

OPINION

on the materials for participation in the competition for the occupation of the academic position "Professor", field of higher education 6. Agrarian Sciences and Veterinary Medicine, Professional direction 6.5. Forestry, scientific specialty " Forest land reclamation, protection of forests and special uses in forests", in the subject "Forest phytopathology", announced by the University of Forestry, SG. 37 / 7.5.2019, procedure code ELA - P - 0419 - 08.

The candidate for the competition is:

1. Assoc. Prof. Sonia Hristova Bencheva, PhD

Prepared by: D.Sc. Rossitsa Tsvetkova Petrova, Professor, Professional direction 6.5. Forestry

1. Brief CVs of the applicant (s)

The candidate Assoc. Prof. Sonia Bencheva graduated from the Higher Forestry and Forestry Institute in 1982 with a specialty in Forestry. In the period 1982 - 1984 she worked as an environmental specialist at the Municipality - Cherven Bryag, and in the period 1984 - 1996 - at the Experimental Station for fast-growing forest-tree species - Svishtov as a research associate.

From 1996 until now, the applicant has worked at the University of Forestry, initially as a senior assistant (1996 - 1999), chief assistant (1999 - 2003) and associate professor since 2004 in the specialty "Forest land reclamation, forest protection and special uses in the forests (forest phytopathology). In 2001 she defended her educational and scientific degree "Doctor" in Forest land reclamation, forest protection and special uses in forests, and in 2003 received scientific title "Associate Professor" in the scientific specialty "Forest land reclamation, forest protection and special uses in forestry. (forest phytopathology).

During the period 2016-2019 she is the Head of the Department of Plant Pathology and Chemistry at Faculty of Ecology and Landscape Architecture, and from 2016 to the present time she is a member of the AC of the University of Forestry.

2. Conformity of the submitted documents and materials of the applicant (s) with the required ones in accordance with the Rules for the Development of the Academic Staff of the University of Forestry;

The scientific production of Assoc. Prof. Dr. Sonia Bencheva has been established with the minimum national requirements under Art. 2b of the Academic Staff Development Act of the Republic of Bulgaria and Art. 2a, paragraf 1 of the Rules for the Development of the Academic Staff at the University of Forestry. The reference shows that (948.5) the minimum required points are exceeded by groups of indicators (550).

3. Assessment of the teaching - scholastic activity of the applicant (s)

Assoc. Prof. Sonia Bencheva, PhD, is an established Phytopathology lecturer. The courses she teaches are:

- Forest Phytopathology (full-time and part-time training), Bachelor's Degree Educational Qualification, Forestry;
- Forest protection, Phytopathology module (full-time and part-time training), educational qualification degree Master's, Forestry;
- Plant Protection Fundamentals, Phytopathology module (full-time training), Bachelor of Science (BA), EEA;
- Integrated methods of plant protection, module "Phytopathology" (full-time training) educational qualification degree Master, EEA;
- Sustainable Land Use Management (full-time training), educational qualification degree Master, EEA;

- Pests of forest and ornamental plants, module "Forest phytopathology" (full-time training), educational qualification degree Master's degree. Agronomy and Plant protection;
- Fundamentals of agroforestry (full-time education), Bachelor's Degree. Forestry;
- Agroforestry systems (full-time and part-time training), educational qualification degree Master's, Forestry.

The total annual individual study employment for the period 2004 - 2019 ranges from 382 to 543 hours.

The guided graduates (66) are mainly in the specialty "Forestry" (63), 2 of them. Agronomy and 1 pc. Ecology and Conservation of the Environment.

The applicant has:

- Management of two PhD students, part-time studies, one of whom has completed a course of study (deducted in 2018 with the right of defense) and one enrolled in January 2016;
- Participation in the State Examination Committees for the state examination of Bachelor Degree Program and for the protection of diploma works of Bachelor Degree and Master's Degree, specialty Forestry from 2013 to 2019.

- Developed new and updated curricula (7) by:

- ✓ Forest phytopathology - a lecture course in the curriculum of the specialty "Forestry" for Bachelor of Social Sciences;

- ✓ Forest protection (part of Phytopathology) - Lecture on the Master's Degree Program in Forestry;

- ✓ Fundamentals of Plant Protection (part of Phytopathology) - a lecture course in the curriculum of the specialty "Ecology and Environmental Protection" for Bachelor of Arts;

- ✓ Integrated methods of plant protection (part of Phytopathology) - a selection course from the curriculum of the specialty "Ecology and Environmental Protection" for the Master's degree program;

- ✓ Sustainable Land Management - a lecture course in the curriculum of the specialty "Ecology and Environmental Protection" for the Master's degree program;

- ✓ Pests of forest and ornamental plants (part "Forest phytopathology") - a lecture course in the curriculum of the specialty "Agronomy" and "Plant protection" for the Master's degree program;

- ✓ Phytopathology - Lecturer's course on PhD in the scientific specialty "Ecology and Environmental Protection".

- Prepared reviews of 4 pcs. syllabuses for lectures for students in the fields: Plant protection for Master's degree program, Landscape architecture, Master's degree program, Ecology and environmental protection, Master's degree program and postgraduate training of landscape specialists architecture.

- Participation in a scientific jury with the preparation of reviews (2) and opinions (2).

- Participation in committees for the selection of assistants (3) and doctoral students

(1).

4. Assessment of the applicant's scientific, applied and publication activities

4.1. Participation in scientific, applied and educational projects

Assoc. Bencheva has participated in a total of 21 research and applied projects, of which 3 is a leader.

To participate in the competition, the candidate appears with: 11 pcs. scientific projects at national level, of which 3 is a manager; 5 pcs. scientific and applied projects from the international scientific network and 1 pc. educational project.

Assoc. Bencheva has two phytosanitary expertise in 2015 and 2016.

As a valuable expert in the field of Phytopathology, Assoc. Prof. Bencheva was a member of the National Forest Protection Committee at the Executive Forest Agency -MAF from 1999 to 2019.

4.2. Characteristics of published scientific results

The published scientific results are mainly from studies on various types of diseases, pathogens and hosts. The results obtained are for new diseases for Bulgaria and the Balkans, pathogens and hosts such as:

The subfamily Histeromerinae Fahringer, the genus *Histeromerus* Wesmael and the species *H. mystacinus* are reported for first time in Bulgaria and Balkan Peninsula.

Medetera pinicola and *L. fugax* are new species for the fauna of Bulgaria and the Balkan Peninsula, while *C. bostrichorum* and *D. middendorffii* were established as new parasitoids of *I. typographus* from Bulgaria, and *R. xylophagorum* was found in a new locality in the country.

Fungus *Delphinella abietis* (O. Rostr.) E. Mull., causing wilting and drying of Silver fir needles was recorded for first time in Bulgaria. Symptoms of *Delphinella* shoot blight were detected on young fir trees under the canopy and along the edge of spruce forests in locality Mostovete in the area of Yundola Training and Experimental Forest Range, at altitude 1400 m in the fall of 2015 and winter of 2016-2017. On the same trees was diagnosed another species new to Bulgaria - *Scolicosporium camposperma* (Peck) Hohn., considered a saprophyte.

Twelve species of wood destroying Ascomycota fungi have been identified. Both their parasitic activity degree and phylogenetic and ontogenetic specialization level have been defined. Species with mutual hosts — fruit or forest trees have been found. That fact makes possible the infection accumulation and transfer from forest to agricultural ecosystems which is of considerable importance for the mountain fruit growing.

The health status of coniferous plantations of Bulgaria was evaluated on the base of dendrochronological analysis of *Pinus sylvestris* and *P. nigra* trees cultivated on different elevations, results obtained by several research surveys and available data at Forest protection information system of Executive Forest Agency. It was established that worsening and wilting of trees due to abiotic and biotic factors has greatly increased over the past two years and the most dangerous threats to plantations vitality were determined. Damages caused by wind, wet snow and ice have formed the prerequisite for increasing the number of xylophagous pests, outbreak and disease development on large areas. Among xylophages, the most dangerous and economically harmful for pine trees is *Ips acuminatus* and among diseases – root rot caused by the fungus *Heterobasidion annosum*. Integrated forest protection measurements including silvicultural, prophylactic and technical methods are presented in the study to ensure the long term health of coniferous plantations.

4.3. Candidate's Scientific Activity in Literature (Citation)

A total of 63 citations to 24 publications have been identified. For the competition Assoc. Bencheva participated with 41 pcs. citations, of which: in refereed journals - 23; in proceedings of conference reports, etc. - 5 pcs. and in non-refereed magazines – 13. All this testifies to the interest of the scientific community in its developments and the results of them.

4.4. Contributions to the work of the applicant (s) (scientific, applied science, applied)

The main scientific and applied science contributions of the scientific papers presented for the competition are in the following main thematic groups:

I. Forest phytopathology: includes studies related to diseases of forest tree and shrub species and assessment of their phytosanitary status. Useful information was collected for new diseases, pathogens and hosts new to Bulgaria (5, 7, 12, 13, 22, 24, 26, 27, 29 and 33).

II. Wood destroying mushrooms: Valuable forestry results have been obtained from wood destroying mushrooms (1, 15-20, 23, 28, 34 and 37).

III. Forest entomology: new data have been obtained related to the species composition and distribution of some insect pests in Bulgaria (3, 4, 6, 21 and 25).

IV. Forest monitoring: Valuable results have been obtained for the condition of the crowns and the damage found in the plantations surveyed from years of research carried out under the International Cooperative Program "Assessment and Monitoring of the Impact of Polluted Air on Forest Ecosystems" (30, 31 and 35).

5. Assessment of the applicant's personal contribution

For the competition, Assoc. Bencheva appears with 39 pc. publications of which:

- Monograph - 1 pc .;
- Articles and reports published in scientific publications, referenced and indexed in world-renowned scientific information databases - 6, of which 2 independent; in 3 pcs. is the second author and in 1 issue. is the fourth author;
- Articles and reports published in non-refereed journals with scientific peer review or published in edited collective volumes - 22, of which: 2 independent; in 6 pcs. first author; in 8 pcs. second author; in 5 pcs. third author and in 1 issue. fourth author;
- Studies published in non-refereed scientific peer-reviewed journals or in published collective volumes - 2;
- Published chapter of a collective monograph - 4 issues, of which 3 issues. is the sole author and in 1 issue. - second;
- Published university scholastic aid - 2 pcs. co-authored;
- Published university textbook - 2, of which 1 independent.

The results obtained are very useful and applicable to forestry practice. The materials presented show that the applicant has a significant and indisputable personal contribution that clearly shows her successful career as a teacher and researcher. The sampling, application of the specific methods of analysis, as well as the processing of the results of the analyzes, on the basis of which the scientific and applied scientific contributions have been made, are the personal work of the author, which is reflected in 7 separate publications and one monograph for the period 2003 - 2019.

Assoc. Prof. Bencheva's participation in scientific projects directly related to the topic of the announced competition fully confirms my conviction for active and committed personal participation of the author in the presented research results.

6. Critical notes and recommendations

I have no critical notes or recommendations for the applicant.

7. Personal impressions

In my opinion, Assoc. Prof. Sonia Bencheva is an established teacher and researcher, sought after and valuable in practice. It is characterized by professional competence, efficiency, responsibility and creative activity.

8. Conclusion

I SUGGEST the candidate Assoc. Prof. Sonia Hristova Bencheva, PhD, to take the **academic position** of "Professor" in the discipline "Forest Phytopathology" of Professional direction 6.5. Forestry

Drafted the opinion:

Opinion delivered on: 8/30/2019