

TWO HUNDRED YEARS OF LICHENOLOGY IN CZECHOSLOVAKIA

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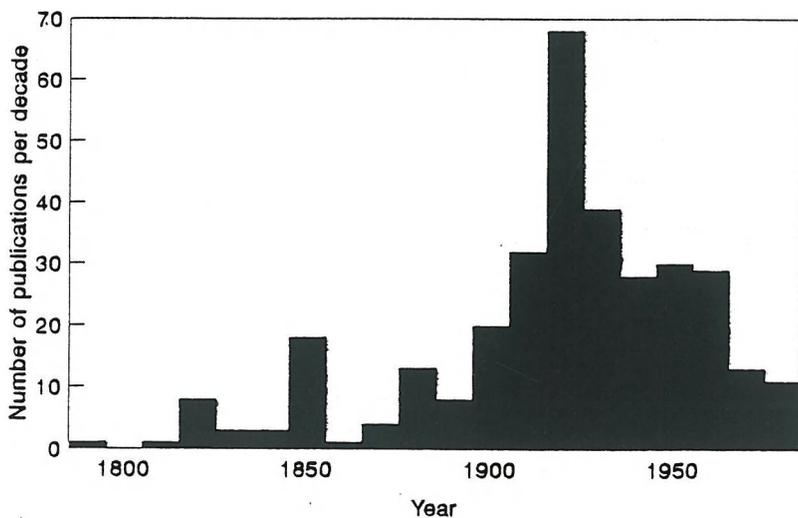
Investigation of lichens in Czechoslovakia has a relatively long tradition. In 1991 there was the 200th anniversary of the first two published records on lichens from the territory of present Czechoslovakia, one from the Czech Republic, and the other from the Slovak Republic. In spite of differences in further history of investigations in the western and eastern part of Czechoslovakia, the origin was strikingly coincidental.

In 1791 Tadeáš Haenke published a report on his journey to Krkonoše (Riesengebirge) in which some lichen species from Mt Sněžka were mentioned (Haenke 1791). In the same year, Štefan Lumnitzer published floristic data from the vicinity of Bratislava with a list of 55 lichen species (Lumnitzer 1791). Both papers dealt chiefly with flowering plants, but lists of some cryptogams including lichens were added. The first purely lichenological publication was the list of lichens from the territory of Bohemia by Mann (1825). In Slovakia (Upper Hungary that time), the first purely lichenological papers were published by Hazslinszky (1859a, b, c), dealing with lichens of the High Tatra Mts. and other mountain ranges.

Catalogue by Vězda (1980 - manuscript) excerpted 777 publications by Czechoslovak as well as foreign lichenologists and reported 1833 lichen species in 201 genera from the present territory of Czechoslovakia. I used this catalogue for an estimation of intensity of lichenological investigations in different time periods separately for the Czech and Slovak republics. This intensity is expressed as the total number of floristic and taxonomic papers by Czechoslovak and foreign lichenologists concerning Czechoslovak lichen flora in each decade (i.e. ecological papers, taxonomic monographs, exsiccata etc. are not included). In a figure concerning Bohemia and Moravia, i.e. the Czech republic today (Fig. 1), three peaks in the nineteenth century are visible: the twenties (period of W.Mann and Ph.M.Opiz), the fifties (Ph.M.Opiz, G.W.Koerber, J.von Flotow etc.) and the eighties (E.Bayer, P.Hora, J.Novák, V.Spitzner etc.) - see Bayer (1922). In the first half of the twentieth century, intensive investigation of Bohemia and Moravia was done by well known lichenologists: J.Anders, F.Kovář, V.Kučák, A.Hilitzer, J.Podzimek, J.Suza, M.Servít, J.Nádvořník and Z.Černošský. The highest intensity was in the twenties; a distinct decline of the activity later was due to a) death of the old lichenological generation (F.Kovář, J.Anders, A.Hilitzer and later V.Kučák, J.Podzimek, J.Suza and M.Servít), b) concentration of the Czech lichenologists on investigations in Slovak mountains (J.Suza, A.Vězda), c) specialization, i.e. a shift from floristic to taxonomic studies (M.Servít, J.Nádvořník, Z.Černošský, A.Vězda). Likewise a significant decline in the activity of lichenological amateurs after the 2nd World War was important. The most obvious decrease took place in two last decades. A way how to change this trend would be to stimulate interest in lichens among amateurs and especially students. Hopefully the Bryological and Lichenological Section of the Czechoslovak Botanical Society established in 1988 will play a role.

History of the investigation of the Slovak lichen flora (Fig. 1) was different. In the nineteenth century, lichenological papers are rather rare and a more intensive lichenological research began as late as in the sixties (F.Hazslinszky, H.Lojka) and in the nineties (A.Zahlbruckner). In the twentieth century there was a rapid increase

Czech Republic



Slovak Republic

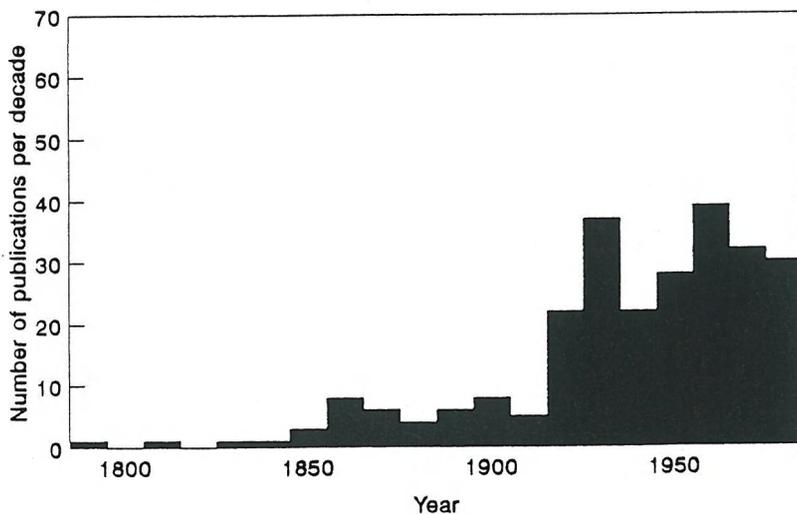
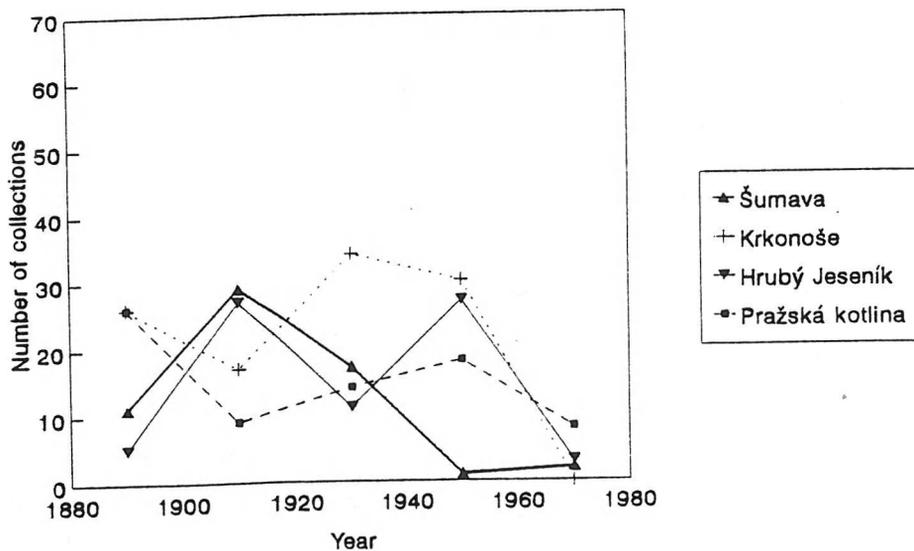


Fig. 1 Decadal output of publications up to the end of 1980 relating to the Czech and Slovak lichen floras.

Czech Republic



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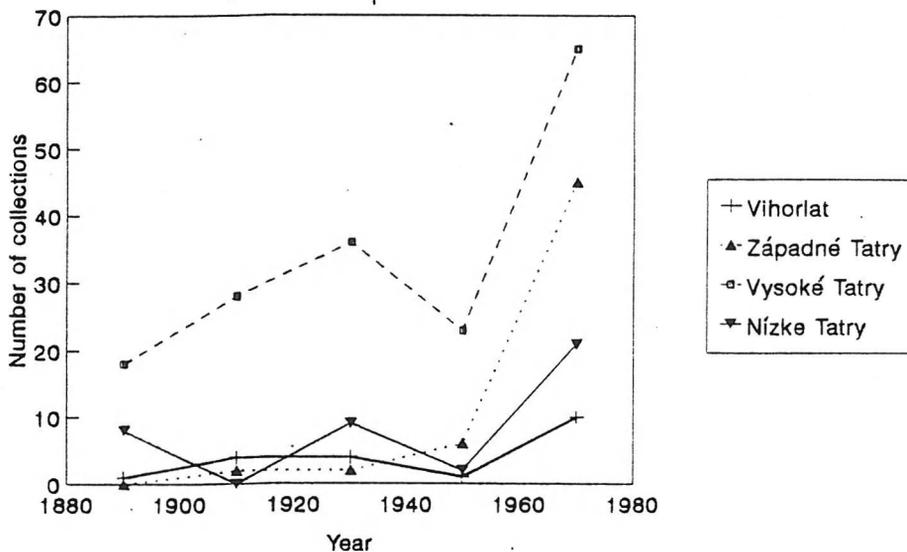


Fig. 2 Time changes of the total numbers of collections of *Lasallia pustulata*, *Umbilicaria cylindrica*, *U. deusta*, *U. hirsuta*, *U. polyphylla* and *U. vellea* in selected mountains of the Czech and Slovak Republics.

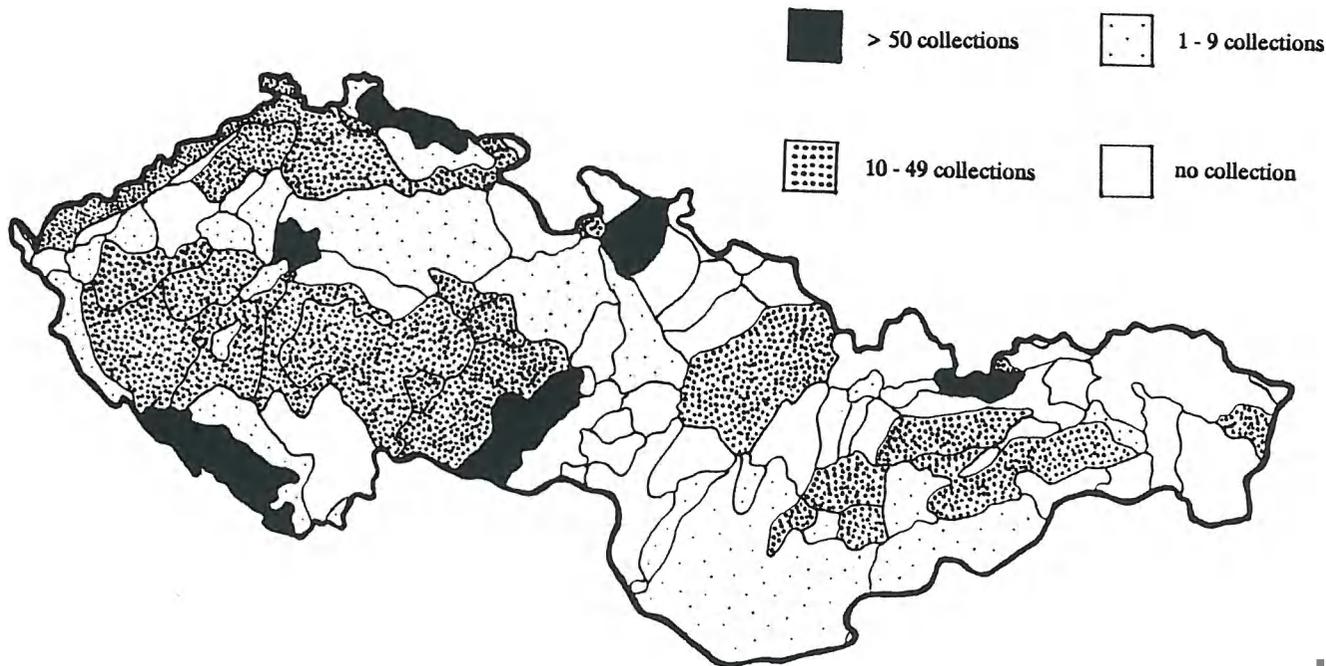


Fig. 3 Knowledge of regional lichen floras of Czechoslovakia expressed as a total number of collections of selected *Umbilicariaceae* in plant geographic areas of Czechoslovakia.

in the twenties and in the thirties owing to Hungarian (Ö.Szatala, V.Gyelnik) and Czech lichenologists (namely J.Suza). Another distinct peak occurs in the sixties (A.Vězda, L.Pišút); later the intensity of lichenological research remains high owing to a new generation of Slovak lichenologists (students of L.Pišút: Eva Lisická and A.Lackovičová).

The above presented view on history of lichenological investigation of Czechoslovak lichen flora using only number of published lichenological papers did not take in account quality, i.e. content of these papers (number of species etc.). Further, the timing of publications is not always in a good correlation with the intensity of lichenological activity in the field. Therefore the intensity of the lichenological research could be expressed as a number of lichen specimens in herbaria and detailed analysis can yield estimation of knowledge of regional lichen floras. A methodological approach using mosses was published by Pospíšil (1987) - analysis of specimens of different lichen species selected in regard to their chorology, phytogeography, ecology etc. However, papers dealing with distribution of lichens in the whole Czechoslovakia are rather rare (in contrast to e.g. in bryology). Therefore I used a paper on distribution of the species family *Umbilicariaceae* in Czechoslovakia (Lisická 1980); six species were taken for further evaluation: *Lasallia pustulata*, *Umbilicaria cylindrica*, *U. deusta*, *U. hirsuta*, *U. polyphylla*, and *U. vellea*. However, all these species occur on non-calcareous rocks only and limestone regions as well as regions with few rock habitats are therefore underestimated. On the other hand, none of these species is endangered nor highly susceptible to present changes of environment. Moreover, all species are conspicuous lichens collected more often than other, less conspicuous ones. We suppose that *Umbilicaria* spp. were collected more frequently even by non lichenologists and results are perhaps overestimated; therefore, the real knowledge of lichen floras of various regions is actually slightly lower.

First, total frequency of collections of all species in different regions in time periods of two-decades can be examined (Fig. 2). Despite the irregularities in the overall course through time, the total number of collections in the last decades strongly declines for all Bohemian (Šumava, Krkonoše, surroundings of Prague) and Moravian regions (Hrubý Jeseník). On the other hand, the intensity of collections in Slovak mountains (Vysoké Tatry, Západné Tatry, Nízke Tatry) has recently increased rapidly (Fig. 2). Map of Czechoslovakia made in this way show regions differing in total number of records (Fig. 3). The regions with higher research intensity are generally attractive regions (mountains) as well as some specific regions, e.g. with high concentration of lichenologists (surroundings of Prague).

This rough analysis of herbaria confirmed results based on published papers. In contrary to Slovakia, knowledge of the present state of lichen flora in the Czech Republic is low. This scarcity is very important in view of present changes in the lichen flora (especially epiphytic) and e.g. compilation of red list grapples with many problems.

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