

# Floristic mapping of the city of Zürich on a 1 km<sup>2</sup> scale

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## Abstract

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Floristic survey of the city of Zürich was carried out from 1984 to 1998 on a square kilometer base. It covered an area of 122 km<sup>2</sup>. To assess possible floristic changes between 1839 and 1998, the survey protocols were compared with the data from literature (mainly Kölliker, 1839; Naegeli & Thellung, 1905; Baumann, 1933) and herbaria (Z, ZT). The results of the study are compiled in a series of taxonomic papers (Landolt, 1994-1999), and summaries (Landolt, 1992, 2000). A book on the "Flora der Stadt Zürich (1984-1998)" (Landolt, 2001) contains introductory chapters to the Zürich flora and keys to each species as well as drawings and distribution maps. Historic data as well as information on habitat, distribution and actual threat is added to each plant species.

On the whole, the « flora » includes nearly 2000 species. Of those, 1210 are either indigenous or introduced and subsequently naturalized. About one-fourth of the established species occur in more than half of the square kilometers, whereas one-third was found in less than 6 % of the units. The species number per square averages 451, ranging from 294 to 607. Of the 1210 presently established species, 58 % are indigenous species (idiochorophytes), 19 % archaeophytes, and 23 % neophytes. Within the developed parts of the city neophytes correspond to about half of all species. The group of extinct species includes 60 % indigenous species, 38 % archaeophytes and 2 % neophytes. Today, archaeophytes seem to be particularly threatened. Comparison with literature and herbaria references revealed, that 26 % of all species are today as frequent as in 1839, 32 % increased or became newly naturalized, but 42 % decreased in frequency or became extinct. Extinct species amount to 188, newly introduced ones to 294. Compared to the newly established species, the extinct ones have higher indicator values (after Landolt, 1977) for nutrient content and temperature, and lower values for continentality. These differences indicate that the environment has changed within the last 160 years towards higher soil nutrient content, higher temperatures, and milder winters.

## MOTS-CLÉS

inventaire floristique  
Zürich  
espèces indigènes  
archéophytes  
néophytes  
changements floristiques

## KEYWORDS

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