

## Reports on the Progress and some of the Results produced from the Mapping of *Macromycetes* in the European Socialist States (excluding the German Democratic Republic)

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Mr. President, Ladies and Gentleman,

I give a brief report on the progress and some results for the mapping activities in Bulgaria, Czechoslovakia, Hungary, Yugoslavia, Poland, Roumania, and the Soviet Union. The situation has changed little since my last report at the 3rd European Mycological Congress at Glasgow, Scotland, in 1963, either in the methods of working, in the composition of the national committees or their leadership. In some countries, mapping has been intensified and membership of the national committees increased, mostly six to ten members; elsewhere, however, there has been little response to my endeavours to stimulate interest. This is only in the case of Bulgaria, where the mapping activities are at a low level. This is a great pity because knowledge of the Balkan mycoflora is very incomplete and the mapping would have been a suitable means for its further investigation.

Only the Soviet mycologists have sent no results, which, as I previously reported at the Third Congress in Scotland, has been due to lack of support from their Academy of Sciences. However, I now have pleasure in announcing to the 4th Congress of European Mycologists in Warsaw that I have succeeded in extracting a promise from the Secretary of the Department of General Biology of the Academy of Sciences of the USSR (Dr. B y c h o v s k i j) that the Soviet mycologists will now collaborate in mapping the selected macromycetes in Europe. I think that this is very important for the future of our mapping activities as the participation of the USSR will avoid the large "blank areas" which would have otherwise occurred in our maps of Eastern Europe. We therefore hope that this or next year at the latest, the Soviet mycologists will organize their own national committee and start collaborating. I propose that the Soviet mycologist entrusted by the Academy

with the chairmanship of the mapping activity in the USSR is made a member of the Committee for Mapping Macromycetes in Europe and will directly report on the course of this activity in the USSR.

The leadership and most members of the mapping committees remain unchanged but, in Yugoslavia, Mrs. Milica Tortić of Zagreb is now the national rapporteur due to the sudden death in 1965 of Dr. V. Lindtner of Belgrade. By the death of Dr. V. Lindtner, not only the Yugoslav mycologists but also the mapping movement has lost a good collaborator and a very fine person.

I report with pleasure that the mapping of macromycetes has been proceeding well in Hungary, Yugoslavia, Poland and Roumania, but particularly well in Czechoslovakia, from where the most localities for the species being mapped were received and where results of the detailed mapping of certain species, together with illustrations, distribution maps for Czechoslovakia etc. have been published in the journal "Česká mykologie". However, in spite of these good results for mapping, the country has not been uniformly investigated and, whilst the western parts (Bohemia and Moravia) are relatively well-known, the eastern part (Slovakia) is known very imperfectly. Also, similar to other countries, the principal mapping results come from the neighbourhood of large towns or other centres of mycological research whilst large areas remote from mycological activity are almost completely unknown for the distribution of most fungi. It is therefore necessary for future mapping activities to be aimed at removing these "blank spaces" on the distribution maps, which are undoubtedly due to the inadequate investigation of these areas.

This year we have decided to conclude mainly stage I of the mapping and possibly also stage II. I would like to give some examples of the more interesting results although it must be pointed out that the present results of mapping do not give a true picture of the distribution of a species in a particular state or territory but only indicate the stage which investigations have reached. However, whilst bearing this in mind, it is possible to make comparisons between the mapping results for the different countries, even if the accumulation of further information is going to produce a more accurate picture. For instance, *Verpa conica* is known in Czechoslovakia from 36 localities, in Hungary from 10, in Poland from 7, Yugoslavia from 5 and in Roumania only from one locality. On the contrary, *Ptychoverpa bohemica* is known from all the previously-mentioned states mostly from a large number of localities (in the proportions 56:18:19:8:6), similarly with *Pycnoporus cinnabarinus* (89:18:32:50:24), *Fistulina hepatica* (145:24:31:23:15), *Hirneola auricula-judae* (101:23:41:30:20), *Ganoderma applanatum* (224:28:48:42:20),

etc. (However, I recall that in most countries *Ganoderma applanatum* has not been distinguished from the species known at present as *Ganoderma europaeum*). It is not now possible to form any wide conclusions from the present results for the distribution of these species although, when projected on the map of Europe, some interesting aspects in the distribution of some species may be found.

However, the known distribution of some species already shows some interesting results. For instance, *Sarcosoma globosum* is at present known from 16 localities in Czechoslovakia and only 3 in Poland, whilst it is completely unknown from Hungary, Yugoslavia and Roumania. This conspicuous ascomycete grows chiefly in the submountainous coniferous woods, which, however, are not well developed or are even absent in the last three countries. In addition, although this species is considered rare, the facts are that it fruits in early spring and in an ecotope which is little visited at such a time and when few mycologists go collecting. Another interesting mapped species is *Tremiscus helvelloides*, which grows on dead coniferous wood, chiefly spruce, but exclusively in calcareous districts and is therefore completely absent from all other geological substrates. The projection of its localities on the map of Europe should be made simultaneously with that showing the geological substrata, i.e. limestone and dolomite. Interesting results have appeared in the distribution of *Stereum frustulatum* which, whilst known from Czechoslovakia for 28 localities is only recorded from three in both Roumania and Yugoslavia, and only one locality in both Hungary and Poland; in Czechoslovakia, whilst generally common in the few parts of the eastern half of the country (Slovakia) which have been investigated, it is decidedly rare in western Czechoslovakia, i.e. in Bohemia and Moravia. From this we are able to form a preliminary conclusion that *Stereum frustulatum* has a submediterranean-subcontinental distribution in Europe and, although exclusively associated with oak, does not follow the distribution of this tree but grows only in relatively warm and dry districts influenced by a continental climate.

A more definite picture of distribution will, however, not be obtained until all mapping results have been received and projected on the map of Europe, which is the main purpose of the whole action. With the lignicolous fungi, it would also, in addition to this, be possible to ascertain whether some are confined to a single genus or species of host plant, whether they grow on conifers or deciduous trees, or whether they grow on different kinds of wood without distinction, etc. The altitude to which species ascend or descend, which is influenced by climate, could also be ascertained, and this information would be very valuable for an understanding of their ecology.

The main aim of mapping macromycetes in Europe is, of course, to

find out the distribution of each species. We must confess that amongst the first 100 species selected for mapping are some whose distribution shows no positive results as they are generally distributed and grow on various substrates (*Hirneola auricula-judae*, *Ganoderma applanatum*, *Armillaria mellea*, *Schizophyllum commune*, *Fomes fomentarius* etc.). Therefore, if we are going to continue with our mapping activities with success — and this action has been agreed by all collaborators and now, that the Soviet Union has joined us, is of a greater importance — we must choose the further species for mapping with special care, particularly with regard to whether their distribution will really show any interesting results. This requirement is assured with species having a clearly defined Atlantic, Mediterranean, Boreal or Continental distribution in Europe — so far as is, of course, known, or, at least, assumed. No other point of view could possibly be considered and it will, of course, be necessary both to avoid all collective species and those which are widely distributed, so their selection will not in any way be easy. Rather on the contrary, with the limitation of the collaborators in each country to a smaller group, the more experienced and specialised members should obtain more accurate and reliable results.

For the termination of mapping of the first 100 species, it is, however, necessary to set a definite time limit, and this must take into account the recent addition of the USSR so that their results can be included. I suppose that this would take a minimum of three years — if not more, and at the 5th Congress in 1970, perhaps it would be possible to announce the beginning of a new stage, which is the mapping of the second hundred species, which the mapping committee will prepare. I think that this can be considered as a definite possibility.

It is now important to know how quickly the completed results of the mapping investigation can be dealt with by the Secretariat in Copenhagen, Denmark, about which Professor M. Lange is more able to speak, and he should also tell us from his experience of the present manner of mapping organization, whether, e.g. when the communicated localities are numerous or close together, it would be better to show them as a single spot, etc. There are many problems which I think should be discussed and clarified at this meeting.

*Sprawozdanie z postępów oraz wstępne wyniki akcji kartowania  
grzybów wyższych w krajach socjalistycznych  
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Streszczenie

Autor przedstawia wyniki prac międzynarodowej akcji kartowania grzybów wyższych w krajach socjalistycznych Europy. Podkreśla nierównomierność otrzymywanych danych nawet w tak dobrze pracujących w tym kierunku krajach, jak Czechosłowacja, Węgry, Rumunia, Jugosławia i Polska. Zaleca przeprowadzanie badań w nieznanymi mikologom okolicach w celu usunięcia „białych plam” na mapach. Omawia wstępnie dane mówiące o rozprzestrzenieniu 24 gatunków grzybów. Wskazuje na konieczność rozszerzenia informacji dotyczących ekologii wybranych grzybów dla umożliwienia wyciągnięcia ogólnych wniosków.

Komunikuje również o obietnicy włączenia się radzieckich mikologów do akcji kartowania, a także o zmianie na stanowisku jugosłowiańskiego sprawozdawcy, którym — po śmierci V. Lindtnera — została mgr Milica Tortić.