



REFEREE STATEMENT

on the materials for participation in a competition for occupying the academic position "associate professor", field of higher education "6. Agricultural sciences and veterinary medicine", professional direction "6.4. Veterinary medicine", scientific specialty "Animal Pathology", in the discipline "Pathology (General pathomorphology)", announced by the University of Forestry in the State Gazette issue 18 / 01.03.2024

procedure code **VM-AsP-0224-126**

Candidate for participation in the competition: One candidate appeared in the competition for occupying the academic position "Associate Professor": Dr. Georgi Stoychev Popov, chief assistant in General Pathomorphology and Special Pathological Anatomy in dept. "Internal non-communicable diseases, pathology and pharmacology" at the Faculty of Veterinary Medicine of the University of Forestry, Sofia

Reviewer: Stoycho Dimitrov Stoev, PhD, DSc, professor in professional direction "6.4. Veterinary medicine", scientific specialty "Animal Pathology" from department "General and Clinical Pathology", Section "Pathological Anatomy" in Faculty of Veterinary Medicine, Trakia University, Stara Zagora

1. Brief biographical data about the candidate

Chief assistant Georgi Stoychev Popov was born on 03.08.1990. He graduated his secondary school at the "Yane Sandanski" School of Natural Sciences and Mathematics in the city of Gotse Delchev from 09/2005 to 06/2009. From 09/2009 to 05/2015 he graduated "Veterinary Medicine" from Fac. of Veterinary Medicine at the University of Forestry, Sofia with an excellent overall grade 5.71 (5.42 from semester exams and 6.00 from state exams) and acquired Professional Qualification Master "Veterinary Doctor". From 04/05/2015 to 25/01/2016 he practiced veterinary medicine at AMI VET 2010 OOD, Sofia. From 25/01/2016 to 30/09/2020, he worked as an assistant professor in the disciplines "General Pathomorphology" and "Special Pathological Anatomy" in dept. Internal non-communicable diseases, pathology and pharmacology" at the Faculty of Veterinary Medicine of the University of Forestry, Sofia. There he carried out research and teaching activities with students in "Veterinary Medicine", and also prepared and conducted exercises, seminars, consultations, practical and semester exams within the same disciplines.

On 31.10.2019 Dr. Popov defended the educational and scientific degree "Doctor" in "Animal Pathology" with the topic of the dissertation work: "Pathomorphological and pharmacological studies on the protective effect of biologically active substances from medicinal plants" at the University of Forestry University - Sofia. From 30/09/2020 until now

he holds the position of chief assistant in the department of Non-infectious diseases, pathology and pharmacology at the Faculty of Veterinary Medicine, Sofia.

Dr. Popov is a member of the Academic Council of University of Forestry (2020-2024 and 2024-2028), as well as a member of the Faculty Council of the Fac. of Vet. Medicine at the same university (2020-2024 and 2024-2028). He is also a member of the "Scientific Research Committee and DAS" of the Academic Council of University of Forestry. He is also a member of the Faculty Commission at Fac. of Vet. medicine on "Organization and Conduct of Practices and Internships". In addition, he was a member of the Organizing Committee of the International Scientific Conference "Tradition and Modernity in Veterinary Medicine", as well as a member of the Editorial Board for creating a collection of abstracts and the program of the same international scientific conference in all years from 2017 to 2024. He is also an accountable person in the department of "Internal non-communicable diseases, pathology and pharmacology". He was also the course supervisor of the students from the 1st year (studying in Bulgarian and English), from the beginning of the 2020-2021 academic year until the end of their studies.

On 20.12.2023, he acquired a professional qualification in "Protection and humane treatment of experimental animals used for scientific or educational purposes" after completing a course at the University of Forestry.

He is a member of the Bulgarian Veterinary Union. Dr. Popov possesses a high theoretical and practical level of competence in the field of veterinary pathoanatomy, acquired in the process of his main work activity.

The candidate has good computer literacy and is proficient in office packages for processing text, tables and presentations (including Microsoft Word, Microsoft Excel, Microsoft PowerPoint, etc.). In addition to his mother tongue, he is fluent in written and spoken English.

2. Conformity of the submitted documents and materials of the candidate with the required ones according to the Regulations for Development of the Academic Staff at the University of Forestry

The candidate for professor Assoc. Prof. Vassil Kostadinov Manov has presented all the required documents and materials according to the Regulations for Development of the Academic Staff at the University of Forestry, which I do not consider necessary to list here.

3. Assessment of the teaching activity of the candidate

Chief assistant Georgi Stoychev Popov has a total of 8 years and 2 months of educational and teaching activity as an assistant professor and chief assistant professor in department of "Internal non-communicable diseases, pathology and pharmacology" at the Faculty of Veterinary Medicine of the University of Forestry with "Veterinary Medicine" students, having prepared and conducted exercises, seminars, consultations, practical and semester exams in Bulgarian and English in the disciplines 'General Pathological morphology' and 'Special pathological anatomy'.

He also participates as a teacher in the group specialization in "Veterinary dermatology of small and exotic animals" and in the specialization in "Veterinary dermatology" of Master Ivelina Vacheva, at the department "Internal non-infectious diseases, pathology and pharmacology".

Dr. Popov also works very successfully in extra-curricular activities with students in "Veterinary Medicine", helping them in the preparation of "Student research projects", such as "Adenoma of pituitary gland in fancy rats" or "Invasive oral squamous cell carcinoma in domestic four-toed hedgehog (*Atelerix albiventris*)", which they subsequently present at scientific conferences.

Chief Assistant Professor Georgi Stoychev Popov also worked successfully with many PhD students, supporting the development of the pathomorphological aspects of the doctoral study on the topic "Investigation of the regenerative potential of bone marrow aspirate and platelet-rich plasma in the presence of hydroxyapatite in the healing of experimental fractures of the radius in rabbits" of chief Assistant Dr. Georgi Marinov in 2021, as well as the PhD program on "Investigation of the regenerative potential of platelet-rich plasma and sodium hyaluronate with dexpanthenol in experimentally induced corneal ulcers in rabbits" of Assistant Professor Dr. Seven Mustafa in 2023, as well as doctoral studies on the topic "Morphological studies of the spleen in dogs" by Assistant Professor Iliyan Georgiev in 2023 and doctoral studies on the topic "Studies on cardiac dirofilariasis in dogs in Bulgaria" by Dr. Radoslav Rafailov in 2023 2024.

Dr. Popov also participated in the equipment and development of the pathohistology laboratory in the "D" educational building, as well as a laboratory for the preparation of macroscopic preparations that support the educational process in the department.

Chief Assistant Professor Georgi Stoychev Popov has also participated in 2 manuals for students of veterinary medicine in Bulgarian and in English, as well as a published monograph and a book in connection with his dissertation work, which can also be successfully used by students majoring in veterinary medicine and by veterinary practitioners.

4. Evaluation of the scientific, scientific-applied and publishing activity of the candidate

Chief Assistant Professor Georgi Stoychev Popov applied for a position "Associate Professor" with a total of 1 monograph, 1 book and 14 scientific publications that are referenced in Scopus or Web of Science, with 7 of his scientific works being published in journals with an impact factor.

In addition, he has published abstracts from participation in 18 international scientific forums, of which 9 are oral presentations and 9 are posters.

Dr. Popov has also done 5 scientific reviews of articles and reports.

He was a member of the Organizing Committee of 8 international scientific conferences, as well as a member of the Editorial Board for creating a collection of abstracts of the same conferences.

As a result of his scientific and publication activity, he has also been awarded 5 prizes in international forums, including 2 first places, 1 second place and 2 third places.

4.1. Participation in scientific, scientific-applied and educational projects

Dr. Popov participated in a total of 4 research projects funded by the University of Forestry, of which 2 were after the defense of his educational and scientific degree "Doctor".

4.2. Characteristics of the published scientific results

The main part of the conducted research is in the field of pathology caused by toxic substances, neoplasias and infectious diseases. The studies are related to the use of modern and routine diagnostic and/or morphological methods in order to clarify the etiology, pathogenesis and morphogenesis of some newly appeared or problematic diseases and intoxications for the country, as well as their systematization.

Another part of the research is related to some contemporary studies to establish or confirm the pharmacological activity of medicinal plants by using pathomorphological methods. A number of extracts, saponin fractions, and secondary metabolites have been studied for their hepatoprotective, antioxidant, nephroprotective, neuroprotective, antitumor, and antiosteoporotic activities using experimental and laboratory animals.

Some other studies have a scientific-applied nature. They are related to the development of an *in silico* protocol for predicting pharmacological activity, as well as to the differential-diagnostic characterization of diseases related to endocrinological disorders, neurological changes, etc. Other studies are related to some basic research in order to put into operation cytological methods for the diagnosis of reproductive changes in productive animals. The

obtained results have an application in the development of some phytoproducts with possible application in the field of veterinary and human medicine.

4.3. Reflection of the candidate's scientific activity in the literature (citation)

The candidate has submitted a total of 19 citations, of which 17 are in peer-reviewed journals referenced in Scopus and Web of Science, and 2 in non-refereed journals and collections of scientific forums, which shows that he is a read and cited author not only in our country, but also world Wide.

4.4. Contributions in the scientific reports of the candidate (scientific, scientific-applied, applied)

The candidate for associate professor has presented many solid scientific, scientific-applied contributions in various directions, of which an important direction is "**Pathological-anatomical characterization of changes in the animal organism induced by the intake of toxic substances**", where he has a published monograph entitled "Pathological-anatomical characterization of poisonings in domestic animals", which summarizes data on the pathogenesis, clinical presentation, pathological findings and diagnosis of some of the common poisonings in domestic animals. An interpretation of some known as well as new data concerning certain aspects of the toxicological effects in specific poisonings expressed at the cellular-, tissue- and organ level has been made. In addition, the methods of selection and correct sampling during autopsy for subsequent toxicological analysis and diagnosis are presented here in a systematic manner. Attention has been paid to some differential-diagnostic options for comparison between poisonings and other diseases.

In his book "Pathomorphological and pharmacological studies on the protective effect of biologically active substances of species of the genus. *Astragalus*" studies are presented regarding the protective properties of two flavonoids isolated from *Astragalus monspessulanus*, a purified saponin fraction and a mixture obtained from *Astragalus glycyphyllos* and *Astragalus glycyphylloides* in different *in vitro* and *in vivo* experimental setups and intoxications.

Another important direction is "**Pathologanatomical and pharmacological studies of samples of plant origin.**", where we can note the following more important contributions: a) It has been proven that in an *in vivo* model of experimentally induced diabetes type 2 on spontaneously hypertensive rats, purified saponin mixture (PSM) from *A. glycyphylloides* improves glycemic, liver and antioxidant status of animals; b) Neuroprotective and antioxidant effects *in vitro* of a purified saponin mixture obtained from *Astragalus glycyphylloides* were established; c) The *in vitro* / *in vivo*

antiproliferative/antitumor activity of a purified saponin mixture (PSM) obtained from *Astragalus glycyphyllos* is evaluated; d) *Sophora japonica* fruit extract (FSE) has been shown to potentiate the repair of affected bones in New Zealand white rabbits in a state of experimentally induced osteoporosis by ovariectomy, and FSE has been found to stimulate osteoblastogenesis; e) The antioxidant and hepatoprotective effects of alcesefoliside (AF) obtained from *Astragalus monspessulanus* were established *in vitro* and for the first time *in vivo*; f) *In vitro* / *in vivo* the defatted extract and the phenolic fraction of *Phlomis tuberosa* have been shown to have hepatoprotective properties comparable to those of silymarin; g) Mauritianin obtained from the aerial parts of *Astragalus monspessulanus* subsp. *monspessulanus*, has been proved to have hepatoprotective, neuroprotective and nephroprotective effects in *in vivo* experimental settings.

A third important direction is "**Clinical and pathomorphological assessment of infectious and non-infectious diseases in domestic and captive-bred animals**", where we can also note some more important contributions, including: a) Unilateral seminoma in a diffuse form was established and described for the first time in a dancing Eurasian brown bear; b) It has been shown, on the basis of postmortem histological examination, that the adrenal gland of an adult male brown bear (*Ursus arctus*) possesses communities of endocrine cells in the capsule, such as have only been described in the adrenal gland of a horse; c) Pathomorphological, imaging and microbiological studies revealed lobular exudative pneumonia and zonal interstitial fibrosis with single extensive ossified areas in a 58-year-old female Indian elephant (*Elephas maximus indicus*) kept in a zoo, and a neoplastic process was found in the uterine muscles; d) In a retrospective analysis of oral lesions in dogs and cats for the period 2018 - 2022, it was found that neoplastic formations predominated in the studied dogs, with the ratio between benign and malignant being approximately the same, with fibromatous epulis being the most common benign tumor, and melanoma being the most common malignant tumor of all neoplasias studied.

A fourth important direction is "**Research of a scientific-applied nature**", where we can count the following more important contributions: a) A combined *in silico* protocol was developed allowing to predict at an early stage the potential for antidiabetic action of saponins from *A. glycyphylloides*; b) It has been established that the conducted pharmacological and patho-anatomical studies with biologically active substances of plant origin, proving a well-expressed protective activity, are a prerequisite for the development of phytoproducts in the future and their application in human and veterinary-medical practice.

5. Assessment of the personal contribution of the candidate

The candidate for associate professor Chief Assistant Professor Georgi Stoychev Popov has a total of 25 scientific publications, of which 9 have been submitted for the awarding of the educational and scientific degree "Doctor". In the "Associate Professor" competition, he applied with a total of 1 monograph, 1 book and 14 scientific publications that are referenced in Scopus or Web of Science, with 7 of his scientific works being published in journals with an impact factor. Of these scientific publications, 4 are self publications, 1 is with two co-authors, 3 are with three co-authors, and 8 are with more than three co-authors, indicating his active involvement in the drafting and writing of these articles.

Of the scientific articles presented, 14 are in English and only the monograph and the published book are in Bulgarian. Moreover, after dividing the number of points by the number of participants in the respective articles and then summing them up, it is clearly seen that he collects a total of 104.89 points out of the required minimum of 100 points in the Group B indicators. Similarly, he exceeds the required number points for the academic position "associate professor" according to the indicators of group D (216 points, instead of the required minimum of 200 points) and group D (265 points, instead of the required minimum of 50 points), as the total number of points according to indicators A+ B+G+D is 635.89 points, which unequivocally shows that his personal contribution in relation to the indicators in question, including scientific articles and citations is significantly higher than the required one.

In addition, he participated in 18 international scientific forums and was a member of the Organizing Committee of 8 international scientific conferences, as well as a member of the Editorial Board for creating a collection of abstracts of the same conferences in which he participated.

6. Critical remarks and recommendations

I have no critical remarks about the candidate.

7. Personal impressions

I know Chief Assistant Professor Georgi Stoychev Popov as an extremely modest, helpful and well-mannered colleague who is fully devoted to his work, the learning process and science.

8. Conclusion

In conclusion, I can declare that Chief Assistant Professor Georgi Stoychev Popov not only fulfills, but also significantly exceeds the recommended criteria for occupying the academic position "Associate Professor" according to the minimum national requirements. Bearing in mind the

presented materials and the implementation, and in many cases the overfulfillment of all scientometric indicators (from A to D), as well as the implementation of all educational and teaching criteria, I can confidently state that Chief Assistant Professor Georgi Stoichev Popov is a respected teacher, as well as a prominent and cited researcher, and also a good professional in his scientific field. **That is why I can confidently recommend the Scientific Jury to vote in favor of the ranking and PROPOSE the candidate Chief Assistant Professor GEORGI STOYCHEV POPOV to take the academic position of "associate professor"** in the discipline "Pathology/Special Pathological Anatomy/" from Professional Direction 6.4. Veterinary Medicine

Reviewer's signature:

(Prof. Stoycho Dimitrov Stoev, PhD, DSc)

Review submitted: 15.5.2024 г.