

NEW STATION OF *POTAMOGETON* × *SALICIFOLIUS* WOLFG.
IN NORTH-EASTERN POLAND

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ABSTRACT. *Potamogeton* × *salicifolius* Wolfg., the hybrid between *P. lucens* L. and *P. perfoliatus* L., is recorded from north-eastern Poland for the first time. The new station is located in the Wigry Lake (the Wigry National Park), within FB19 square unit of the ATPOL cartogram grid. The distribution is updated with one new population of vegetative ramets.

KEY WORDS: *Potamogeton*, hybrid, distribution, Wigry National Park, Poland

INTRODUCTION

Potamogeton × *salicifolius* Wolfg. (Potamogetonaceae), willow-leaved pondweed is an established hybrid between *P. lucens* L. and *P. perfoliatus* L., which occurs mainly in the northern part of Europe (Ireland, the United Kingdom, Denmark, Sweden, France, the Netherlands, Switzerland, Germany, Poland, Lithuania, Estonia and Russia). The distribution of the hybrid coincides with the areas affected by the Late Pleistocene glaciation, where the postglacial lakes occur (KAPLAN 2007). In the southern part of the European continent, the hybrid is extremely rare, and has been recorded only from Italy (KAPLAN 2007). Both parental species have wide ranges: *P. lucens* is confined to Europe, western and central Asia, northern and eastern Africa, and *P. perfoliatus* is native to Europe, Asia, eastern North America, northern and central Africa, and rarely occurs in Australia and Central America (WIEGLEB and KAPLAN 1998). *Potamogeton* × *salicifolius* is one of the most frequent *Potamogeton* hybrids, especially in the United Kingdom (FANT and PRESTON 2004) and the North of European Russia (BOBROV and CHEMERIS 2009). It usually occurs in lakes and rivers, together with one or both parents, as a component of the *Potamogeton* communities. At some sites the hybrid dominates among the other pondweeds (BOBROV and SINJUSHIN 2008). All established and widespread *Potamogeton* hybrids are taxonomically and ecologically important, however, they are difficult for accurate identification during the field studies (KAPLAN 2010).

In Poland, the distribution of *P. ×salicifolius* is poorly recognised, because of the lack of herbarium materials and misidentification (ZALEWSKA-GAŁOSZ 2008). A new station of this interesting hybrid was found in the Wigry Lake in August 2010.

TAXONOMICAL REMARKS

Potamogeton × *salicifolius* was originally described from Lithuania by J.F. Wolfgang in his unpublished monograph in the beginning of the 19th century (KAPLAN and ZALEWSKA-GAŁOSZ 2004). It is sterile hybrid between two submerged broad-leaved homophyllous species of *Potamogeton*, which reproduces vegetatively by rhizomes and stem fragmentation. *Potamogeton* × *salicifolius* is generally intermediate, but may be confused with its parental species and *P. ×nitens* Weber. *Potamogeton* × *salicifolius* differs from *P. lucens* by having the leaves sessile and semi-amplexicaul, and with more longitudinal veins, and from *P. perfoliatus* by the leaves apiculate and slightly mucronate, with fewer veins, and by delicate, but persistent stipules (ZALEWSKA-GAŁOSZ 2003, KAPLAN 2007). In contrast to *P. ×salicifolius*, *P. ×nitens* has shorter stipules (without winged ribs), and sometimes produces floating leaves and inflorescences. Some individuals of *P. ×salicifolius* resemble *P. lucens* or *P. ×nitens* so closely that they can not be reliably distinguished by comparative morphology (PRESTON 1995, ZALEWSKA-GAŁOSZ 2002, 2003, 2008), and such cases need molecular analysis (FANT and PRESTON 2004, KAPLAN 2007, BOBROV and SINJUSHIN 2008, KAPLAN and FEHRER 2011, 2013). The hybrid is highly variable, like many *Potamogeton* taxa, and its morphological features can depend on the growing conditions (KAPLAN 2002). In flowing waters *P. ×salicifolius* has long and narrow leaves, but in shallow ditches its leaves are shorter and almost as broad as long (PRESTON 1995).

Specimens of *P. ×salicifolius* found in the Wigry Lake are morphologically uniform and similar to *P. lucens* rather than to *P. perfoliatus*. Moreover, all shoots are vegetative and short (less than 20 cm long). Flowering specimens of the hybrid have not been observed in Poland (ZALEWSKA-GAŁOSZ 2003).

DISTRIBUTION IN POLAND AND NEW STATION

Potamogeton lucens and *P. perfoliatus* have wide distributions and high abundance in Poland, thus, hybridization between them may occur frequently. However, *P. ×salicifolius* has been hitherto reported from seven localities in north-western Poland, mostly from lakes (ZALEWSKA-GAŁOSZ 2008).

The new locality of the hybrid is situated in the south-western part of the Wigry Lake, in the Wigierki Bay, in the Wigry National Park. This is the first documented station of *P. ×salicifolius* in north-eastern Poland (Fig. 1). According to the ATPOL cartogram grid (ZAJĄC 1978), the new locality is included in FB19 square (cartogram unit 10 km × 10 km). The hybrid grows in shallow water of the littoral zone (about 0.3 m deep), on sandy and silty sediments, together with one of its parents, *P. perfoliatus*. The mesotrophic waters of the Wigry Lake in this place are threatened by eutrophication (KARPOWICZ ET AL. 2010). Similar habitat conditions

were observed in the Gatno Lake in the Kaszuby Lakeland (ZALEWSKA-GAŁOSZ 2003). The newly discovered population of the hybrid is small and consists of one cluster of vegetative ramets, occupying an area about 1 m². However, both parental species occur in the Wigry Lake frequently and abundantly. In comparison with other *Potamogeton* hybrids occurring in Poland such as *P. ×angustifolius* Bercht. & J. Presl ex Opiz and *P. ×nitens* (ZALEWSKA-GAŁOSZ 2008), the number of documented stations of *P. ×salicifolius* is low.

Specimens collected from the new station were deposited in the Herbarium of Jagiellonian University in Cracow (KRA).

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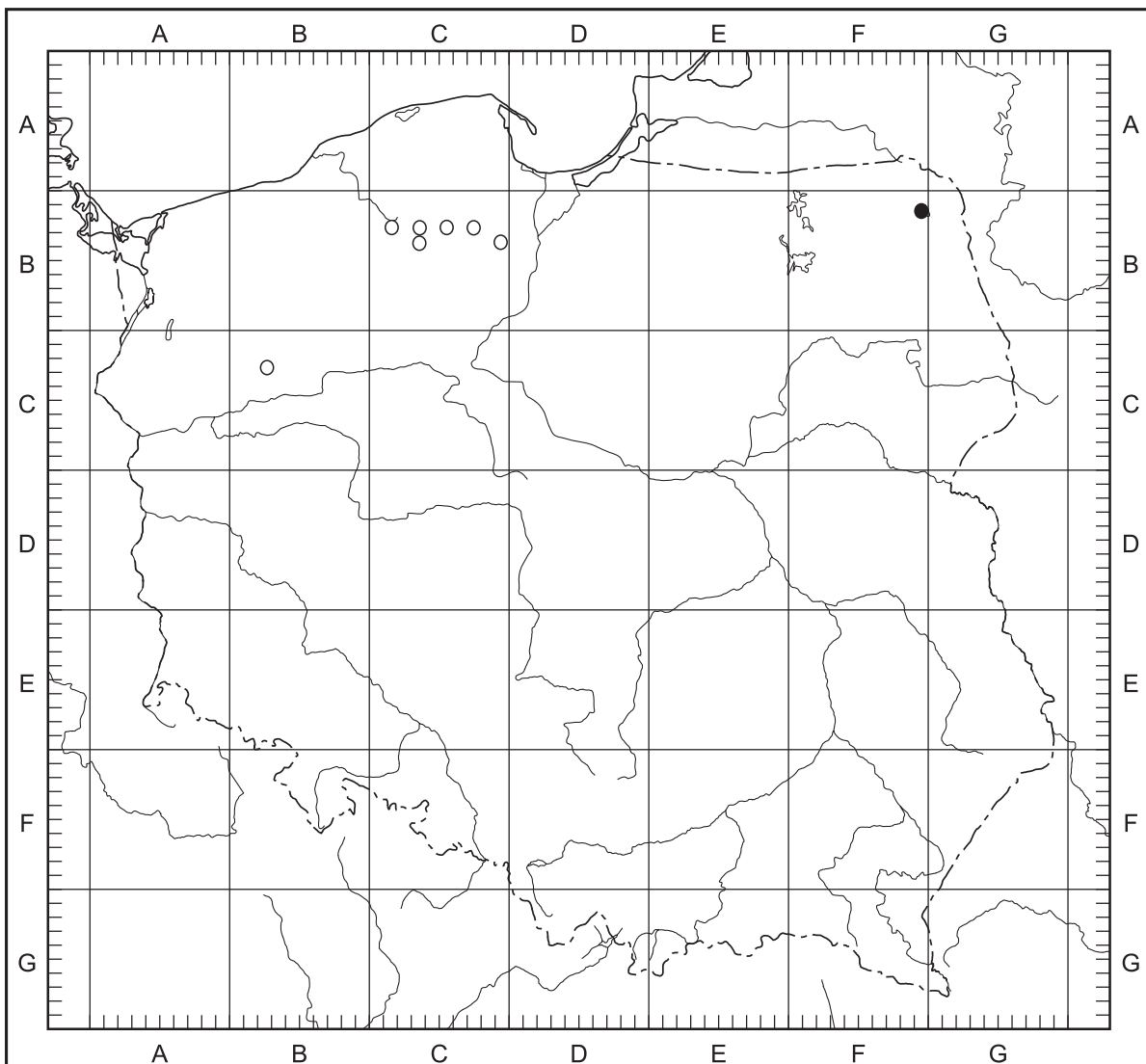


FIG. 1. Distribution map of *Potamogeton ×salicifolius* Wolff. in Poland according to the ATPOL cartogram units (10 km × 10 km): ○ – documented localities (ZALEWSKA-GAŁOSZ 2008), ● – new locality

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