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| Abh. Ber.<br>Naturkundemus.<br>Görlitz | Band 72<br>Suppl. | S. 11 | 2000 |
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ISSN 0373-7586

## The *Hieracium echioides* group in Central Europe

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Two species, *Hieracium echioides* LUMN. and *H. rothianum* WALLR., are included in the present study. *Hieracium echioides* is distributed in Central and Eastern Europe and in the steppe region of Asia. Westwards, it reaches Central Germany, the Czech Republic and eastern Austria. *H. rothianum* is an intermediate type linking *H. echioides* and *H. pilosella*, more closely resembling *H. echioides*. Its distribution range, at least in some regions, overlaps with that of *H. echioides*.

The objectives of our study are: (i) to prepare a list of localities of both target species in Central Europe, (ii) to ascertain chromosome numbers and mode of reproduction in selected European populations – and if there is a geographical pattern of the distribution of particular cytotypes (several cytotypes have been reported in literature, i.e., diploids, triploids and tetraploids), (iii) to test whether karyological differentiation is congruent with patterns of morphological variation, and (iv) to elucidate the origin of *H. rothianum* populations – whether they are of polytopic hybrid origin or if the recent geographical distribution is a result of migration from one genetic centre.

The preliminary results show that all previously reported cytotypes of *H. echioides* occur within the territory of the Czech Republic and Austria. Two or three cytotypes were found to co-occur at many localities, with the exception of localities with relic character, where only diploids were found (e.g., Mohelno in western Moravia). Only diploids were found in Hungary. Morphologically, populations from the Czech Republic and Austria are rather invariable. Distinct types represent populations from north-eastern Germany (Brandenburg) with densely-haired inflorescence and upper part of stems. Diploids and tetraploids of *H. echioides* were found to be sexual and allogamous as shown by emasculation and isolation experiments with free pollination. Triploids after isolation of inflorescences did not produce viable achenes. No comparable results from free pollination are available yet. Therefore, no decision between allogamy and sterility can be made.

*H. rothianum* is morphologically variable, e.g., some populations from the Czech Republic differ markedly from type material (Germany). It seems to be tetraploid only ( $2n=36$ ); all studied plants from the Czech Republic and Slovakia were proved to be agamosperous.