



Polish Botanical Studies

Vol. 10, 1995

STRUCTURE, DYNAMICS AND POPULATION BIOLOGY OF DENTARIA GLANDULOSA (CRUCIFERAE)

DANUTA TUMIDAJOWICZ

Pol. Bot. Stud. 10: 3-26, 1995

STRUCTURE, DYNAMICS AND POPULATION BIOLOGY OF *DENTARIA GLANDULOSA* (CRUCIFERAE).

I. LIFE HISTORY IN RELATION TO HABITATS VARIABILITY

DANUTA TUMIDAJOWICZ

Abstract: The paper is the first part of a monograph dealing with population biology of *Dentaria glandulosa* W. et K. The characteristic site conditions and genet and module life cycles of *Dentaria glandulosa* are described. The results obtained enable both a quantitative and qualitative modelling of developmental stages of individuals as well as description of long-term dynamics of above-and underground parts.

Key words: Cruciferae, *Dentaria glandulosa*, life cycles, life history, long-term population dynamics, perennial

Danuta Tumidajowicz, Botanic Garden, Institute of Botany, Jagiellonian University, Kopernika 27, 31-501 Kraków, Poland

Pol. Bot. Stud. 10: 27-43, 1995

STRUCTURE, DYNAMICS AND POPULATION BIOLOGY OF *DENTARIA GLANDULOSA* (CRUCIFERAE).

II. SIZE, AGE AND SPATIAL STRUCTURE

DANUTA TUMIDAJOWICZ

Abstract: Size, age and spatial structure of *Dentaria glandulosa* W. et K. in three locations (Ojcow, Ponice, Grzeskowki) are analyzed with special attention paid to both the short-living aboveground parts and persistent underground ones. The morphology and height structure of the aboveground parts were analyzed. The density of individuals, vertical and horizontal

distribution of underground organs, their morphology, frequency distribution of length and thickness of rhizomes were also assessed. Developmental stages of individuals and age-structure of annual segment increments in particular populations were considered.

Key words: Cruciferae, *Dentaria glandulosa*, age-structure, demography, size-structure, spatial structure

Danuta Tumidajowicz, Botanic Garden, Institute of Botany, Jagiellonian University, Kopernika 27, 31-501 Kraków, Poland

Pol. Bot. Stud. 10: 45-60, 1995

**STRUCTURE, DYNAMICS AND POPULATION BIOLOGY OF
DENTARIA GLANDULOSA (CRUCIFERAE).
III. EFFECTIVENESS OF GENERATIVE AND VEGETATIVE REPRODUCTION**

DANUTA TUMIDAJOWICZ

Abstract: In the present paper, issues on flowering, fruiting and effectiveness of generative and vegetative reproduction of *Dentaria glandulosa* W. et K. are discussed, based on multi-year observations. It was also attempted to compare potential and real reproduction characteristics.

Key words: *Dentaria glandulosa*, population biology, effectiveness of generative and vegetative reproduction

Danuta Tumidajowicz, Botanic Garden, Institute of Botany, Jagiellonian University, Kopernika 27, 31-501 Kraków, Poland

Pol. Bot. Stud. 10: 45-60, 1995

**STRUCTURE, DYNAMICS, AND POPULATION BIOLOGY OF *DENTARIA
GLANDULOSA* (CRUCIFERAE).
IV. BIOMASS, PRIMARY PRODUCTIVITY AND MULTI-YEAR DYNAMICS
OF UNDERGROUND ORGANS**

DANUTA TUMIDAJOWICZ

Abstract: The paper describes biomass dynamics of above- and underground organs of *Dentaria glandulosa* W. et K., as well as net primary productivity of all herb layer species in the stand of *Dentaria glandulosae-Fagetum* in yearly and seasonal cycles. The length and mass of particular segments of annual growth were correlated, based on multi-year dynamics of fresh and dry mass of under- and aboveground organs. Long term studies on developmental rhythmicity enabled the yearly cycles and activities of under- and aboveground organs for mountain and non-mountain populations to be assessed.

Key words: *Dentaria glandulosa*, abundance dynamics, biomass, cycles of biological activity, herb layer, primary productivity, underground and aboveground organs

Danuta Tumidajowicz, Botanic Garden, Institute of Botany, Jagiellonian University, Kopernika 27, 31-501 Kraków, Poland