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Autor: Domin, Karel

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# The Beech Forests of Czechoslovakia.

By Karel Domin, Praha.

The study of our beech forests from the sociological and ecological standpoints is not, as yet, finished even in rough outline. Therefore, I am endeavouring here to give, for the first time, a geobotanical synopsis of the Czechoslovakian beech forests based upon my own experiences gained in various parts of our Republic, and upon the synthetic works done by other authors. This paper is but a general survey, since a monographic treatment of these characteristic forest types would fill a thick volume.

## I. Area covered by beech forests in Czechoslovakia.

According to the latest statistics, of 1920, the forests in Czecho-slovakia cover an area of 4,662.790 ha or 33.19% of the whole country's area. It is therefore quite evident that Czechoslovakia is a typical forest country. At the beginning of historic times, almost all of the Republic was covered by one continuous virgin forest, with the exception of some steppe areas in the Bohemian valley of the Labe (Elbe) River, in southern Moravia, in southern Slovakia, and in southern Subcarpathian Russia.

Striking to-day is the predominance of the coniferous forests in the Sudetic-Hercynian regions — in Bohemia 85,96% of the whole forest area is coniferous. However, in the Carpathian region, the deciduous forests cover a far greater area than do the coniferous forests. As we approach the deciduous and mixed forests, we notice their striking increase eastward. Deciduous and mixed forests occupy 14,24% of the entire forest area in Bohemia, 37,45% in Silesia, 39,98% in Moravia, 69,42% in Slovakia and 77,67% in Subcarpathian Russia.

Beech forests are most abundantly developed in Subcarpathian Russia where they take up 58,9% of the forest-covering while in Slovakia 32,1%, whereas in Silesia only 9,8%, in Moravia 8,2%, and

in Bohemia 2,0%. Therefore only 20,7% of the Republic's entire forest area is taken up by the beech forest.

As I once described in detail (1), Bohemia, with the exception of some parts of the Labe valley and the Středohoří Mts., at the beginning of historic times was covered by one continuous virgin forest interrupted here and there by swamps and peat bogs. Predominant in this forest almost everywhere were mixed forest growths, mostly with beech. Only in the highest zone of mountain forests the pure coniferous forest was present. However, the conifers have always had a marked significance in Bohemia, greater than in the Carpathians. Here in the Carpathian region the coniferous forests (mostly spruce) dominate only in the Central Carpathians from Orava to Eastern Beskydes, while the beech dominates in the broad band in the external Carpathian range from Bratislava on the Danube to the most eastern boundaries of Subcarpathian Russia. In the lower, inner range, mixed oak forests predominate, interrupted locally by the beech which sometimes comes down to the very edge of the lowlands.

Czechoslovakia is a classic land for the study of beech forests. Here they are richly developed in vast areas, found in the most diverse altitudinal zones, on all kinds of geological substrata, and under very different climatic conditions. Furthermore, they are most instructive in the Carpathians, especially in Subcarpathian Russia, where vast virgin forests have been preserved to this day together with forests but little disturbed by human influences.

### II. Altitudinal limits.

The lower limit of the beech forests is at about 200 meters, sometimes, as an exception, even lower. This is true at Onakovce in Subcarpathian Russia where a beech growth is found at 124 meters — absolute minimum. The beech alone, however, is sometimes found in other forest growths below the 200 meters limit, as for instance on the andesitic Kováčov hills on the Danube where it comes down to 130—120 meters, and in Subcarpathian Russia at Velké Lazy (district Užhorod) to 119 meters.

The upper limits of the beech and beech forest are quite clear in the Carpathians, but not always so clear in the Sudetic-Hercynian