

Evaluation of the Laboratory of Flora and Vegetation from the Polar-Alpine Botanical Garden-Institute of Kola SC, RAS (Kirovsk, Murmansk Region) headed by Professor Nadezhda A. Konstantinova.

1. Характеристика **тематики и результатов** Заявителя:

а) тематика современная, редкая

The most important topic of the study of the mentioned laboratory is the molecular systematic and phylogeography of the liverworts. In the present time the team of Professor N. A. Konstantinova is only one team studying the taxonomy of the liverworts using modern methods of molecular biology like as classical methods of comparative morphology in Russia. The outputs of these studies are the new insight on the taxonomy not only of the individual species, but also of the genera, families etc., like as the descriptions of the new taxa, making of new combinations etc. All this can make the results more close to the evolutionary aspects.

Similar teams are very rare over the world, the most important are in Germany, Great Britain, U.S.A. and Australia. The mentioned teams, together with the one from Kirovsk, are studying the liverwort taxonomy on the wider scope (genera, families), not only on the reduced form confirming the existence of one or some species studied. The results of the "Kirovsk group" are accepted and highly evaluated by all similar teams, not only in the publications.

The studies about taxonomy of the liverwort families Lophoziaceae, Gymnomitriaceae, Cephaloziaceae etc. are the first ones in the world, using the modern molecular data methods. The data obtained are basic data for the study of similar teams in the world (incl. teams in Germany and U.S.A.). According to my knowledge similar studies of other taxonomic groups are expected.

б) тематика современная, массовая

To this point we can classify the publications devoted to the study of bryophytes, lichens and prokaryotes of insufficiently known areas of Russia and Svalbard. These publications are platform of the future study on the base of genetic and molecular taxonomy of organisms. The obtained material and collections of specimens are important for the herbaria of the institute, and they are used also in the synthetic studies like as the critical check-list of the liverworts of Russia etc.

These publications are of the same level or quality (high) like as the publications about insufficiently known areas in the world (f.e. in northern Canada). Comparing with the publications devoted to the tropical areas the publication of this team have much higher "scientific level", comparable with similar publication published in other highly developed countries.

с) традиционная для данного коллектива

To this point the studies devoted the flora of Murmansk region, study of the flora of protected areas and preparation of the Red Data Books of Murmansk region can be placed. These data were used also for the Red Data Books of the whole Russia, like as Red Data Book of European bryophytes.

The quality (and information included) of Russian Red Data Books are traditionally very high. Moreover, because the territory of Russia is not small, the preparation of comparable publications is much difficult here and must be based on very intensive field works in not well explored areas.

2. Характеристика **публикационной активности** коллектива:

а) количество и уровень публикаций:

The results obtained in the studies in the laboratory like as in the field are presented in the Russian and international conferences. They are published in rating international journals included in the Scopus and Web of SCI bases (f.e. Molecular Phylogenetics and Evolution, Phytotaxa etc.) like as in rating Russian journals (Арктоа, Новости систематики низших растений, Ботанический журнал etc.).

I think it will be not easy to find some other teams in Russia, publications of which are published in very important international journals (see above). The objective comparison is not possible without having similar data of evaluation from all similar teams (if any exist). The only data available (sent materials of the committee) in point 4 show the indexes of Russian academicians and corresponding members (of the field of botany) and the indexes of only Head of the evaluated team Professor N. A. Konstantinova. Generally, many indexes of Professor N. A. Konstantinova are higher than the corresponding indexes of some academicians, career of which was started (with only 1-3 exceptions) many years before the time of Professor N.A. Konstantinova work.

PS The number of publications (in the material only the publications indexed in WoS are listed) and the quality of journals (given in IF) are mathematical data which can be statistically evaluated by the each commission (without comments of regional or international experts, which should become the same results, if they will do it). I assume the role of experts is the scientific evaluation of the team, not something like mathematical or statistical "homework", moreover free of charge. In many countries such evaluation is simply made by the computer programs working with objective data (authors, publications, journals with IF and other indexes...).

b) цитирование работ в сравнении с работами других групп по той же тематике

Citation index of some publications is relatively high, which is caused by the published papers with molecular data. They are mentioned in all papers based on corresponding thematic in the international journals. Also the list of the liverworts of Russia is commonly cited in floristic and taxonomical studies.

PS Trying to use and evaluate the results, for this point the questionnaire gives no objective data. What mean "high", "typical" or "low"??? Statistic is working with numbers, and not with the opinions (subjective or objective) of reviewers (what is high for one reviewer, may be low for another one). Which degree scale should be used? [if the number of 1 is low in active citations, some corresponding members in Russia may be "poor" concerning their publication activity]. Moreover, as the foreign expert, I have no data about something like "other groups" working of similar thematic topics in Russia (I think no similar teams are existing in Russia). Which kind of comparison had the author of this questionnaire in their minds?

And again - the role of the expert is not (at least in the countries outside of Russia) in very short time received (2 weeks) to search on the web similar data for some foreign groups (sometimes such data are not available on the web, too) .

3. Ресурсы коллектива:

a) необходимо увеличение финансирования

I think that three young scientist in the group, which are very active in the publication of their results, have very low salary, not corresponding with their potential and activity.

This point is also – for evaluation – very problematic. Accepting the fact that all work – like as scientific – depends on the financial sources. I think the present amount of money is on the lowest level of possibility for the keeping of the same quality of publications and outputs at all. Naturally if the other factors outside of the team (crisis, increasing prices etc.), like as not fully objective (in all countries of the world!) received amount of grants and connecting budgets can influence the results. Simply speaking, if the financial amount for the f.e molecular analysis or the field work will be not sufficient, such studies cannot be done. The present team (with some perspective young scientists) is qualified to continue the work of high quality as usual. The scope of the future studies is not in the hands of the team, but in the hands of institutions supporting this work.

PS The received material, sent for evaluation as requested, cannot be sufficient also for this point. The list of titles of the received grants (with numbers) and participation in other grants, partially with the data about co-operators or about financial amount are not consistent information for evaluation, sorry.

4. Участие сотрудников в преподавании в вузах:

а) следует пригласить для преподавательской работы

Strange that 5 members of the group, which had the lectures in the two Apatity departments of universities, cannot continue after 2011-2012. These members have great experience with the pedagogical work like as high scientific level of their knowledge. In the present time can be used some scientists for the lectures and seminars about lichens, bryophytes, cyanoprokaryotes, molecular phylogenetic and phylogeography like as phytocenology of the far north plant communities. It is also very problematic point. I am a member of the university and in our country we have also the separate institutions of the academy of sciences similar form as in Russia. The discussion if the "home" members of the university (which have the pedagogical duties obligate) are better for some lectures as the members from academy, which mostly would like to have some lectures for the receiving of university degrees (professorship) are common. My opinion is that in the evaluated laboratory are the specialists which may have the potential to take some lectures, practicals, seminars. I have no idea why the pedagogical work of some members was interrupted in 2011-2012, no data why are available. Moreover, I have no exact data which specialists are in the present time in corresponding universities (as the members of the universities) and for which topic the specialist are missing. Moreover, also the quality of the professors, assistants etc. in the university is not the problem of this evaluation. Without such data, and accepting the fact that the pedagogical work of the team was totally interrupted in 2011-2012, I can only "рекомендовать расширение этой работы" based on my not perfect knowledge of the situation. At least consultation of diploma and candidature works may be useful, the concrete recommendation is not possible with the information which I have.

5. Перспективы наукоемких разработок на основе результатов коллектива

Rich collections in the herbarium like as data obtained by the molecular studies, which are included in the international GeneBank may serve as the sources for the monitoring for the climatic etc. changes especially in the Arctic and Subarctic regions. Also the floristic data are very valuable for the ecologic expertise in the northern regions. Very important are the production of popular scientific books about in Russia relatively neglected groups like as mosses, liverworts, lichens and cyanoprokaryotes. All mentioned topics are perspective, if the external conditions for this perspective will be fulfilled.

6. Общий вывод

Laboratory, according to present results, is highly effective. Moreover, it has high potential of progress and expansion; in the laboratory there are 8 young scientists which finished candidature and now can concentrate to active work. The laboratory produced studies in the modern like as in the traditional methods used in botany, esp. in cryptogamology. In the laboratory specialists dealing with the mostly neglected (in Russia) groups of organisms are working; these organisms are playing important and mostly dominant role in the plant communities of Arctic and Subarctic. Relatively high number of specimens for the herbarium was obtained in the course of the field work of the scientists of the laboratory. The results obtained by the study of laboratory members are used in the wide scope of the studies and publications in the field of systematic, floristic, phytogeography and molecular biology. **The results of the laboratory are known and highly appreciated in the studies of many laboratories also outside of Russia.** In the laboratory are working many young and perspective specialists. Based on these facts it is necessary to preserve the laboratory with its scientific potential at least in the present state, but better to think about the enlargement of their scientific potential, financial support etc. **Generally speaking, the laboratory represents very important group of specialists unique in Russia and very rare also in the world. Especially the studies of molecular taxonomy (Konstantinova, Vilnet) like as the studies devoted to the biodiversity of cryptogams in arctic and subarctic regions are very valuable and important.**

7. Подтверждение отсутствия конфликта интересов с Заявителем или пометка о возможном конфликте интересов.

My work and study is in no conflict with the studies of this laboratory; also my studies are of no contact like as conflict with the study of the laboratory. As the author or a co-author of the studies of similar topic in bryology (cooperating with the teams in Germany and U.S.A.) I am using and respecting the results obtained by this laboratory.

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