

Nymphaea alba (Nymphaeaceae) in Armenia

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Abstract

In Armenia, *Nymphaea alba* only occurs in a small area NW of Stepanavan. It is restricted to small lakes with a minimum depth of c. 2–3 m because in shallower lakes it may be out-competed by *Typha* or *Schoenoplectus* species.

Keywords: Distribution map, flora of Armenia, NW Stepanavan

Introduction

Nymphaea alba L. is one of the rarest plants in Armenia, limited to a small area NW of Stepanavan (Takhtadžan 1954, Tamanyan *et al.* 2010). It has also been rarely collected, at least partly because it grows in deep water in the middle of lakes. Historic localities and other potentially suitable lakes have been surveyed and the known distribution is described here. All confirmed populations are geo-referenced and shown in Fig. 1.

Results

The first collection of *Nymphaea alba* L. from Armenia was made in 1920 by Schelkovnikov near Stepanavan. As is the case with other historic records, it is difficult to relocate the precise location of this record, partly because some place names have changed over time and partly because some are local names which never have been entered on official maps. The locality given; “Lacum Major“ can be assumed to refer to the biggest lake in the area which is Svetly Liman c. 2 km W of Saratovka, where *N. alba* still occurs.

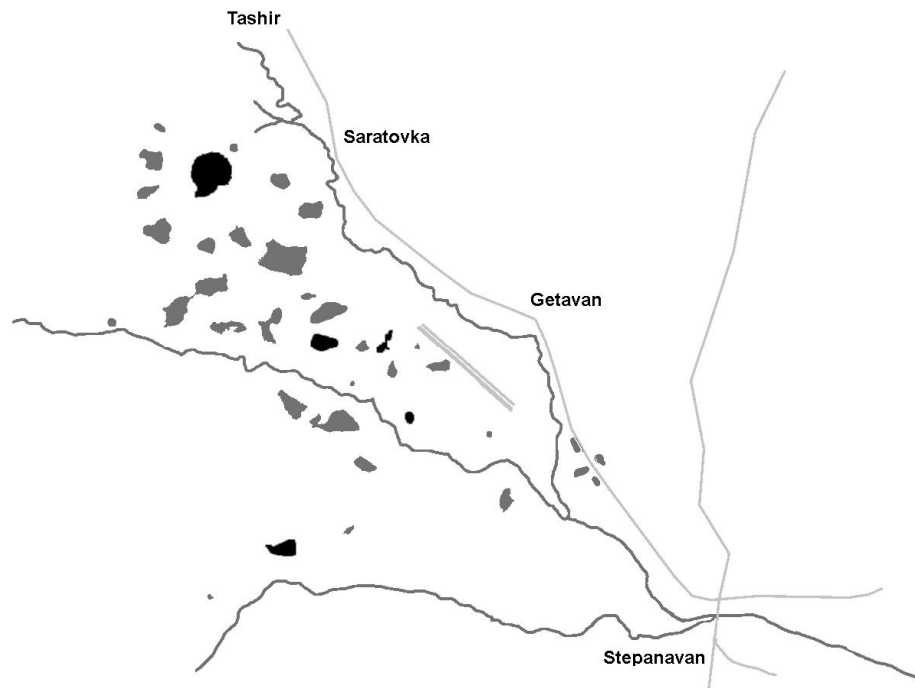


Fig. 1. The current distribution of *Nymphaea alba* in Armenia (bright grey: roads and airport, grey: lakes and rivers, black: lakes with *Nymphaea alba*).

Schelkovnikov also collected *Nymphaea alba* at “Miskhana lacus” in 1930. This locality is understood to be in the gorge of the Marmarik river near Hankavan. However, *N. alba* has not subsequently been seen in this area and as there is a biological station in Hankavan with annual university training courses, there is a high probability that this population has been lost.

Around 1950, Barsegyan confirmed several populations of *Nymphaea alba* near Kiz-Kala [= Getavan] and in the 1970's Mulkidjanyan & Manakyan, Mirzoeva & Gambaryan again confirmed the existence of the species in this area. In 1989, Gabrielian, Tamanyan & Fayvush recorded it in Svetly Liman W of Saratovka and in 1996 Gabrielian added an additional locality near Kujbyshevo [= Urasar] village (this probably refers to Shushanalich = lake of *Nymphaea*, “shushan” = *Nymphaea*, “lich” = lake in Armenian).

Finally, during several field trips in 2007–12, the authors of this contribution confirmed the existence of *N. alba* in the area NW of Stepanavan and surveyed as many potential localities as possible.

In Armenia, *N. alba* is currently restricted to the plain 5–11 km NW of Stepanavan (Fig. 1). This plain consists of a basaltic plate divided into two parts by the River Ger-ger, with shallow depressions which are temporarily or permanently filled with water, depending on the depth of the depression and the connection to rivers. *Nymphaea alba* occurs with species such as *Ceratophyllum demersum*, *Myriophyllum spicatum*, *Hippuris vulgaris*, *Lemna minor*, *Schoenoplectus lacustris*, *Sparganium minimum* and *Alisma plantago-aquatica* in lakes at least 2–3 m deep. In shallower water, there is strong competition especially with *Typha* (Fig. 2). Most suitable lakes occur in the northern part of the plain around the former airport at Getavan (Fig. 3).



Fig. 2. Local fisherman with a makeshift boat transporting harvested *Nymphaea alba*, note the dense belt of *Typha* surrounding the deeper parts of the lake.



Fig. 3. *Nymphaea alba* with K. Tamanyan.

The populations of *Nymphaea alba* in Armenia are southeastern outposts of a wide distribution from Central Europe to Siberia, northwards to Scandinavia and southwards extending to Spain, Italy and Greece (Meusel et al. 1965). *N. alba* is listed as Endangered in the Red Book of Plants of Armenia (Khandjyan 2010). No actual conservation action is needed at the moment, but monitoring is necessary as the populations may respond rapidly to environmental changes.

A further anthropogenic extension of the distribution area in future cannot be excluded as *N. alba* is also cultivated (e.g. seen in 2012 in an artificial pond at a private house SE of Urasar) and in this way could escape to new localities.

- Examined specimens (Armenian/Russian labels translated):

1920–30: Stepanavan, Klin, Lacum Major, 9.07.1920, A. Schelkovnikov [ERE 26228]; – Miskhana lacus (Gorge of Marmarik river, near Hankavan), 23.7.1930, A. Schelkovnikov [ERE 18638, 18639, 18640].

1947–58: Stepanavan district, Kyz-Kala, Major lake, 24.7.1947, Anonymous collector (det. Mulkidjanyan) [ERE 36950, 36951, 40544]; – Stepanavan district, lake of the village Kz Kal, 09.07.1954, A. Barsegyan [ERE 64906, 64940, 65249, 66024, 66028]; – Kalinino district, Kiz-Kala, lake “Zhagotlich”, 17.08.1958, A. Barsegyan [ERE 60613]; – Kalinino district, Kiz-Kala, lake “Parzlich”, 18.08.1958, A. Barsegyan [ERE 66762].

1971–73: Stepanavan district, between villages Pushkino and Stepanavan, bank of Ger-Ger river, 07.07.1971, Ja. Mulkidjanyan & V. Manakyan [ERE 100788, 100789]; – Kalinino district, in the vicinity of Saratovka village, 8.07.1971, Ja. Mulkidjanyan & V. Manakyan [ERE 102455]; – lake in the vicinity of Kalinino village, 17.07.1973, N. Mirzoeva & P. Gambaryan [ERE 127171]; – Kalinino district, Klin locality, lake Krugloe, 20.07.1973, N. Mirzoeva [ERE 127172].

1989–96: Kalinino district, vicinity of Getavan village, lake “Svetly Liman”, 1500 m a.s.l., 41°03'07" N, 44°18'38" E, 15.06.1989, K. Tamanyan & G. Fayvush [ERE 182175, 182177, 138113]; 15.06.1989, E. Gabrielyan [ERE 182176,

138112]; 15.06.1989, E. Gabrielyan, K. Tamanyan & G. Fayvush [ERE 182178]; – Stepanavan distr., lake in the vicinity of Kujbyshevo village, 08.1996, E. Gabrielyan [ERE 175715, 175716].

2007–12: Marz Lori, Stepanavan district, Getavan village, lake “Svetly liman”, 1480 m a.s.l., 3.08.2007, A. Tumanyan [ERE 185043]; – Marz Lori, Stepanavan district, Getavan village, lake “Dlinny liman”, 1460 m a.s.l., 41°03'07" N, 44°19'22" E, 8.09.2011, A. Tumanyan [ERE 185044]; – Marz Lori, Stepanavan district, Getavan village, lake “Dlinny liman”, 1460 m a.s.l., 9.09.2007, A. Tumanyan [ERE 185045]; – Marz Lori, vicinity of Urasar village, lake Shushanalich, 1500 m a.s.l., 41°01'25" N, 44°18'15" E, 13.08.2011, N. Khandjan & A. Tumanyan [ERE 185046]; – Marz Lori, Tashir district, Saratovka village, lake “Boloto 7th”, 1500 m a.s.l., identical with Svetly Liman, 14.08.2011, N. Khandjan & A. Tumanyan [ERE 185230, 185231, 185047, 185048, 185049, 185050]; – Marz Lori, Stepanavan district, Getavan village, lake “Konskij liman”, 1440 m a.s.l., 41°3'2" N 44°19'22" E, 28.08.2012, A. Tumanyan [ERE 185229]; – Lori prov., area NW Stepanavan, small lake NW of road from Saratovka to Novoseltsovo, 1490 m s.m., 41°04'28" N 44°17'30" E, 29.6.2003, Fayvush, G., Tamanyan, K., Ter-Voskanyan, H. & Vitek, E. 03-0340 [W 2006-00434, ERE, B, K, MA, MSB]; – Lori prov., area NW of Stepanavan, S of Saratovka, around lake Jasnoje east of road from Saratovka to water supply station, 1485 m s.m., 41°03'08" N 44°18'28" E, 29.6.2003, G. Fayvush, K. Tamanyan, H. Ter-Voskanian, E. Vitek 03-0344 [ERE 173330, W 2005-11354]; – Lori prov., plain with lakes 5-11 km NW of Stepanavan, near former airport, small lake 1.3 km SW of former airport tower, 1.7 km W of southeastern end of airfield; 1480 m s.m., 41°2'30" N 44°19'40" E, 29.8.2012, E. Vitek, G. Fayvush, M. Oganessian, K. Tamanyan & K. Margaryan 12-0312 [ERE]; – Lori prov., plain with lakes 5–11 km NW of Stepanavan, near former airport, small lake 1.1 km W of former airport tower, 0.6 km SW of northwestern end of airfield, 1480 m s.m., 41°3'2" N 44°19'22" E, 29.8.2012, E. Vitek, G. Fayvush, M. Oganessian, K. Tamanyan & K. Margaryan 12-0319 [ERE].

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