

**REDISCOVERY OF *ASTRAGALUS ROEMERI* SIMONK. IN THE
SCĂRIȚA-BELIOARA NATURAL RESERVE
(APUSENI MOUNTAINS, ROMANIA)**

*László BARTHA*¹, *Attila BARTÓK*²

¹ Institute for Interdisciplinary Research in Bio-Nano-Sciences, Babeș-Bolyai University,
42 A. Treboniu Laurean Street, **RO-400271 Cluj-Napoca, Romania**

² Actavis, 11 Ion Mihalache Blvd., **RO-011171 București, Romania**
e-mail: lbartha.ubbcluj@yahoo.com

Abstract: The present floristic study reports the rediscovery of *Astragalus roemeri* on Mt. Scărița in the Apuseni Mts, from where it was first reported in 1968. This station is remote from the main distribution of the species, which had been thought to be endemic to the Eastern Carpathians. Although the Scărița-Belioara Natural Reserve is a botanically well-studied area, the species apparently was not seen there for over four decades after its original discovery.

Keywords: floristic report, endemic species, Carpathians, disjunct distribution

Astragalus roemeri Simonk. is one of few endemic *Astragalus* species in the Romanian Flora. Since its discovery in 1891 from near Tulgheș at Mt. Piatra Roșie (Pietrele Roșii, Vereskő) by the botanist Julius Paul Römer [11], the species had for three-quarters of century been considered as an endemic of the Eastern Carpathians. Additional locations from where it was recorded in the Eastern Carpathians include Mt. Bicâj (1050 m), Cupaș Valley in the Bicz Canyon, Mt. Ghilcoș (1380 m), Glodului Hill near the village of Glodu, Gyüngyeményes stones (1412 m) near Bălan, Mt. Suhard (1350 m), Mt. Suhardul Mic (1126 m), and Ucigașului Ridge close to Lacul Roșu ([5] and references therein; [10]). All of these localities are broadly confined to the Hășmaș Mountains or ‘nearby’ (the *locus classicus* of the species is actually part of the Bistriței (Grințieșului) Mts).

Astragalus roemeri grows in habitats with rocky limestone substrate, including woodland openings, gorges and screes in the montane zone (at the level of *Fagus sylvatica*) [5].

A surprising remote occurrence of the species was reported by Negrean in 1968 [8] from Mt. Scărița (Scărița-Belioara massif within the Apuseni mountain range) (Fig. 1). Unfortunately, this significant floristic find remained undocumented in the sense that a herbarium specimen was not deposited in a public herbarium. This led to the occurrence of the species in the Apuseni Mountains being treated cautiously in subsequent decades. Although Muica and Popova-Cucu 1993 [7], Oprea 2005 [9] and Dihoru and Negrean 2009 [5] accepted the presence of this species in the Apuseni Mts, this was not taken on board by e.g. Hurdu *et al.* 2012 [6], who considered the species to be a ‘restricted endemic’ of the Hășmaș-Cheile Bicazului – Ceahlău – Rarău mountain group. Interestingly, repeated botanical studies of Csűrös 1958, 1992 [1, 2], Csűrös and Spîrchez 1963 [4], Csűrös and Csűrös-Káptalan 1996 [3] in the Scărița-Belioara Natural Reserve did not report *A. roemeri* from this site.

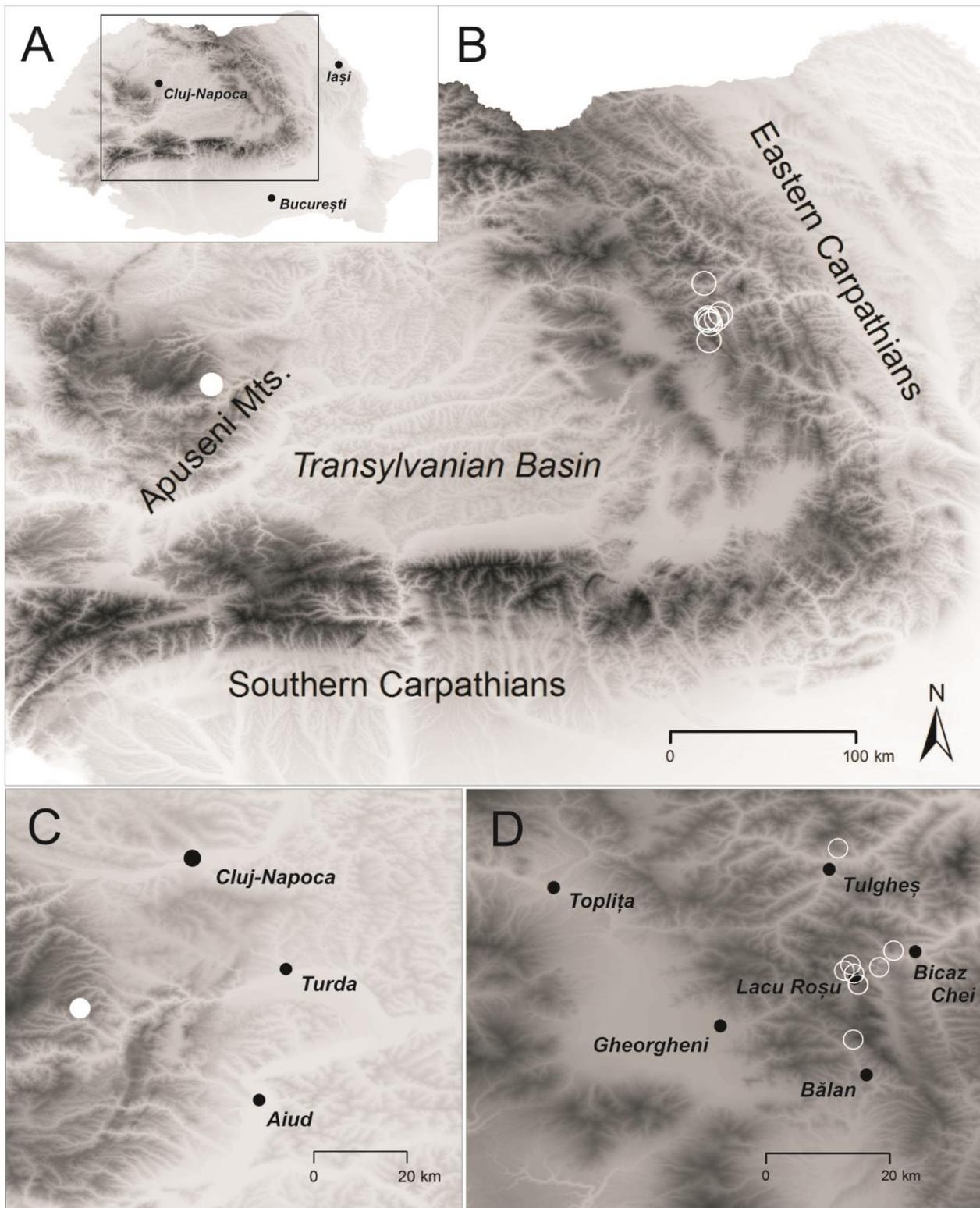


Fig. 1: A – Location of the Carpathians within Romania. B – Distribution of *Astragalus roemeri* Simonk. in the Carpathians. C and D – detailed localities from the Apuseni and Hășmaș Mts, respectively. White circle – population confirmed in the present study; open circles – localities compiled from literature and herbarium data.

After four decades, *A. roemeri* was rediscovered by the authors during a one-day botanical excursion to Mt. Scărița on 14 June 2013. Two individuals (shrubs) were found in the

valley of the Răstoaca stream near the tourist route at 893 m a.s.l. near beech forest (*southern* slopes of Mt. Scărița). The individuals were found at the beginning of the flowering season. A flowering shoot has been deposited in the Cluj herbarium (CL, no. 664152) and photos of the species were taken (Fig. 2). One week later an additional (non-flowering) specimen (CL 664153) was found by Pavel Dan Turtureanu at 1175 m a.s.l. on the *south-eastern* slopes of Mt. Scărița (in forest habitat dominated by *Pinus sylvestris* intermixed with *Fagus sylvatica*). These recent finds, together with that of Negrean (1968) [8] on the *northern* slope of the mountain, provide an initial picture of the extent of the population.



Fig. 2: Photos of *Astragalus roemeri* taken in 14.06.2013 on the southern slopes (893 m a.s.l.) of Mt. Scărița (Apuseni Mts.)

The disjunct distribution of *A. roemeri* between the Eastern Carpathians and the Apuseni Mts raises an interesting biogeographical question. Whether this disjunction can be best interpreted as a result of long distance dispersal or vicariance, hopefully will be solved by future population genetics studies.

Acknowledgements: The authors are thankful to Mihai Pușcaș and Gavril Negrean for their professional comments on the manuscript. The company of Sorina Bartók in the field is appreciated.

REFERENCES

1. Csűrös, Ș., 1958, Cercetări de vegetație pe Masivul Scărișoara-Belioara, *Studia UBB Biologia*, **7**(2): 105-128.
2. Csűrös, Ș., 1992, Szkerice-Bélavár növényvilágáról, *Az EME Természettudományi és Matematikai Szakosztályának Közleményei*, **1**: 56-65.
3. Csűrös, Ș., Csűrös, K.M., 1996, Szkerice-Bélavár növényzetéről, *Múzeumi Füzetek*, **5**: 43-62.
4. Csűrös, Ș., Spîrchez, Z., 1963, Cercetări fitocenologice în pădurile de pe Muntele Scărișoara-Belioara (Munții Apuseni), *Studia UBB Biologia*, **2**: 7-15.
5. Dihoru, G., Negrean, G., 2009, *Cartea Roșie a plantelor vasculare din România*, Academia Română. Institutul de Biologie București, București.
6. Hurdu, B.I., Pușcaș, M., Turtureanu, P.D., Niketić, M., Coldea, G., Zimmermann, N., 2012, Patterns of plant endemism in the Romanian Carpathians (South-Eastern Carpathians), *Contrib. Bot.*, **XLVII**: 25-38.
7. Muica, E.C., Popova-Cucu, A., 1993, The composition and conservation of Romania's plant cover, *GeoJournal*, **29**(1): 9-18.
8. Negrean, G., 1968, Contribuții la flora României, *Stud Cercet Biol, ser Bot*, **20**(4): 333-336.
9. Oprea, A., 2005, *Lista critică a plantelor vasculare din România*, Edit. Univ. "A.I. Cuza", Iași.
10. Pálfalvi, P., 1998, Az *Astragalus roemeri* Simonkai a Nagyhagyásban, *Múz Füz.*, **7**: 77-82.
11. Simonkai, L., 1892, *Astragalus Römeri* Simk, *Természettud Közl (Pótfüz)*, **19**: 138-140.

**REDESCOPERIREA SPECIEI *ASTRAGALUS ROEMERI* SIMONK. ÎN REZERVAȚIA NATURALĂ
SCĂRIȘA-BELIOARA (MUNȚII APUSENI, ROMÂNIA)**

(Rezumat)

Timp de aproape un secol de la descoperirea de către Julius Römer a speciei *Astragalus roemeri* Simonk., aceasta a fost considerată endemit al Carpaților Orientali. În anul 1968 botanistul Gavril Negrean descoperă specia în Munții Apuseni, descoperire care a rămas însă nedocumentată în ceea ce privește depunerea unei coli într-un herbar public. Cu toate că Rezervația Naturală Scărișoara-Belioara reprezintă o zonă relativ bine studiată botanic, specia nu a mai fost văzută acolo de mai bine de patru decenii de la prima semnalare. Studiul de față prezintă redescoperirea speciei *Astragalus roemeri* Simonk. în Munții Apuseni în cursul unei excursii botanice pe muntele Scărișoara (în data de 14 iunie 2013) de către autorii acestui articol. O coală de herbar cu această specie s-a depus de către autori în Herbarul CL (nr. 664152) și tot în acest an a depus și D. Turtureanu (CL nr. 664153). Distribuția disjunctă a speciei *A. roemeri* între Carpații Orientali și M.-ții Apuseni reprezintă o problemă de biogeografie interesantă care merită rezolvată în viitor cu metode de genetica populațiilor.