

STATEMENT

BY Anita Georgieva Tosheva, PhD, Associate Professor,
Faculty of Biology, Sofia University “St. Kliment Ohridski”,
a member of the Scientific Jury, appointed by Order no. RD 38-542/12.09.2019
of the Rector of Sofia University “St. Kliment Ohridski”, Prof. Anastas Gerdjikov, Dr.

Concerning the materials submitted for the competition for the academic position **Professor at the Sofia University “St. Kliment Ohridski”**, in the professional field 4.3. Biological Sciences (Botany - Higher Plant Systematics), for the needs of the Department of Botany, Faculty of Biology, SU “St. Kl. Ohridski”, announced in SG ed. 59 on 26.07.2019.

General presentation of the procedure and the candidate

In the competition for “Professor”, announced in the State Gazette ed. 59/26.07.2019, as sole candidate participates **Associate Professor Dolya Kalcheva Pavlova-Tonkova, PhD** in Department of Botany, Faculty of Biology, Sofia University “St. Kliment Ohridski”.

The documents submitted by the applicant in electronic form are in accordance with the all requirements of the Act for the development of the academic staff in the Republic of Bulgaria (ADASRB), the Regulations for the Application of the ADASRB, the Rules for the conditions and the procedure for acquiring academic degrees and occupying academic positions at SU “St. Kl. Ohridski”; they exceed considerably the recommended criteria for occupying the academic position “Professor” in the professional field 4.3. Biological Sciences. Documents are very well organised and provide ample information about the scientific and pedagogical activities of the applicant.

Associate Prof. Dolya Pavlova is graduate in Biology, specialisation Botany in the SU “St. Kl. Ohridski” in 1984. She successfully defended a PhD-thesis entitled “Biosystematical study of the genus *Astragalus* in Bulgaria” at Department of Botany, Faculty of Biology, SU “St. Kl. Ohridski” in 1988. In 1989 she began her career as a senior assistant, then as a chief assistant, and since 2002 she has been an associate professor at Department of Botany, Faculty of Biology, SU “St. Kl. Ohridski”. Specialization has been conducted in Real Jardin Botanico, Madrid (2007). Associate Prof. Pavlova participates in administrative activities - she has been a member in several committees in the Faculty of Biology and the Boards of Specialties Molecular Biology and Bio-management and Sustainable Development. She is a Member of Association for Medicinal and Aromatic Plants of Southeast European Countries as well as of Editorial boards of *Annual of Sofia University, book-2 Botany*; *Ot Sistematik Botanik Dergisi = The Herb Journal of Systematic Botany*; *Agricultural Science (Today Science)*. Associate Prof. Dolya Pavlova is also involved in reviewing publications for a significant number of international journals, research projects and was a jury member for acquiring academic degrees and occupying academic positions.

For this competition, Assoc. Prof. Dolya Pavlova has submitted a list of publications for all her scientific production: 114 scientific publications (6 - chapters in books, 48 - articles in referenced journals, 45 - in other journals, 15 - articles in conference proceedings), separating publications presented in this competition and those used in previous procedures. The publications were cited 649 times in the literature. The Scopus database contains 32 articles and they have a total of 126 citations. According to the same database, the candidate's h-index is 8.

In the competition for the academic position “professor”, the candidate has applied a total of 39 publications. From this list, 15 scientific publications are equated to habilitation thesis (10 publications in journals, that have been referenced and indexed in world-famous scientific information databases (Web of Science or Scopus), distributed by quartiles: Q1 - 1, Q2 - 3, Q3 - 3, Q4 - 2) and 29 beyond the habilitation thesis (14 distributed by quartiles: Q1 - 4, Q2 - 7, Q3 - 3 and 1 book chapter). I accept assessment articles 63 (Q4), 54 (Q4) and 71 (Q2), according to relevant quartiles. According to the provided information, the number of citations in scientific editions referenced and indexed in Web of Science or Scopus is 75. The results of the research activity of the candidate have been reported at 83 international and national scientific forums. Information on the participation in total 23 national and 1 international projects is provided (11 as included in the competition).

The attached author's account shows that Assoc. Prof. Dolya Pavlova fulfills the minimal national requirements for occupying the academic position of “professor” (Indicator A fulfills national requirements, Indicator C is scored 174 points against the required 100 points, Indicator D is 300 with 200 points required, indicator E is 150 (required 100 points), and indicator F is 309.6 against required 50 points).

General characteristics of the candidate's activities

Assessment of educational and pedagogical activity

As a lecturer at the Faculty of Biology of Sofia University “St. Kl. Ohridski” Assoc. Prof. Dolya Pavlova has considerable teaching activity, which includes lectures and exercises for students in the Bachelor's and Master's degree (Botany III, Systematics on higher plants, Taxonomy and evolution of higher plants, Higher flora of Bulgaria, Pre-diploma practicum), as well as participation in training practice. Average the total and auditorium study employment over the last 5 years is respectively 413.6 and 297 hours. She has supervised 12 successfully defended diploma students and one PhD students as a co-supervisor in 2018. She also participates in the teaching of students under the ERASMUS+ KA 107 program, as well as part-time lecturer at the Medical University and Medical College, Pleven. Associate Prof. Pavlova is a co-author of 4 textbooks and 7 teaching aids.

Assessment of scientific and applied research activities

The research activity of Assoc. Prof. Dolya Pavlova in the publications included in the habilitation work (15 publications) is a contribution to the study of the higher flora of the serpentinite terrains in the Rhodope Mts. (Eastern and Central) in terms of its distribution, taxonomic structure, genesis and specific features of species growing under extreme conditions that form a “serpentine syndrome”. As a result of the floristic studies, three new species

(*Aethionema rhodopaeum* D. Pavlova, *Onosma pavlovae* (D. Pavlova) Tan & Petrova, *Silene fetlerii* D. Pavlova) have been identified and described, and also new chorological data for the study area are reported. In biological and ecological aspect, the content of metals (mainly nickel) in plants has been analysed, as well as variation in morphological traits and karyotype morphology has been established, which demonstrate the importance of serpentine substrate in the speciation.

The research of Assoc. Prof. Pavlova in the publications by group of indicators D represents a continuation of studies of serpentinite flora for clarifying the floristic similarities and endemism in Balkan countries, as well as the influence of heavy metals on plants. The scientific results could be grouped into the following main contributions:

- Clarification of the plant biodiversity of serpentinite in Bulgaria and establishing links with similar flora from other countries of the Balkan Peninsula. New chorological data for species from different floristic regions of Bulgaria have been presented, a new association has been proposed, described on serpentine rocks in northern Greece, and the conservation status of rare and endemic plants of the Albanian flora has been evaluated. The conservation measures and promotion of serpentinites as habitats with unique flora and vegetation have been proposed.
- The chromosome numbers were established and the karyotype morphology of species growing on serpentines in Bulgaria were analysed.
- The effect of the toxic element Ni on plant structures and processes related to reproduction (cell division in the root-meristem cells, germination of seeds and pollen) and the its localization in the stamen tissues and pollen as well as the pollen morphology in Ni-accumulator plants have been studied and analysed.
- The parasite-host relationship between parasitic plant, obligate serpentinophyte and facultative serpentinophyte and Ni-hyperaccumulator has been investigated.
- Phytoaccumulation of metals in plant and soil samples from serpentinite areas has been investigated for the first time. In the applied aspect, the potential for exploitation of serpentines for the needs of agriculture and economy (phytoremediation and agromining) have been assessed.

The results of the research activity of the candidate have been published in reputable international impact factor journals in the field: *Botanical Journal of the Linnean Society*, *Journal of Plant Nutrition and Soil Science*, *Biological Trace Element Research*, *Australian Journal of Botany*, *Taxon*, *Plant Biosystems*, *Ecological Research*, etc.

Assessment of the applicant's personal scientific contributions

The personal contribution of Assoc. Prof. Dolya Pavlova to the experimental development, interpretation and publication of the results in the presented materials in my opinion is obvious and significant. In most of the publications, she is the first and / or corresponding author, which demonstrates her leading role. The submitted habilitation report of the scientific contributions correctly summarizes the work performed and reflects the theoretical and applied results achieved. I could characterize Assoc. Prof. Pavlova as an erudite, correct, communicative colleague with considerable capacity.

Critical Remarks and Recommendations

I have no critical remarks or recommendations to the documents presented by the candidate, as well as on her scientific and educational activities.


CONCLUSION

The documents submitted by Assoc. Prof. Dolya Kalcheva Pavlova-Tonkova, PhD are **in accordance with all the requirements** of the Act for the development of the academic staff in the Republic of Bulgaria (ADASRB), the Regulations for the Application of the ADASRB and the Rules for the conditions and the procedure for acquiring academic degrees and occupying academic positions at Sofia University “St. Kliment Ohridski”. The quantitative criteria of Assoc. Prof. Pavlova meet all minimal national requirements for holding the academic position “professor” in professional field 4.3. Biological sciences, as defined in the relevant legislation.

The candidate has presented a significant number of scientific works, published after the materials used in the defence of her PhD thesis and the acquisition of academic position Associate Professor, as well as with sufficient data for educational activity. The publications in reputable international journals testify to the high scientific level of research.

After getting acquainted with the materials for the competition and after analysing their significance, I find it reasonable to give my **positive assessment** and to recommend to the Scientific Jury to prepare a report proposal to the Faculty Council of the Faculty of Biology of Sofia University “St. Kliment Ohridski” for the election of **Associate Professor Dolya Kalcheva Pavlova-Tonkova, PhD** for the academic position of **Professor** in the Department of Botany in the professional field 4.3. Biological Sciences (Botany - Higher Plant Systematics).

10 November 2019
Sofia

Statement Author: 
Assoc. Prof. Anita Tosheva, PhD