

***Allium nathaliae* (Alliaceae), a new species
from the Crimea (Ukraine, Europe), and taxonomic notes
on the related species *A. erubescens* C. Koch**

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Summary: *Allium nathaliae* Seregin sp. nova (sect. *Allium*), an endemic plant of the Crimean Mountains is described in the paper. This species with acute perianth segments which are curved outwards was formerly accounted for the Crimea as *A. multiflorum* auct., *A. rudbaricum* auct., and *A. erubescens* auct.. *A. nathaliae* differs from *A. erubescens* C. Koch, a related species, showing leaves distinctly arching outwards and densely scabrid on the margin; longer bracteoles; outer bulb tunics becoming fibrous during ontogenesis and producing usually a long neck at the apex; rather large bulblets and some other characters. I have named the new species after Nathalya K. Shvedtchikova, curator of Caucasian and Crimean Sectors of MW Herbarium. Busch collected in Tepe-Kermen (Western Crimea) a variety with remarkable spirally structured leaves, a deviation for the section *Allium*, which is very consistent in all four specimens of type collection (*A. nathaliae* var. *tepekermensis* Seregin var. nova).

Problems of the taxonomy of *A. erubescens* C. Koch are discussed. According to GROSSHEIM (1940), this species seemed to be a widely distributed and locally common plant in Caucasus. Studying Grossheim's material in LE made me sure, that he used only one unreliable character for delimitation of *A. erubescens* and *A. rotundum* L. s. l. in Caucasus. As a result, I can not firmly separate from *A. rotundum* s. l. almost two thirds of *A. erubescens* sensu Grossh. collected mainly in Daghestan (NE Caucasus). Typical *A. erubescens* grows in Azerbaydzhan and Northern Iran. Daghestanian plants of *A. erubescens* sensu Grossh. which I am concerning to be a part of *A. rotundum* s. l. nonetheless slightly differ from the latter species, but these characters are of poor importance for the taxonomy of the section *Allium*. Taxonomic citations for *A. erubescens* C. Koch, *A. nathaliae* Seregin sp. nova, *A. rotundum* L. s. l., and *A. jajlajae* Vved. are given in this paper. Treating of the names *A. brevicuspis* Boiss. and *A. rudbaricum* Boiss. et Buhse as synonyms of *A. erubescens* is a provisional solution, because Koch's type of *A. erubescens* [B] was probably destroyed. The best solution during the absence of the *A. erubescens* type is to follow BOISSIER (1882), who united this species with *A. rudbaricum*. *A. erubescens* C. Koch should be excluded from the Crimean (and European) flora. Numerous records of *A. erubescens* from Daghestan and adjacent territories refer to *A. rotundum* s. l. or probably to a separate (undescribed?) taxon.

Zusammenfassung: *Allium nathaliae* Seregin sp. nova (sect. *Allium*) ein Endemit der Gebirge der Halbinsel Krim wird erstmals beschrieben. Diese Art mit spitzen und nach außen gebogenen Perianthblättern wurde früher für die Halbinsel Krim als *A. multiflorum* auct., *A. rudbaricum* auct. und *A. erubescens* auct. bezeichnet. *A. nathaliae* unterscheidet sich von der nahe verwandten Art *A. erubescens* C. Koch durch deutlich nach außen gebogene und am Rande dicht papillöse Blätter; längere Vorblätter (Brakteolen); äußere Zwiebelhüllen, die in den späten Ontogenesephasen faserartig werden, wobei ihre Spitzen einen langen Hals bilden; größere Tochterzwiebeln und weitere Merkmale. Ich benenne diese Art zu Ehren von Natalia K. Schwedtschikowa, Kuratorin des Krim- und Kaukasus-Sektors des Herbariums MW. Eine besondere Varietät mit spiralartig eingerollten Blättern (*A. nathaliae* var. *tepekermensis* Seregin var. nova), einem Merkmal welches für die Sektion *Allium* nicht charakteristisch ist, wurde von N. Busch in Tepe-Kermen (Westkrim) aufgesammelt.

Es werden taxonomische Probleme von *A. erubescens* C. Koch, eine nach GROSSHEIM (1940) im Kaukasus weit verbreitete und stellenweise übliche Pflanze, besprochen. Die Untersuchung des in LE aufbewahrten und von A. A. Grossheim gesammelten Materials überzeugte mich in der Meinung, dass er zur Abgrenzung Sippen von *A. erubescens* und *A. rotundum* L. s. l. auf dem Territorium des Kaukasus nur ein einziges und nicht zuverlässiges Merkmal benutzte. Daher lassen sich 2/3 des Materials von *A. erubescens* sensu Grossh., gesammelt vorwiegend in Daghestan (NO

Kaukasus), von *A. rotundum* s. l. nicht unterscheiden. Typische Pflanzen von *A. erubescens* kommen in Aserbajdschan und Nordiran vor. Daghestanische Populationen von *A. erubescens* sensu Grossh., die ich der Art *A. rotundum* s. l. zurechne, haben geringe Unterschiede zur letztgenannten Art; diese haben jedoch keine Bedeutung für die Systematik der Sektion *Allium*. Es wird die Taxonomie von *A. erubescens* C. Koch, *A. nathaliae* Seregin sp. nova, *A. rotundum* L. s. l. und *A. jajlae* Vved. besprochen. Die Zurechnung von *A. brevicuspis* und *A. rudbaricum* zu *A. erubescens* ist provisorisch, da der Typusbeleg von *A. erubescens*, gesammelt von C. Koch [B], vermutlich verloren gegangen ist. Es ist wahrscheinlich richtig, den Standpunkt von BOISSIER (1882) anzunehmen, der diese Art mit *A. rudbaricum* vereinigte. *A. erubescens* C. Koch ist aus der Flora der Krim (und somit von Europa) auszuschließen. Zahlreiche Funde von *A. erubescens* in Daghestan und nahe liegenden Territorien gehören zu *A. rotundum* s. l. oder möglicherweise zu einer anderen (noch nicht beschrieben?) Sippe.

Keywords: Alliaceae, *Allium*, new taxa, taxonomy, endemics, Crimea, Caucasus

The new “Guide for Crimean Vascular Plants” is in preparation at the Nikita Botanic Garden (Yalta, Ukraine) now and I have to solve some taxonomic problems of the genus *Allium* L. Therefore I revised herbarium material of all *Alliaceae* for the guide. Some notes on the Crimean *Allium* species are published (SEREGIN 2004a), and according to them one can find 24 species of *Alliaceae* in the Crimea (23 in *Allium* and 1 in *Nectaroscordum*). In this paper I am describing *Allium nathaliae* Seregin sp. nova, a remarkable Crimean endemic, and trying to elucidate some taxonomic problems of *A. erubescens*, a related species from Eastern Caucasus and Iran.

Allium nathaliae Seregin sp. nova

Koch described *Allium erubescens* from Azerbaydzhan (“am Strande des Kaspischen Meeres in der frühern Herrschaft Kuba”). According to MATHEW (1996), the species is known from the Eastern Transcaucasus, Daghestan, Northern Iran, Northern Turkey (near Samsun), and Crimea.

Zelenetsky (according to WULFF 1930) was the first who recorded this *Allium* species with acute perianth segments which are curved outwards for the Crimea. He named his collection (17 July 1886, Zelenetsky s.n. [YALT]) as *A. multiflorum* (auct., non Desf.), but this species is known only from North Africa (SEREGIN 2004b). WULFF (1930) named this plant *A. rudbaricum* Boiss. et Buhse, which was described from Rudbar in Northern Iran. VVEDENSKY (1935) transferred *A. rudbaricum* into synonymy of *A. erubescens* C. Koch, probably because BOISSIER (1882) cited Koch’s type collection as *A. rudbaricum*. Further, this plant was accounted for the Crimean flora as *A. erubescens* (RUBTSOV 1972; OMELCZUK-MYAKUSHKO 1979; GOLUBEV 1996; MOSYAKIN & FEDORONCHUK 1999, etc.). It is one of the rare recorded species of *Alliaceae* in the Crimea.

During my visit to LE in 2002, I paid attention to differences between *A. erubescens* from Azerbaydzhan and plants from the Crimea. Crimean plants looked different due to distinctly arching leaves and shorter pedicels. I concerned these characters to be unreliable for species delimitation, though there is a large hiatus between Eastern Caucasus and the Crimea in the distribution of *A. erubescens*. Later I found a densely scabrid leaf margin to be typical for the Crimean plants only. WENDELBO (1971) described leaves of Iranian *A. erubescens* as “laevia vel margine scabrida”, though in Iran and Azerbaydzhan they are glabrous or just with sparse papillae on leaf margins. This led me to conclusion, that a new Crimean endemic was discovered¹.

¹ A comprehensive review of Crimean endemism was published by YENA (2001).

Allium nathaliae Seregin sp. nov.

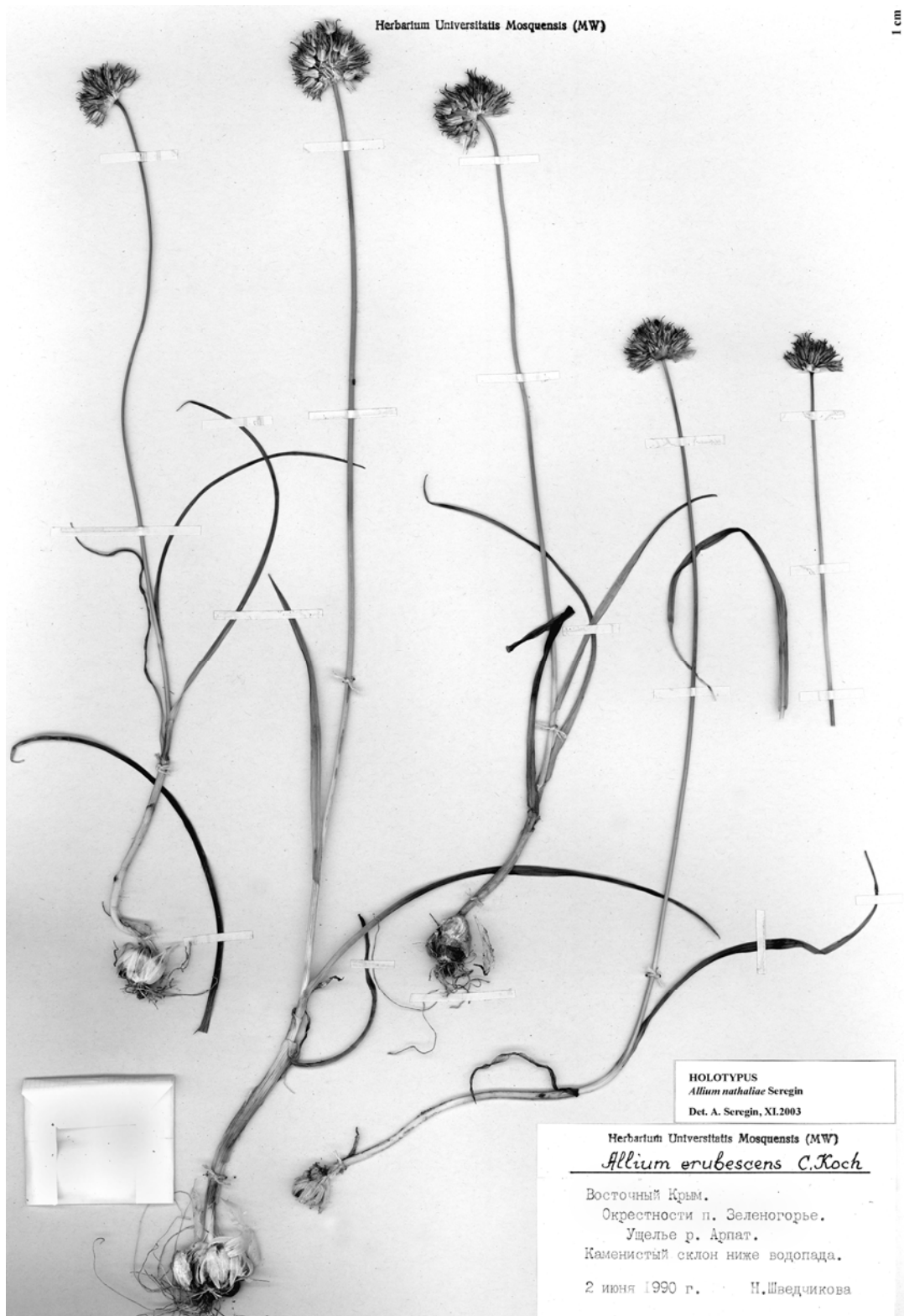


Figure 1. Holotype of *A. nathaliae* Seregin.

I am naming the new species after Nathalya K. Shvedtchikova (b. 1935), curator of Caucasian and Crimean Sectors of the Moscow University Herbarium (MW). She is collecting in the Crimea since 1957 until nowadays almost annually. Shvedtchikova collected this species twice: in 1957 (one of the paratypes) and 1990 (holotype).

***Allium nathaliae* Seregin sp. nova (sect. *Allium*)**

Bulbus subglobosus ad ovoideus, c. 1–3,5cm diametro; tunicae exteriores membranaceae, brunneae vel cinereo-brunneae, subcoriaceae, aetate in fibras solutae, plerumque in collum longum (ad 13cm longum) productae; bulbilli sat magni, 8–25mm longi, brunneae ad atropurpureis, ambitu ovatae, sub tunicae exteriores solum evolventes. Scapus 25–70cm longus, sub umbella purpureus, usque ad 1/4 partem vel ad 2/5 partem foliorum vaginis tectus. Folia (2–)3–4(–5), quam scapus breviora, conferta (i.e. distantia inter articulationes vaginali-laminare foliorum infimi et supremi (1–)2–5(–7)cm longa), linearia, non fistulosa, paulo carinata, paulo sed conspique extrorsum curvata, 1–6(–9)mm lata, margine dense papillosa; vaginae glabrae. Spatha univalvis, umbellam aequans vel longioribus, caduca. Umbella sphaerica-fastigata, 1,5–2,5(–4)cm diametro, compacta et densa. Pedicelli inter se aequalis, sub anthesi ad 1(–1,2)cm longi, post anthesin ad 2,3cm longi, laevi, purpurei; bracteolae conspicuae, ad 7mm longae, argenteo-albae. Perianthium tubulare-campanulatum; perianthii phylla atropurpurea, prope nervo et e basi atrans, margine fere albidia, (5,5–)7(–8)mm longa, dense papillosa (ad nervo et margine imprimis), apice acuta et extrorsum recurva; exteriora anguste lanceolata, interiora oblongo-lanceolata. Antherae inclusae, flavae; filamenta e basi non ciliata, exteriora integra, triangulata, subulata, interiora tricuspidata, cuspidem mediana 1/4 ad 1/3 longitudinis basis dilatatis et 1/4 ad 1/2 cuspidum lateralium attingente; cuspidibus lateralibus perianthii phyllis brevioribus vel aequans. Stylus inclusus. Capsula ad 6(–7)mm longa; semina nigra, 3–3,5mm longa (figs. 1, 2-1).

Ab *A. erubescenti* C. Koch (fig. 2-2) cui sat affine est, foliis conspique extrorsum curvatibus (nec rectis), margine dense papillosis (nec glabris vel sparse papillosis); bracteolis conspicuis, ad 7mm longis (nec inconspicuis, ad 3mm longis); tunicis exteriores aetate in fibras solutibus, plerumque in collum longum productibus (nec membranaceis, sine collum longum); bulbillis sat magnis, 8–25mm longis, sub tunicae exteriores solum evolventibus (nec sat parvis, ad 6mm longis, sub tunicae exteriores et sub foliorum vaginis evolventibus stolonibusque longis suffultis) differt. Ab *A. erubescenti* atque umbellae magis compactis et densis; foliis confertis differt.

Ab *A. rotundo* L. s. l. (incl. *A. waldsteinii* G. Don) et *A. jajlae* Vved. foliis conspique extrorsum curvatibus (nec rectis); bracteolis conspicuis, ad 7mm longis (nec inconspicuis, ad 3mm longis); tunicis exteriores aetate in fibras solutibus, plerumque in collum longum productibus (nec membranaceis, sine collum longum); bulbillis sat magnis, 8–25mm longis, sub tunicae exteriores solum evolventibus (nec sat parvis, ad 6mm longis, sub tunicae exteriores et sub foliorum vaginis apice evolventibus stolonibusque longis suffultis); perianthium tubulare-campanulatis (nec campanulate-ovoideis); perianthii phylla (5,5–)7(–8)mm longis, apice acutis et extrorsum recurvis (nec 4–7mm longis, apice non recurvis) differt. Ab *A. rotundo* s. l. atque filamentis e basi non ciliatis, capsulae ad 6(–7)mm longae; foliis confertis differt.

Allium nathaliae Seregin sp. nov.

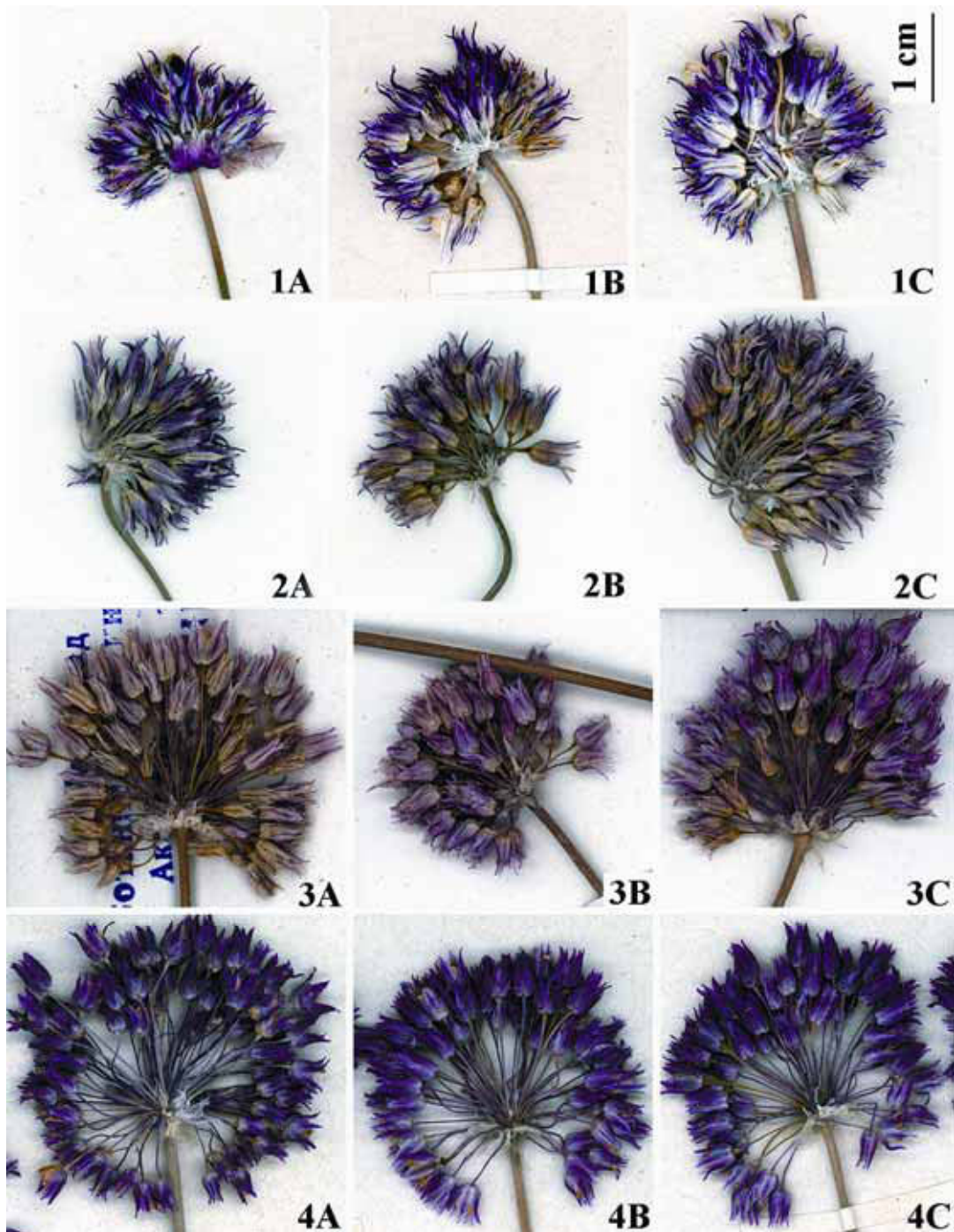


Figure 2. Inflorescences of *A. nathaliae* Seregin — holotype (1A–C), *A. erubescens* C. Koch — «Azerbaydzhan, Fizulinsky district, vicinity of Tug settlement, 21 June 1979, Yu. Menitsky, T. Popova 20» [LE] (2A–C), and *A. rotundum* L. s. l. (*A. erubescens* sensu Grossh.) — «Daghestania, distr. Leninsky, pag. Talgi, 9 July 1973, A. Radzhi in Herbarium Florae URSS 5911» [LE] (3A–C) — and «Daghestan, Makhachkalinsky district, near Temirchay railway station, 11 June 1956, L. I. Medvedeva, T. P. Nadezhina, N. P. Nastenka, P. D. Sokolova s.n.» [LE] (4A–C).

Bulb subglobose to ovoid, 1–3,5cm diam.; outer tunics membranous, brown or greyish-brown, subcoriaceous, splitting and becoming fibrous with age, produced usually into a distinct neck at the apex up to 13cm long; bulblets rather large, 8–25mm long, brown to dark purple, ovate in outline, produced beneath the bulb tunics only. Stem 25–70cm long, purple beneath the inflorescence. Leaves (2–)3–4(–5), shorter than the stem, sheathing the lower 1/4 to 2/5 of the stem, densely gathered (i.e. the distance between the lower and the top leaves (1–)2–5(–7)cm long), linear, non-fistulose, slightly keeled, distinctly arching outwards, 1–6(–9)mm wide, densely scabrid on the margin; sheaths glabrous. Spatha 1-valved, equal to or exceeding the umbel, caducous. Umbel spherical-fastigiate, 1,5–2,5(–4)cm diam., compact and dense. Pedicels equal, up to 1(–1,2)cm long in anthesis, up to 2,3cm after anthesis, smooth, purple; bracteoles conspicuous, up to 7mm long, silvery white. Perianth tubular-campanulate; segments dark purple, with darker midvein and almost whitish along margin, (5,5–)7(–8)mm long, with densely scabrid outer surface (especially along the keel and on the margin), with an acute, curved outwards apex; the outer narrowly lanceolate, the inner oblong-lanceolate. Stamens with yellow anthers included; filaments non-ciliate at the base, the outer simple, triangular, subulate, the inner ones with the anther-bearing cusp one fourth to one third as long as the expanded undivided basal part and one fourth to a half as long as the lateral cusps. Lateral cusps shorter than or equal to the perianth segments. Style included. Capsule up to 6(–7)mm long; seeds black, 3–3,5mm long (figs. 1, 2-1).

Allium nathaliae differs from *A. erubescens* C. Koch (fig. 2-2), a related species, by distinctly arching outwards leaves (not non-arching outwards) densely scabrid on the margin (not glabrous or with sparse papillae); conspicuous bracteoles up to 7mm long (not inconspicuous up to 3mm long); outer bulb tunics splitting and becoming fibrous with age, produced usually into a long neck at the apex (not non-splitting and not becoming fibrous, without distinct neck); rather large bulblets, 8–25mm long, produced beneath the bulb tunics only (not rather small, up to 6mm long, produced on stolons beneath the bulb tunics and beneath the leaf sheaths). In addition, *A. nathaliae* differs from *A. erubescens* having more compact and dense inflorescence and densely gathered leaves.

Allium nathaliae differs from *A. rotundum* L. s. l. (incl. *A. waldsteinii* G. Don) et *A. jajlae* Vved. by distinctly arching outwards leaves (not non-arching outwards); conspicuous bracteoles up to 7mm long (not inconspicuous up to 3mm long); outer bulb tunics splitting and becoming fibrous with age, produced usually into a distinct neck at the apex (not non-splitting and not becoming fibrous, with short neck); rather large bulblets, 8–25mm long, produced beneath the bulb tunics only (not rather small, up to 5mm long, produced on stolons beneath the bulb tunics and beneath the leaf sheaths); tubular-campanulate (not campanulate-ovoid) perianth; perianth segments (5,5–)7(–8)mm long, with an acute, curved outwards apex (not 4–7mm long without curved outwards apex). In addition, *A. nathaliae* differs from *A. rotundum* s. l. by non-ciliate filaments at the base, capsules up to 6(–7)mm long, and non-remote leaves.

Holotypus (original label in Russian): Eastern Crimea. Vicinity of Zelenogorye settlement. Defile of the Arpat River. Stony slope beneath the waterfall, 2 June 1990, N. Shvedtchikova s.n. [MW].

Paratypes (original labels in Russian): Vicinity of Rybachye settlement, southern foot of rocky cliff of Karabi-Yayla, alt. 760 m, <45°, stony talus, sparsely, 21 June 2003, A. V. Yena s.n.

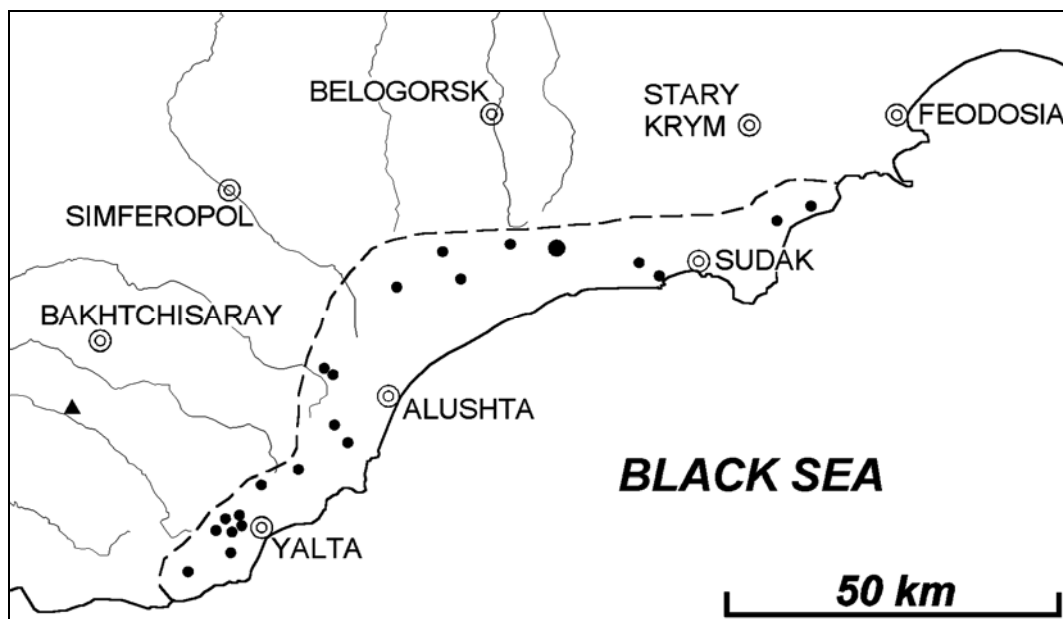
Allium nathaliae Seregin sp. nov.

Figure 3. Distribution of *A. nathaliae* Seregin in the Crimean Mountains (Crimea, Ukraine) (shown with small circles and dash line). The large circle is used for the locus classicus of *A. nathaliae*, and the triangle shows the locus classicus of var. *tepekermensis* Seregin.

[CSAU, MW]; — Shtangeyeva trail, alt. 2800', 8(21) June 1906, anonymous s.n. [LE]; — Shtangeyevskaya trail, 10 June 1897, S. G. Grigoryev s.n. [LE]; — Miskhor village, rocks and taluses on Ai-Petri foot, 3 July 1914, I. I. Sprygin 607 & 608 [LE]; — State Reserve (Zapovednik) near Alushta, stony S slope of Mount Tchatyrdagh, 2 July 1929, H. Poplawska 224 [LE, YALT]; — State Reserve (Zapovednik) near Alushta, stony talus on the SW slope of Mount Tchatyrdagh, 13 July 1929, H. Poplawska 292 [LE]; — The Sary-Su River, 10 July 1927, A. Deutsch s.n. [LE]; — The summit of Mount Stavrikoy (near Yalta), 6 June 1909, A. Ass s.n. [MW]; — Eastern Crimea. Vicinity of Karadagh. Mount Echki-Dagh (“Tri Brata”). Rocks on the top of the mountain, 9 June 1957, N. Shvedtchikova s.n. [MW]; — Eastern Crimea. Sudak district, Karadagh biological station, NW slope of Mount Legener, 25 June 1957, Ye. Kurchenko s.n. [MW, with duplicate]; — Yalta × yayla, 17 July 1886, N. Zelenetsky s.n. [YALT]; — Beneath Ai-Vasilskaya Yayla, to E from Mount Lopata, 9 July 1929, S. Stankov & A. Pegova s.n. [YALT, with duplicate]; — Veseloye settlement of Sudak district, 13 May 1976, V. N. Golubev s.n. [YALT, with duplicate]; — Mogabi Mountain, 10 June 1976, V. V. Korzhenevsky s.n. [YALT]; — Utchan-Su, 7 July 1976, V. V. Korzhenevsky s.n. [YALT]; — Utchan-Su (headwaters), 16 July 1976, V. V. Korzhenevsky s.n. [YALT]; — E slope of Babugan Yayla, 31 July 1976, M. I. Karasyuk s.n. [YALT, with duplicate]; — Maly Mayak amphitheatre, 10 June 1978, V. V. Korzhenevsky s.n. [YALT]; — Tyrke Yayla, 20 June 1984, V. N. Golubev & I. V. Golubeva s.n. [YALT]; — Karabi-Yayla, Belaya Mountain, 26 June 1984, V. V. Korzhenevsky s.n. [YALT]; — “Novy Svet” locality in vicinity of Sudak, 8 July 1985, V. V. Korzhenevsky s.n. [YALT]; — Privetnoye settlement, headwaters of Stavlukhar, alt. 750–800m, 20 June 1989, V. N. Golubev & I. V. Golubeva s.n. [YALT]; — Yayla under Gurzuf, beneath “Besedka Vetrov”, 11 July 1997, L. E. Ryff s.n. [YALT, with duplicate].

In 2001 I had also seen three specimens of *A. erubescens* auct. from the Crimea in the herbarium of Kharkov University, but I had not an opportunity to test them again during the preparation of this paper (original labels in Russian): taluses of the S slope of Tchatyrdagh, 1950, N. Tzvelev [CWB]; — rocks on the slope of Nikitskaya Yayla, 1950, N. Tzvelev [CWB]; — Nikitskaya Yayla, 1956, N. Tzvelev [CWB].

Distribution: Endemic of southern slopes of the Crimean Mountains (fig. 3).

Flowering time: June–July.

Ecology: strictly prefers xerophytic conditions of taluses on sunny slopes with sparse vegetation cover. These conditions are typical for many Crimean endemics (YENA, personal communication).

Altitudes: 300–1000m a.s.l. (most of the collections were made at an altitude of ca. 750m).

Busch collected in Tepe-Kermen (Western Crimea) comprehensive material of a variety with remarkable spirally arching leaves. Leaves of this variety are somewhat similar to leaves of Central Asian species *A. ophiophyllum* Vved. (sect. *Scorodon* C. Koch). Spiral leaf structure, which is very consistent in all four specimens of the type collection, is a deviation for the section *Allium*. In my opinion the description of distinct variety based on leaf structure is meaningful, though other diagnostic characters important for type section's taxonomy are within the limits of *A. nathaliae* variability.

Allium nathaliae* var. *tepekermensis* Seregin var. *nova (fig. 4).

Ab *A. nathaliae* var. *nathaliae* foliis extrorsum spiraliter curvatibus (nec paulo extrorsum curvatibus) differt.

It differs from *A. nathaliae* var. *nathaliae* by spirally arching outwards (not slightly arching) leaves.

Holotypus (original label in Russian): Tepe-Kermen, SW limestone slopes, 6 June 1905, N. A. Busch s.n. [LE, with two isotypes in LE and one isotype in MW].

Distribution: Endemic of Mount Tepe-Kermen (Western Crimea, fig. 3).

Notes on *Allium erubescens* C. Koch

Allium erubescens C. Koch seemed to be a widely distributed and locally common plant in Caucasus (GROSSHEIM 1940: map 140). Grossheim annotated carefully each specimen he saw at LE during the preparation of his guide (GROSSHEIM 1949). Later Kudrjashova followed Grossheim in interpreting this species (KUDRJIASHOVA 2001).

Studying the material in LE made me sure, that Grossheim was not consistent in species limits in the section *Allium*. Trying to delimit *A. erubescens* from *A. rotundum* L. s. l. in Caucasus he relied only on one character, an acute shape of perianth segments. As a result, I can not firmly separate from *A. rotundum* s. l. almost two thirds of *A. erubescens* sensu Grossh. These specimens were collected all over Caucasus but mainly in Daghestan, where typical *A. erubescens* is very rare (fig. 5).

Allium nathaliae Seregin sp. nov.

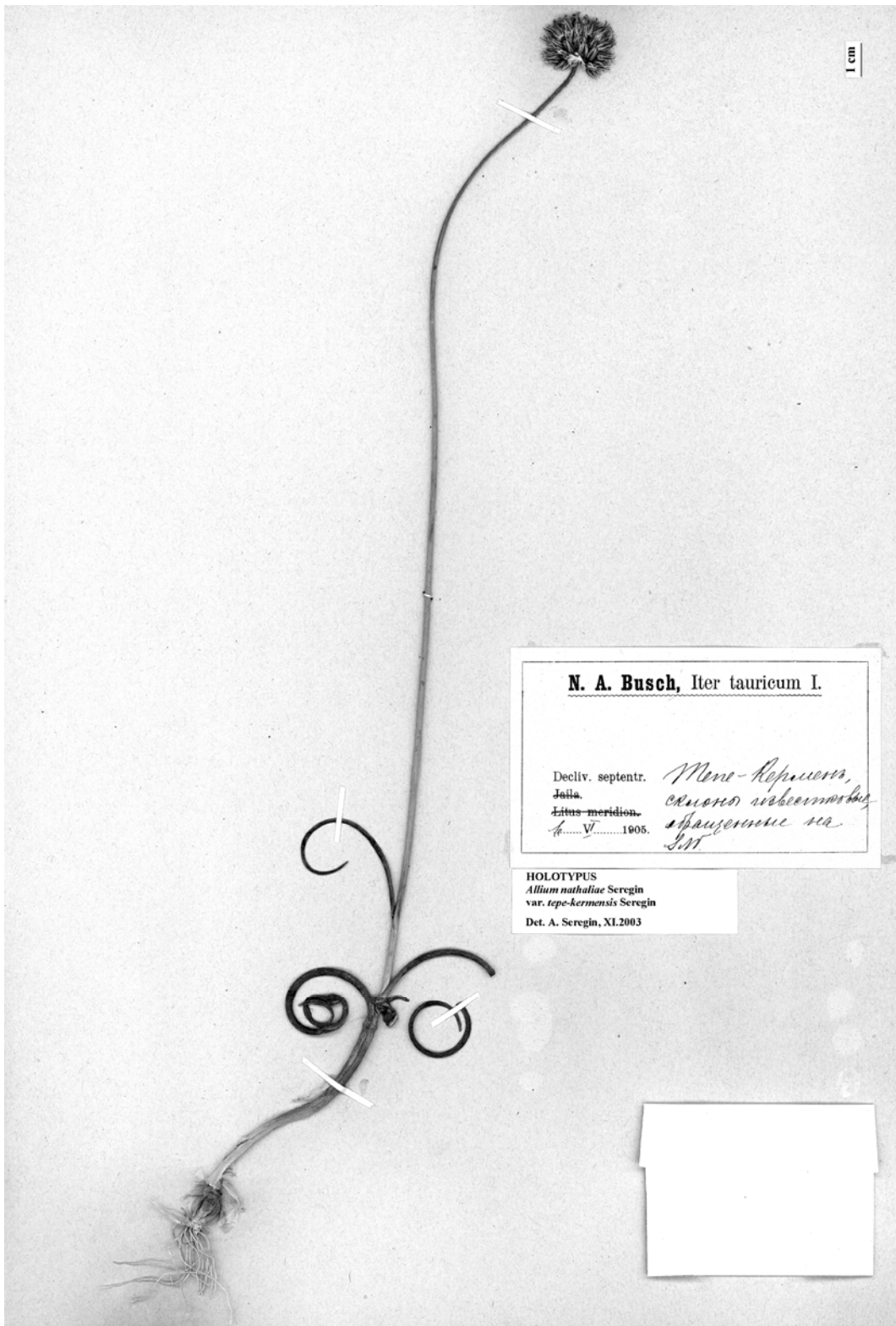


Figure 4. Holotype of *A. nathaliae* var. *tepekermensis* Seregin.



Figure 5. Distribution of *A. erubescens* C. Koch (circles) and *A. erubescens* sensu Grossh. (i.e. *A. rotundum* L. s. l.) (holed quadrangles). The large circle indicates the locus classicus of *A. erubescens* C. Koch, the triangle points at the locus classicus of *A. rubricum* Boiss. et Buhse. Locations in Iran based on WENDELBO (1971), others based on specimens from LE.

The characters I used for delimitation of *A. rotundum* s. l. and *A. erubescens* are length and shape of perianth segments and smoothness of leaf margins. Daghestanian plants of *A. erubescens* sensu Grossh., which I am concerning to be a part of *A. rotundum* s. l. nonetheless slightly differ from the latter species, a polymorphic one. These characters (table 1) are variable and of poor importance for the taxonomy of the section *Allium*, though they could be hints for further studies.

The proportion of the filament elements and bulbils of *A. erubescens* sensu Grossh. are within the limits of *A. rotundum* s. l. variability. Plants deviated from *A. rotundum* have a limited distribution in NE Caucasus (Daghestan and Chechnya Republics of Russia) (fig. 5). I am searching for additional arguments to describe Daghestanian plants as a separate taxon (cyto-taxonomical studies are desirable). Typical *A. erubescens* C. Koch is growing in Azerbaydzhan and Northern Iran.

Allium nathaliae Seregin sp. nov.Table 1. Comparison of *A. erubescens* sensu Grossh. and *A. rotundum* L.

	<i>A. erubescens</i> sensu Grossh.	<i>A. rotundum</i> L.
Umbel	rather lax, hemispherical	dense, globose
Colour of perianth segments	usually pinkish (sometimes dark purple) with purple midvein (fig. 2-3, 2-4)	from intensively dark purple to almost pink; midvein is not so remarkable
Shape of perianth segments	more acute	less acute, usually obtuse
Leaves	usually narrow (less than 2mm wide)	up to 7–8mm wide
Stem	more dwarf plant	taller plant

Taxonomic citations of discussed species (type citations for *A. brevicuspis*, *A. cilicium*, *A. rudbaricum*, and *A. waldsteinii* according to MATHEW 1996):

Allium erubescens C. Koch, Linnaea 22: 242 (1849); Vved., Fl. URSS 4: 246 (1935), p. p.; Grossh., Fl. Kavk., ed. 2, 2: 118 (1940), p. p.; Grossh., Opred. rast. Kavk.: 613 (1949), p. p.; Mathew, Rev. Allium Sect. Allium: 103 (1996), p. max. p.; Kudrjashova, Bot. J. 86(4): 124 (2001), p. p.

Type: Azerbaydzhan, “am Strande des Kaspischen Meeres in der frühern Herrschaft Kuba”, C. Koch [B? – probably destroyed].

= *A. brevicuspis* Boiss., Diagn. Pl. Or. Nov. Ser. 2, 4: 114 (1859).

Holotype: Iran, “in Persia boreali”, Buhse [G].

= *A. rudbaricum* Boiss. et Buhse, Nouv. Mém. Soc. Nat. Mosc. 12: 215 (1860); Grossh., Fl. Kavk., ed. 1, 1: 207 (1928), p. p.

Lectotype: Iran, “prope Rudbar”, May 1848, Buhse [G, with isoelectotype in K].

Allium nathaliae Seregin sp. nov.

Holotype: Ukraine, “Eastern Crimea. Vicinity of Zelenogorye settlement. Defile of the Arpat River. Stony slope beneath the waterfall”, 2 June 1990, N. Shvedtchikova [MW].

= *A. erubescens* auct. non C. Koch: Vved., Fl. URSS 4: 246 (1935), p. p.; Privalova, Opred. vyssh. rast. Kryma: 87 (1972) (“*A. rubescens*”); Omelczuk, Fl. part. europ. URSS 4: 268 (1979); Mathew, Rev. Allium Sect. Allium: 103 (1996), p. min. p.

= *A. rudbaricum* auct. non Boiss. et Buhse: Wulff, Fl. taur. 1(3): 27 (1930).

Allium rotundum L., Sp. Pl., ed. 2: 423 (1762); Grossh., Fl. Kavk., ed. 1, 1: 206 (1928); Wulff, Fl. taur. 1(3): 25 (1930); Vved., Fl. URSS 4: 246 (1935); Grossh., Fl. Kavk., ed. 2, 2: 117 (1940); Grossh., Opred. rast. Kavk.: 614 (1949); Privalova, Opred. vyssh. rast. Kryma: 87 (1972); Omelczuk, Fl. part. europ. URSS 4: 266 (1979); Mathew, Rev. Allium Sect. Allium: 99 (1996); Kudrjashova, Bot. J. 86(4): 124 (2001).

Lectotype (selected by DE WILDE-DUYFJES 1973: 80): Europe, “*Allium montanum capite rotundo*. n. 7”, Haller [P: Herb. Haller, vol. 40].

≡ *A. scorodoprasum* L. ssp. *rotundum* (L.) Stearn, Ann. Mus. Goulandris 4: 178 (1978).

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=*A. waldsteinii* G. Don, Mem. Wern. Soc. 4 (Monogr. Gen. Allium): 17 (1827); Vved., Fl. URSS 4: 248 (1935); Grossh., Fl. Kavk., ed. 2, 2: 117 (1940) ('*A. waldsteini*'); Grossh., Opred. rast. Kavk.: 614 (1949); Omelczuk, Fl. part. europ. URSS 4: 268 (1979).

Type: Turkey, "In arvis et pratis Smyrnae", G. Don [BM?].

≡*A. rotundum* L. ssp. *waldsteinii* (G. Don) K. Richt., Pl. Eur. 1: 201 (1890); Mathew, Rev. Allium Sect. Allium: 102 (1996).

≡*A. rotundum* L. ssp. *waldsteinii* (G. Don) Soó, Feddes Repert. 83(3): 136 (1972), comb. superfl.

≡*A. scorodoprasum* L. ssp. *waldsteinii* (G. Don) Stearn, Ann. Mus. Goulandris 4: 179 (1978).

=*A. cilicium* Boiss., Diagn. Pl. Orient. Ser. 1, 7: 115 (1846); Grossh., Fl. Kavk., ed. 1, 1: 207 (1928); Wulff, Fl. taur. 1(3): 27 (1930); Grossh., Fl. Kavk., ed. 2, 2: 118 (1940); Grossh., Opred. rast. Kavk.: 613 (1949) ('*A. cilicum*').

Syntypes: Turkey, "Monte Tauro Cilicicae", Kotschy 495 & 496 [G, K].

=?*A. erubescens* sensu Grossh.: Grossh., Fl. Kavk., ed. 1, 1: 206 (1928); Grossh., Fl. Kavk., ed. 2, 2 (1940): 118, p. p.; Grossh., Opred. rast. Kavk.: 613 (1949), p. p.; Mathew, Rev. Allium Sect. Allium: 103 (1996), p. p.; Kudrjashova, Bot. J. 86(4): 124 (2001), p. p.

=?*A. rudbaricum* auct. non Boiss. et Buhse: Grossh., Fl. Kavk., ed. 1, 1: 206 (1928), p. p.

Allium jajlae Vved., Bull. Univ. As. Centr. 19: 126 (1934); Vved., Fl. URSS 4: 247 (1935); Grossh., Fl. Kavk., ed. 2, 2: 118 (1940); Grossh., Opred. rast. Kavk.: 613 (1949); Omelczuk, Fl. part. europ. URSS 4: 268 (1979) ('*A. jajlae*').

Holotype: Ukraine, Crimea, "Nikitskaya yayla", 29 June 1924, Wulff [LE!].

≡*A. scorodoprasum* L. ssp. *jajlae* (Vved.) Stearn, Ann. Mus. Goulandris 4: 179 (1978).

≡*A. rotundum* L. ssp. *jajlae* (Vved.) Mathew, Rev. Allium Sect. Allium: 101 (1996).

The implementation of the name *A. erubescens* is a cautious provisional solution. *A. erubescens* was described from Kuba in Northern Azerbaydzhan, where plants, which I am concerning to be typical *A. erubescens*, are rare, but *A. erubescens* sensu Grossh. (i.e. *A. rotundum* s. l.) is locally common. Koch's type [B] was probably destroyed. The possibility that the type of *A. erubescens* represented *A. rotundum* s. l. is rather high. The name *A. brevicuspis* Boiss. should be implemented in this case for the plants from Azerbaydzhan and Northern Iran, if *A. brevicuspis* and *A. rudbaricum* Boiss. et Buhse are conspecific. In the absence of the type of *A. erubescens* it is wise to follow BOISSIER (1882), who probably had seen Koch's type and cited it together with the type of *A. rudbaricum* under one name.

Unfortunately, I have not seen specimens of *A. erubescens* from the Turkish Black Sea Coast (Samsun), but this record seems to be problematical. It is as remote from the closest localities of *A. erubescens* as Crimean populations of *A. nathaliae* are. Perhaps, a record of *A. erubescens* for Turkey (MATHEW 1996) is a result of misidentification or a collection of an apparently new species.

Results

Allium nathaliae Seregin sp. nova, an endemic of the Crimean Mountains, differs from the related *A. erubescens* C. Koch with several distinct characters. *A. erubescens* should be excluded from the Crimean (and European) flora. Typical *A. erubescens* is growing in Azerbaydzhan and Northern Iran, although the implementation of the names *A. erubescens*, *A. brevicuspis*, and *A. rudbaricum* is an intricate question. Numerous records of *A. erubescens* from Daghestan and adjacent territories refer to *A. rotundum* L. s. l. or probably to a separate (undescribed?) taxon.

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