

# CLONE STRUCTURE AND ORGANIZATION OF THREE EXPANSIVE NORTH AMERICAN *SOLIDAGO* SPECIES

by

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The present study is complementary to the previous papers on geographical distribution and habitat analysis of *Solidago gigantea* Ait., *S. canadensis* L. s. l. and *S. graminifolia* (L.) Salisb. in Poland (2) as well as biological reasons for the expansion of the first two species (1).

Detailed data for about 30 *S. gigantea*, *S. canadensis* var. *canadensis* and *S. altissima* L. (= *S. canadensis* L. var. *scabra* /Muhl. / Torr. et Gray) clones, located at Mississauga, Ontario, Canada, and for 80 clones from a few localities in southern Poland as well as for 40 clones existing in culture at the experimental garden at Szarów (East of Cracow, S Poland) were collected during 1980-1986. The observations and measurements were repeated in the course of (2-) 3 growing seasons for most of the clones.

At present, work on specification of a computer programme has been started. Clone characteristics which seem to be more important have been selected (age, size and shape of a clone area, stem height and density, percentage of generative stems, health of a clone, biomass, etc.). Indices which reflect those relations for clones of known origin and age (from an experimental garden) will be used next, among others, for estimation of the age of clones investigated in field conditions, as well as to compare analogous interdependent characteristics for clones growing in experimental and field conditions.

Generally it seems that — independent of the close relationship and morphological similarity of the species — some different biological characteristics of a particular species lead to a distinct pattern of clone increase or its structure and function.

## References

1. Guzikowa, M. (msc.). Biological reasons of *Solidago gigantea* Ait. and *S. canadensis* L. s. l. expansion in Poland.
2. Guzikowa, M., Maycock, P. F. 1986. The invasion and expansion of three North American species of goldenrod (*Solidago canadensis* L. sensu lato, *S. gigantea* Ait. and *S. graminifolia* /L. / Salisb) in Poland. Acta Soc. Bot. Pol. 55 (3): 367-384.

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