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Polygonum polystachyum Wall. ex Meissner in Poland: status, distribution, habitats

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Abstract: The study sums up the data gathered to-date on the distribution in Poland of an interesting synanthropic species – *Polygonum polystachyum*. The distribution of this species in Poland was described and the numbers of existing populations were estimated. The habitats were described in detail and the status of the species in the Polish flora was discussed.

Key words: *Aconogonon polystachyum*, *Polygonum polystachyum*, distribution, kenophytes, Poland

1. Taxonomy, morphology and the range

Polygonum polystachyum Wall. ex Meissner (= *Aconogonon polystachyum*, *Persicaria polystachya*, *P. wallichii*, *Pleuropterypyrum polystachyum*, *Reynoutria polystachya*, *Rubrivena polystachya*) is the only representative of the section *Aconogonon* Meissner occurring in Poland. No consensus has been reached yet on the name and systematic position of this species. According to Wisskirchen & Haeupler (1998), the correct name of this species should be *Aconogonon polystachyum* (Wall. ex Meisn.) Small (and not "Aconogonum" or "Acontogonum"!).

Polygonum polystachyum is not listed in the *Rośliny polskie* (Szafer *et al.* 1953), whereas in the *Flora Polski* (Zając 1992) it is regarded as an ephemerophyte. In a critical checklist by Mirek *et al.* (2002) this species has not been mentioned either.

Morphological description (Fig. 1): Perennial. Shoots erect, strong, 60-120 (200) cm high, growing outwards from branched underground rhizomes. Leaves 10-20 x 3-8 cm, oblong-lanceolate, acuminate, truncate or shortly cuneate at the base, glabrous or pubescent underneath, usually with red veins. Ochreae brown, thick, persistent, entire. White, fragrant flowers, bisexual, in the form of broad, loose and sometimes leafy top panicles with a red axis. Three styles, 8 stamens. Fruit – trigonous nut (they are probably not set in Poland, because of the very late flowering of this species).

Polygonum polystachyum is an Asian species originating from the Himalayas and cultivated in gardens as an ornamental plant. Webb & Chater (1964) regard *P. polystachyum* as the species established in the central and north-western parts of Europe (e.g. in Great Britain, Denmark, the Netherlands, Germany, France and Austria). Outside of Europe, the species is reported for

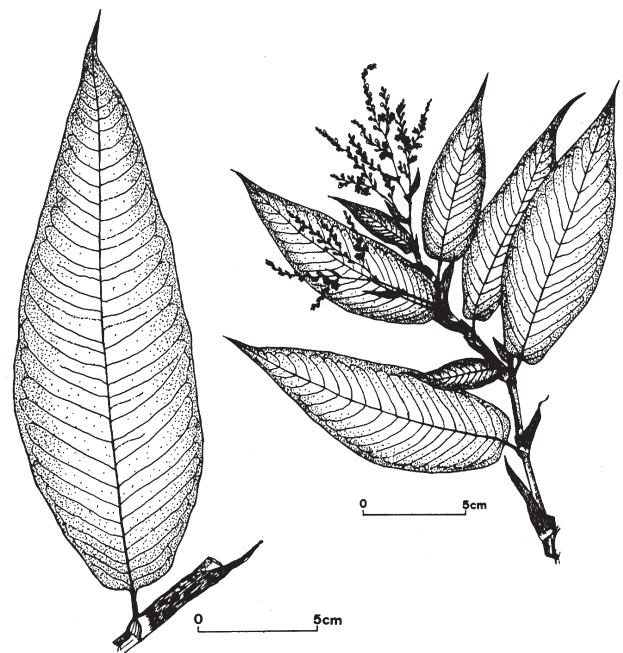


Fig. 1. *Polygonum polystachyum* Wall. ex Meissner – leaf, inflorescence (oryg.)

example from North America, where it occurs on the north and central coast, from California to Canada, at some places in the United States it is a persistent weed, very difficult to uproot.

2. Distribution and habitats in Poland

The first report on this species from Poland was probably that of Schube (1927), from Głuchołazy in the Silesia region (square CF-31 in the ATPOL grid). The locality was cited (with the wrong date of publication) by Michalak (1981). Later the species was reported in the Walim locality near Jedlina Zdrój (BE-94) and Mąkolno near Złoty Stok (BF-27) (Schube 1930).

In the 1970s, *P. polystachyum* was collected in the ruins of the Budniki – near Karpacz in the Karkonosze Mts. (square BE-80 in the ATPOL grid; coll. K. Rostański – Flora Silesiaca Exsiccata, specimens in KRAM); this site was published (Rostański 1977). In the recent years *P. polystachyum* was found in five localities (Fig. 2):

Niepołcko near Barlinek (Bacieczko 1997); square AC-27 in the ATPOL grid. A small population (ca. 50

shoots) occurs there at the edge of a neglected mansion park. The plants do not flower; the accompanying species are predominantly nitrophilous perennials such as *Aegopodium podagraria*, *Urtica dioica* and *Rumex obtusifolius*.

Górki Wielkie near Brenna (coll. A. Sendek – herbarium materials in KRA); square DF-91 in the ATPOL grid. Several separate patches, among other places upon the Brennica river, along the road leading to the church, near the cemetery. A highly numerous population showing a tendency to spread. Occurs in all these locations on sites evidently disturbed by human impact and accompanied by common native and synanthropic species, such as: *Arrhenatherum elatius*, *Dactylis glomerata*, *Lolium perenne*, *Daucus carota* and *Impatiens parviflora*.

Wielkie Drogi near Skawina (S. Gawroński, oral communication); square DF-78 in the ATPOL grid. Large population on the bank of a pond, almost completely dried-up and overgrown by vegetation (principally by reeds), at the edge of a former park surrounding a mansion (near the road to Pozowice). According to the oral communication of a resident of

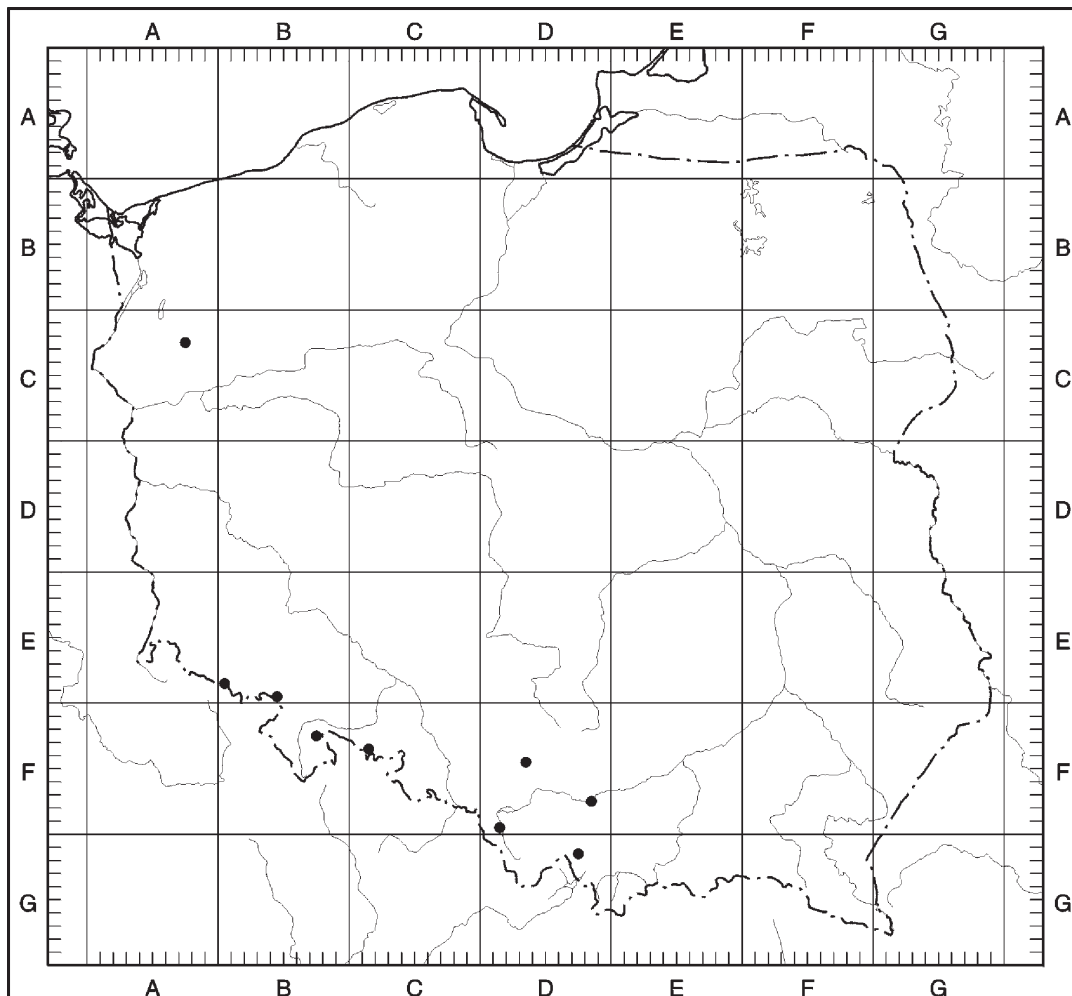


Fig. 2. Distribution map of *Polygonum polystachyum* Wall. ex Meissner in Poland in the ATPOL grid square system

the village, this site has been occupied by the species for at least 70-80 years. The plant evidently extends its range in the area. Among the co-occurring species the following ones were recorded: *Aegopodium podagraria*, *Artemisia vulgaris*, *Chelidonium majus*, *Epilobium hirsutum*, *Galium aparine*, *Geum urbanum*, *Lamium album*, *Lapsana communis*, *Rubus caesius*, *Sambucus nigra*, *Urtica dioica*. Also noteworthy are: *Telekia speciosa* – a species often planted in the past in the gardens as an ornamental plant, and expansive kenophytes growing nearby: *Echinocystis lobata*, *Impatiens glandulifera*, *Parthenocissus inserta*, *Reynoutria japonica*, *Robinia pseudacacia*, *Rudbeckia laciniata* and *Solidago gigantea*.

Zawoja; square DG-17 in the ATPOL grid. A small population situated on the edge of a path near the redmarked tourist path, opposite the old church. The Himalayan knotweed was undoubtedly planted here and has not shown the signs of expansion (the locality has been monitored since the 1980s).

Katowice – at Piastowska street, near a „Pizza Hut” restaurant; square DF-43 in the ATPOL grid. The station had been monitored in the 1990s, but later it

was destroyed during the construction of the Hotel Qubus.

3. Status in the flora of Poland

In the flora of Poland, *Polygonum polystachyum* has the status of a local epekophyte. So far, it is not the expansive species (in contrast to the closely related taxa of the genus *Reynoutria*). At some sites it has undoubtedly been cultivated in the past (in the parks of old mansions). In Poland, as in the other European countries, this plant probably reproduces only vegetatively. Presently, it is difficult to establish precisely the routes and timing of the spread of this species in Poland. Also, the information about its cultivation as an ornamental plant is lacking. Very little is known about the habitat preferences of this species. This plant occurs exclusively in habitats evidently suffering more or less from human impact, where it is accompanied by ubiquitous native and synanthropic species. There are still essential questions about its mode of propagation and particularly, the ability to set seeds capable to germinate. This plant requires further long-term observations.

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