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Lonicera periclymenum L.

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Usefulness of phyllotaxis in the taxonomy of the *Epipactis purpurata* species complex

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Modern phylogenies of orchids combined both the molecular and morphological markers; the latter being of importance as general species morphology is still used to identify and verify the material for all other experimental and taxonomic approaches. Therefore, the choice and validation of accurate distinguishing characters is significant for further taxonomic revisions. We analyzed the leaf arrangement (phyllotaxis) which is one of the vegetative characters widely quoted in orchid manuals but not sufficiently examined in terms of diversity and developmental changeability in reference to particular taxonomic groups. The object of our study was the genus *Epipactis* Zinn, 1757. Typical phyllotaxis in shoots of this genus is reported as distichous when leaves are arranged in two ranks along the stem, or spiral. However, results of field research coupled with screening/analyses of herbarium materials unquestionably disproved the presence of distichous phyllotaxis in the species *Epipactis purpurata* Sm. and confirmed the prevalence of the spiral Fibonacci pattern. In addition, we documented for the first time in this genus an atypical decussate phyllotaxis and the formation of pseudowhorls. These findings are another examples of ontogenetic variability and plasticity in *E. purpurata*. Our results are discussed in the context of their significance in delimitations of complex taxa within the genus *Epipactis*.