and Scopus): at least 100 points are required but she presented publications carrying 170 points (160 points are recognized since publication No. 63 was published in Botanica Serbica magazine in 2010, when the magazine is not monitored by Scopus and has no SJR rank).

Group of indicators D - D 7 - 275 points and D.8 15 points or a total of 290 points with minimum requirements for 200 points.

Total for group of indicators E - with the necessary 150 points required, there were achieved - 309.6 points.

All scientific papers presented are on the topic of the competition. They are made with precision and present a clearly defined profile of a researcher in the field of botany.

Assoc. Prof. Pavlova's entire scientific work includes 114 scientific publications, 31 of them in Impact Factor (IF) magazines and 17 in journals with SJR-rank, 45 articles in journals without IF / SJR, 15 in conference proceedings, 6 in books, 4 textbooks. The scientific results are presented by 83 reports at international and national forums.

3.2. Scientific and creative achievements and contributions

The summary of the scientific contributions of the applicant is quite extensive and detailed. It begins with a comprehensive introduction to the nature and importance of coils as a habitat and speciation center. This text is useful for clarifying the nature of the serpentine flora, but is not subject to be reviewed in this review. Despite the extensive nature of the contribution reference, It reflects clearly the domains in which she has scientific and practical skills hers main areas of scientific interest. I would recommend a more concentrated and concise format for presenting ghosts, but still it is an author's view that does not need to be consistent with my approach.

The summary of contributions is divided into groups following indicators B. and G., with the first group showing those from the publications replacing the habilitation work. These contributions and publications aim at a comprehensive coverage of an area - the Eastern and Middle Rhodope Mountains. Floristic studies contribute to the analysis of the flora and to clarify its taxonomic structure, to clarify the biological spectrum (life forms), to clarify its phytogeographical features. An important contribution is the identification of the floristic complexes and their comparison with the existing ones from other territories in order to clarify the age of the serpentine flora and the intensity of the speciation processes. It is worth noting that, as a result of the floristic studies, three new species of higher plant species belonging to the families Brassicaceae, Boraginaceae and Caryophyllaceae have been identified and described.

New chorological information is presented as for the Eastern and Middle Rhodope Mountains; local indicator species have been identified as a source of information on evolutionary processes; the number of endemics and species of conservation significance were determined, the origin, specificity and relationships with serpentine flora from other countries of the Balkan Peninsula were proven, anthropogenic impact on the flora was analyzed.

The karyotypes of serpentine plants in the Rhodope Mountains have been studied and analyzed in the biological-ecological field, the morphological variability has been monitored, the types of heavy metals content have been analyzed and metal tolerant plants have been found, with good soil stabilization and extraction capabilities of soil metals and for the rehabilitation of mining sites.

A summary of contributions is done in the articles in the group of indicators G. for the serpentine flora of the Rila, Belasitsa, Ograzhden and Vlachina mountains. In essence, this is an extension of the territorial scope of the study of these specific flora, leading to contributions of a similar nature - floristic, ecological, phytogeographical, chrological, etc. similar to the surveys in the eastern and middle Rhodope Mountains.

Some of the pronunciations presented are not well justified. For example, I did not understand how nickel affects pollen morphology of Alyssum? Pollen morphology research itself is valuable as a study, nickel accumulation too, but where is the relationship between the two problems?

Researches on pollen morphology, chromosomal numbers and karyotype of species from the Bulgarian flora are also valuable contributions, although it is not clear to me from the information provided what is the principle of species selection?

From the point of view of environmental protection, I welcome the contribution of Assoc. Prof. Pavlova presented as: Proposed for conservation and promotion are serpentines as habitats with unique flora and vegetation, related to the adaptive strategy for survival under extreme edaphic conditions, species formation and evolution, as well as their affirmation. as a “hot spot” of World Heritage. I believe that there are many more options in this regard that she should use.

3.3. Teaching and working with students and doctoral students

The teaching activity of Assoc. Prof. Pavlova at the Faculty of Biology at Sofia University “St. Kl. Ohridski” includes lecturing, conducting exercises and participating in teaching field practices with both students from the Bachelor's Degree and those from the Master's Degree courses.

As a part-time lecturer she participated in the training of students: 1) Professional Bachelor of Professional Health Care Assistant Pharmacist at the Medical University of Pleven, Medical College, in the field of Pharmaceutical Botany; 2) Masters in Pharmacy, Medical University - Pleven.

He is the author of the curricula in the field of Pharmaceutical Botany. As a lecturer at the Faculty of Biology at Sofia University “St. Kl. Ohridski” she participated in the training of students in the ERASMUS + program with foreign language teaching.

The audit and general employment of Dr. Pavlova for the last five years shows the fulfillment of the stipulated in the Rules of the Sofia University “St. Kl. Ohridski” workload for teachers (270 hours of classroom and 360 hours of general study employment). She has managed 11 graduates, all of whom successfully defended their master's thesis. She has successfully advised a PhD student (together with a colleague from the Forestry Research Institute at the Bulgarian Academy of Sciences).

3.4. Participation in project implementation and management

Dr. Pavlova's research work is related to leadership and participation in a number of projects - international, national and institutional. She has managed 4 national scientific projects, financed by the Ministry of Education and Science for a total value of BGN 355000 and 4 projects under internal institutional agreements with the Scientific Research Fund at Sofia University “St. Kl. Ohridski”. She was a consultant on one project of the Research Fund at the Ministry of Education and Science. She has participated in a number of projects: 1 international, 6 national and 8 internal institutional.

4. Citation of the candidate's scientific papers

The quality of scientific output is the quotation. The candidate has provided a list of 231 citations, 75 of which are in SCOPUS and WEB of SCIENCE, which is a good indicator. The reference made to Dr. Pavlova in SCOPUS shows the H-index 8, which is also an excellent indicator in this competition.

5. Critical notes and recommendations

Some critical remarks have already been noted above. They are mainly about presenting achievements and contributions and I do not need to repeat them. They are of a recommendation nature and in no way detract from the candidate's actual scientific contributions.

6. Overall assessment of the suitability of the candidate for the academic position of Professor

The candidate Dolya Kalcheva Pavlova-Tonkova covers all the mandatory conditions and scientometric indicators for taking the position of Professor at Sofia University, as evidenced by the documents presented by her and their analysis in this review. The obligatory conditions and the obligatory quantitative criteria and scientometric indicators are covered, as well as all the minimum requirements for occupation of the academic position, in which cases with higher number of points than those required by the ZRASRB, the Rules for its application and the Rules for the terms and conditions of acquisition degree and academic positions at Sofia University "St. Kliment Ohridski".

7. Conclusion

The applicant Assoc. Prof. Dolya Kalcheva Pavlova-Tonkova, PhD, **meets** the mandatory and specific conditions and scientometric criteria for occupying the academic position of Professor and I **recommend** her choice.

11.11.2019

Sofia

The review signed by:

REVISED

4:16 pm, Nov 13, 2019

(Prof. D. Ivanov, DSc,
Corr. Mem. of BAS)