

LATE PLEISTOCENE LOCALITY OF *KOENIGIA ISLANDICA* L.
IN POLANDPóźnoplejstocenijskie stanowisko *Koenigia islandica* L. w Polsce

The *Koenigia islandica* L. (*Polygonaceae*) is a small annual plant, with a circumpolar distribution; it does not grow in the mountains of Central Europe. It is known from many stands in the Scandinavian mountains and from North Scotland, also from the mountains of Central Asia and Southern Hemisphere (Hultén 1950, Godwin 1956). „In the Arctic it is common on sandy or muddy sea or lagoon shores, on the margins of fresh-water pools, and on open, muddy areas such as the surface of polygons” (Godwin 1956 after Polunin 1940). In Spitsbergen, it is growing on marshes together with such plants as: *Ranunculus hyperboreus*, *Chrysosplenium tetrandrum*, *Cerastium Regelii*, *Cardamine pratensis*, *Saxifraga stellaris*, *S. rivularis*, *S. caespitosa* and others (Śröder 1960).

Pollen grains of *Koenigia islandica* were noted by Miss R. Andrew (Godwin 1956) from Late-glacial sediments of Scotland and next by Hafsten (1958) from South Norway.

The pollen of that plant was found in Poland at Zator (230 m above sea-level), which is located at the foot of the West Carpathian Mountains.

They derive from the sediments, which belong to the terrace of the Last Glaciation (Würm), dated by means of radiocarbon older than 40 000 years B. P. (Taubert 1961). The profile of the terrace is 9 m high and can be distinguished by the following layers:

soil (60 cm),

loess-like clay partly laminated (470 cm),

loess-like detritus mud with thin layers of peat, partly laminated (340 cm),

grey clay with particles of Flysch (15 cm),

fluvial Flysch gravel.

Pollen grains of *Koenigia islandica* were found in peat mud in several samples. They have spheroidal shape with a diameter of 25,5 μ and 26 μ . With 10 to 12 elongated pores and spiny sculpture of the exine. These features and also the same thickness of the sexine and nexine, the measurement of the pore (2 μ), and the length of the spines (ca 1 μ) are the

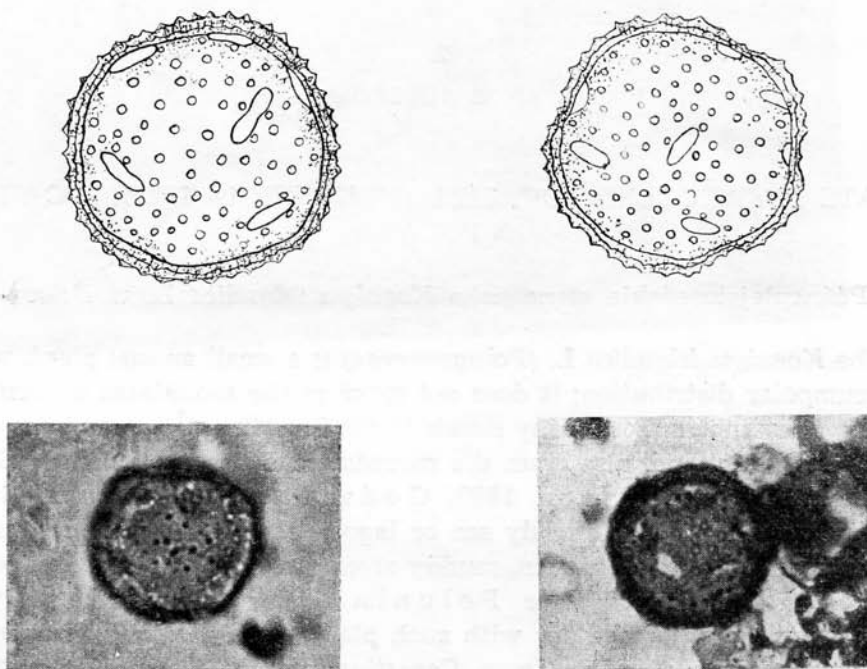


Fig. 1. The subfossil pollen grains of *Koenigia islandica* L. from Zator. 850 \times .

same as given by Hedberg (1946), Erdtman (1952) and Hafsten (1958), and also in conformity with the features of the recent pollen grains of the plants from Spitsbergen.

The pollen spectrum from Zator (tab. 1) containing pollen of *Koenigia* represents treeless shrubby tundra.

The fossil stand of *Koenigia islandica* at Zator is located at a distance of about 1,300 km from the southern most part of the recent stands in the Scandinavian mountains.

Tabela 1

TWO POLLEN SPECTRA FROM ZATOR CONTAINING THE *KOENIGIA ISLANDICA* L.
POLLEN GRAINS

Dwa spektra pyłkowe z Zatoru, zawierające ziarna pyłku *Koenigia islandica* L.

	N° 9	N° 10		N° 9	N° 10
<i>Pinus t. sivestris</i>	4,4	2,1	<i>Gentiana</i>	—	0,06
<i>Pinus cembra</i>	2,1	2,1	<i>Geranium</i>	0,3	—
<i>Betula t. alba</i>	1,6	2,9	<i>Gramineae</i>	59,1	61,4
<i>Betula t. carpatica</i>	5,1	4,1	<i>Helianthemum</i>	0,1	—
<i>Betula t. nana</i>	1,1	0,8	<i>Koenigia islandica</i>	0,1	0,1
<i>Salix</i>	2,2	2,4	<i>Labiatae</i>	0,4	0,4
<i>Juniperus communis</i>	0,1	0,06	<i>Liliaceae</i>	—	0,06
<i>Aconitum</i>	0,1	—	<i>Myriophyllum</i>	—	0,06
<i>Alisma</i>	—	0,06	<i>Plantago t. maior</i>	—	0,06
<i>Alium</i>	—	0,06	<i>Polygonum viviparum</i>	2,9	2,5
<i>Armeria</i>	0,3	0,1	<i>Polypodiaceae</i>	0,1	0,1
<i>Artemisia</i>	1,1	0,5	<i>Polemonium</i>	1,1	0,5
<i>Batrachium</i>	2,0	1,1	<i>Potamogeton</i>	0,1	0,5
<i>Botrychium</i>	0,3	0,1	<i>Ranunculaceae</i>	0,6	0,8
<i>Campanulaceae</i>	0,1	0,1	<i>Rosaceae t. Comarum</i>	0,1	0,2
<i>Caryophyllaceae</i>	0,6	0,5	<i>Rosaceae t. Geum</i>	0,2	0,1
<i>Chenopodiaceae</i>	0,1	0,4	<i>Rubiaceae</i>	—	0,2
<i>Compositae Tubiflorae</i>	4,5	1,2	<i>Saxifragaceae</i>	1,0	1,2
<i>Compositae Liguliflorae</i>	0,1	0,2	<i>Sparganium</i>	0,1	—
<i>Cruciferae</i>	1,4	1,7	<i>Thalictrum</i>	0,7	0,6
<i>Cyperaceae</i>	3,8	8,3	<i>Umbelliferae</i>	—	0,06
<i>Epilobium</i>	0,3	0,06	<i>Valeriana cf. offic.</i>	0,1	0,2
<i>Equisetum</i>	1,1	0,4	<i>Veratrum</i>	0,1	0,06

N° 9 — AP+ NAP = 1210; AP: NAP = 16,8 : 83,2

N° 10 — AP+ NAP = 1683; AP: NAP = 14,5 : 85,5

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STRESZCZENIE

PÓŻNOPLEJSTOCENSKIE STANOWISKO KOENIGIA ISLANDICA W POLSCE

Podczas wykonywania analizy pyłkowej osadów z Zatora, wchodzących w skład terasy wieku ostatniego zlodowacenia, znaleziono ziarna pyłku *Koenigia islandica* L. Spektra pyłkowe zawierające te ziarna reprezentują bezleśną tundrę krzewinkową. Współczesny zasięg *Koenigia islandica* ograniczony jest do Arktyki, Gór Skandynawskich, północnej Szkocji oraz gór Środkowej Azji. Stanowisko kopalne *Koenigia* z Zatora znajduje się w odległości około 1300 km od najbardziej na południe wysuniętych współczesnych stanowisk tej rośliny w Górach Skandynawskich.

