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***Potentilla erecta* (L.) RÄUSCH. (Rosaceae) in Armenia**

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Abstract

Potentilla erecta is rare in Armenia. The history of the collections and additional new localities are given, the distribution is discussed.

Key Words: Flora of Armenia, rare plants, *Potentilla erecta*.

Introduction

Since 2003 the herbarium of the Academy of Sciences in Yerevan [ERE] and the Natural History Museum in Vienna [W] conducted as follow-up of the OPTIMA Iter to Armenia in 2002, excursions with the aim to sample badly collected areas of Armenia and to confirm earlier findings of rare species. *Potentilla erecta* (L.) RAEUSCH. is common in most parts of Europe but very rare in Armenia (KHANJYAN 2010) where it is classified as critically endangered (TAMANYAN et al. 2010).

Potentilla erecta is widespread from the Azores through Central Europe to Scandinavia and Western Siberia and has disjunct occurrences in the Caucasus. The localities in Armenia are southeastern outposts extending the distribution area given in MEUSEL & al. (1965) to the south. *Potentilla erecta* is not treated in the Flora Armenia (TAKHTAJAN 1958). SOJÁK (2004) mentions its occurrence in the Caucasus and the Transcaucasus, this does not provide detailed information.

First time *P. erecta* was collected in Lori province in 1952 by A. Akhverdov et N. Mirzoeva, but identified by Akhverdov as *P. semilaciniosa* BORB. The specimen was revised to *P. erecta* by Khandjan 2009. Other collections of *P. erecta* from Lori province are from 1963 from Krugloe lake by Barsegian (determined by Khandjan in 2009) and from 2011 from the vicinity of Saratovka village by Khandjan and Tumanyan. The account of *P. erecta* in the Red Book of plants of Armenia (KHANJYAN 2010) is based on these specimens.

Results and discussion

During intensive collecting in 2003–2013 *P. erecta* was found at three additional localities: In 2005 *P. erecta* was collected, together with *Parnassia palustris* and *Euphrasia pectinata*, in Shirak province in a boggy local area besides the road leading

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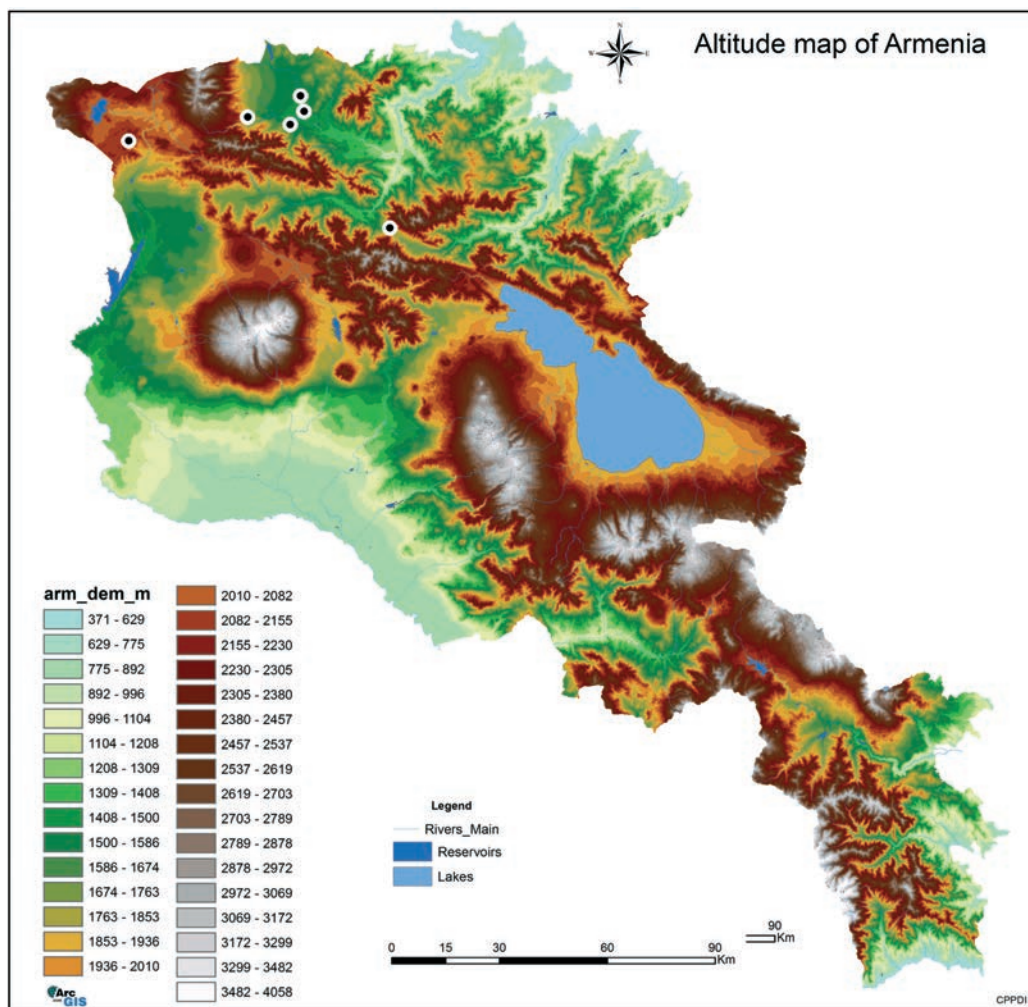


Fig. 1: *Potentilla erecta*, distribution in Armenia.

from Pakhakh to Amasia at the highest area of the pass. This locality extends the before known area to the west and adds the province Shirak (Upper Akhuryan floristic region) to the distribution records.

In 2012 the species was collected by Vitek et al. west-northwest of Stepanavan. This place is a boggy area with up to one meter of high *Carex* tussocks. During most of the year there is probably permanent flat water between the tussocks. However, at the end of August of the very dry summer of 2012 the ground more or less has dried out. At this place *P. erecta* sits on top or on side of the uppermost parts of the *Carex* tussocks.

In 2013 Fayvush et al. found *P. erecta* between Vanadzor and the village of Lermontovo in wetland together with *Silene flos-cuculi*, extending its known distribution area further to the south.

Seen specimens: южные отроги Аглаганского хребта, верховья р. Дзорагет, на постоянно избыточно увлажненных местах, 1800 м над ур.м. [Lori, South part of Aghlagan ridge, upstream of Dzoraget river, wetland, 1800 m] 20.8.1952, A. Akhverdov & N. Mirzoeva [ERE 168372, 168373, 168374]; – Степанаванский район, Оран-Лори, оз. Круглое [Stepanavan distr., Oran-Lori, Krugloe lake], 27.7.1963, A. Barsegian; same place, 25.8.1967, A. Barsegian [ERE 168375, 168376, 168377]; – Mapз Лори, Таширский район, село Саратовка, озеро «Болото 7-ое», 1500 м над у.м. [Lori, Tashir district, vil. Saratovka, lake „Boloto 7-th“ [= Svetly Liman], 1500 m a.s.l.], 14.08.2011, N. Khandjan & A. Tumanyan [ERE 185063]; – Lorri province, area c. 8.7 km WNW of Stepanavan, boggy area with *Carex tussocks* N of road between villages Urasar and Katnaghbjur, 1.2 km NNW Urasar, 1565 m, 41°1'29"N 44°16'57"E, 30.8.2012, E. Vitek, G. Fayvush, M. Oganessian, K. Tamanyan & K. Margaryan 12-0390 [ERE, W 2014-0003320, E, JEPS, PAL]; – Lori province, between Vanadzor and village Lermontovo, 40°46'15"N, 44°35'56"E, 1730 m, 19.06.2013, G. Fayvush, A. Asatryan, I. Gabrielyan [ERE]; – Shirak province, Amasia district, road Pakhakhn - Amasia, c. 10 km from Pakhakhn, 2185 m, 41°00'05"N 43°44'39"E, 31.8.2005, M. Oganessian, H. Ter-Voskanyan & E. Vitek 05-2235 [ERE, W 2006-0001465, MSB].

Potentilla erecta needs a slightly oceanic climate as shown by its distribution area formula (m)–sm–temp–b oz₁₋₃ EUR–WSib (MEUSEL & al. 1965). The climate in the area, where it has been found in Armenia, is slightly humid due to far distance influence from the Black Sea.

Currently *P. erecta* is known from the provinces of Shirak and Lori. The localities belong to the floristic provinces of Upper Akhuryan and Lori (TAKHTAJAN 1954).

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Review of Publication

Vascular Plants of Afghanistan – an Augmented Checklist

Following to the Field Guide Afghanistan (BRECKLE & RAFIQPOOR 2010) the next important book for the Flora of Afghanistan is on the table now. The authors give a lot of information in the shortest possible but comprehensive way.

An extensive introduction gives natural geography including geology, climate, and other information, but also a short history of the exploration and botanical research.

The list shows important synonyms with their citations, the general distribution in Afghanistan (small maps with the impreciseness of the level of provinces), the general distribution, variation of altitude and links to the Field Guide). The list is based mainly on Flora Iranica, a checklist of D. Podlech, the floras of the surrounding countries, many more or less recent publications and the contributions of a long list of colleagues. Additionally the data of the herbarium of the University of Kabul as well as other information in Virtual Herbaria has been used. For each family selected important and recent literature is given including critical remarks. The authors tried to use the actual state of taxonomy (APG III) – or made a comment if not completely doing so (e.g. Scrophulariaceae).

The Checklist is an irreplaceable tool, when determining plants from Afghanistan and should be available in each library of institutions dealing with material from this area.

BRECKLE S.-W, HEDGE I.C. & RAFIQPOOR M.D., 2013: Vascular Plants of Afghanistan – an Augmented Checklist. 598 pp. – Bonn: Scientia Bonnensis.

ISBN 978-3-940766-64-9

Distributor: Scientia Bonnensis, office-bonn@scientia-bonnensis.com

Virtual Herbaria: <http://herbarium.univie.ac.at/database/search.php>

Accessed 11.12.204: 25323 datasets for Afghanistan, of these 23282 from KUFS (University of Kabul) and 1400 type specimens.

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