

## ABSTRACT

During the revision of epiphytic species of the *Lecanora subfusca* group in the Czech Republic, nine taxa have been recorded. *L. cinereofusca* and *L. exspersa* are reported for the first time from the country. *L. circumborealis* has been excluded from the list of Czech lichens. *L. cinereofusca* and *L. horiza* could be considered as extinct. *L. rugosella* and *L. subrugosa* are regarded as extreme morphological forms from *L. chlarotera* and *L. argentata*. These morphotypes correlate with ecological conditions: substrate (nutrient enriched bark) and habitat (eutrophication effect). In case of *L. subrugosa*, this speculation was confirmed by molecular data (ITS rDNA sequences). Several new secondary metabolites have been discovered during the detailed research of chemical lichen compounds. These substances belonging to terpenoids are taxonomically important and very helpful for distinguishing single species. The abundance of *L. allophana* and *L. chlarotera* has decreased during last decades. Contrarily, *L. pulicaris* expanded slightly. The main reasons of changes in distribution are air pollution and acidification of substrates as the impact of acid rains. The rate of substrate acidification has been shown on example of *L. pulicaris*. In the past, this lichen predominated on acid-barked porophytes. Nowadays, it grows mainly on trees with slightly acid and subneutral bark.

**Key words:** bark pH, biodiversity, chemotaxonomy, distribution, ecology, extreme morphological forms, ITS, new floristic records, terpenoids, substrates acidification, TLC