

New *Allium* (Alliaceae) species from Tajikistan, Kyrgyzstan, and Uzbekistan

By

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With 4 figures and 1 table

Abstract

Fritsch, R. M.: New *Allium* (Alliaceae) species from Tajikistan, Kyrgyzstan, and Uzbekistan. — Bot. Jahrb. Syst. 127: 459–471. 2009. — ISSN 0006-8152.

Four *Allium* species from the mountains of Central Asia are described as new to science. Three species belong to *A.* subg. *Melanocrommyum*: *A. intradarvazicum* (*A.* sect. *Regeloprason*) and *A. khozratense* (with unclear affiliation, probably *A.* sect. *Thaumasioprason*) occur in the Tajik Darvaz mountain range, *A. chychkanense* (*A.* sect. *Longibidentata*) in the Kyrgyz Susamyr massif of the Western Tian-Shan mountain range. The fourth species, i. e. *A. furkatii* (*A.* subg. *Reticulatobulbosa* sect. *Campanulata*), occurs in the Uzbek part of the Chatkal mountain range. Taxonomic relationships and systematic affiliations of the new taxa are discussed, and *Allium* subsect. *Longibidentata* is raised from subsectional to sectional rank.

Keywords: *Allium*, taxonomy, Central Asia, new taxa.

Introduction

In the last decades, many *Allium* taxa were newly reported or newly described from the former Soviet part of Central Asia. More than 35 years ago, Vvedensky & Kovalevskaya (1971) accepted 191 species to occur in this part of Central Asia. The more recent conspectus of Khassanov (1997) enumerated 207 wild *Allium* species and 4 subspecies, and the latest version (Khassanov 2008) lists even 224 species and 20 subspecies. This is certainly not the final number of *Allium* species and subspecies growing in this botanically interesting area. During joint taxonomic research missions undertaken with Uzbek botanists in the

Received January 15, 2009, accepted February 25, 2009

1990ies (Khassanov & Fritsch 1994, Fritsch et al. 1998) we became aware of several taxa difficult to associate to known species. One of them was cultivated in Gatersleben and is described below as a new species.

In the years 2003 to 2006, several research missions were undertaken in Tajikistan and Uzbekistan focusing in part on mountainous areas which formerly had been rarely studied by botanists. These missions were undertaken in order to find out which wild-growing *Allium* species are collected by the local population, and for what kind of purpose. The plants were often collected prior to (or sometimes after) anthesis, and a remarkable number of them could only be identified in a preliminary way. After fieldwork the plants were transferred to newly established *Allium* collections in the countries where they had been collected (for more details see Keusgen et al. 2006, Keusgen & Fritsch 2008). Later these cultivated plants were taxonomically analyzed, but not all plants could be shown to belong to known taxa. From this material, two species are described here as new to science. The formal descriptions of other newly recognized taxa belonging to *A.* subgenera *Allium* and *Polyprason* will be published elsewhere (Fritsch & Khassanov 2008; Fritsch & Friesen, in press).

During a visit to the Institute of Botany in Dushanbe (TAD), two incorrectly determined herbarium specimens not belonging to any hitherto known Tajik species were found. They represent a new species which is also described below.

Results

1. *A.* subg. *Melanocrommyum* (Webb & Berthel.) Rouy

1.1. *A.* sect. *Regeloprason* Wendelbo

During the first half of 20th century, all pinkish-flowering members of *A.* subsect. *Odoratae* R.M. Fritsch were named *A. winklerianum* Regel irrespective of a conspicuous morphological and ecological diversity. Only Vvedensky (1963) separated plants from submontane steppe slopes of the Central Hissar mountain range as *A. hissaricum* Vved. A second subspecies *A. hissaricum* subsp. *cisdarvasicum* Kamelin & Seisums from southern Tajikistan was mentioned by Seisums (1994) but never validly published. Later the morphologically distinct populations from the Fergan mountain range have been described as *A. pseudo-winklerianum* R.M. Fritsch & F.O. Khass. (Fritsch 2000), and plants from the western Alai mountain range having conspicuously narrow leaves as *A. sochense* R.M. Fritsch & U. Turakulov (Fritsch et al. 2002).

Recently we were able to verify that plants growing on montane to subalpine slopes of the Hissar mountain range are morphologically inseparable from plants growing at the type location of *A. winklerianum* in the Khobu-Rabot pass area of the central Darvaz mountain range (Fritsch 2008). However, on moist slopes in the Khumbov valley less than 20 km apart from the Khobu-

Rabot pass plants with similar flowers grew which were generally about twice as high (Fig. 1A) and showed obliquely directed, much broader, smooth, and semi-glossy leaves, as well as rotundate-triangular and nearly smooth ovaries (Fig. 1C). These plants do not belong to *A. pseudowinklerianum* which is characterized by thick, erectly standing, glossy leaf blades, and spherical, finely tuberculate ovaries. Thus the plants from the Khumbov valley represent a new species.

Allium intradarvazicum R.M. Fritsch, **spec. nova** — Fig. 1.

Type: Cultivated in Gatersleben no. TAX6452, leg. 14. 05. 2007; bulbs collected in Tajikistan, Darvaz range, Khumbov canyon, canyon Ganjurak opposite to village Gshun, N exposed loamy slope among shrubs and perennials, 2560–2950 m, 38°38'01,8" N, 70°52'06,2" E, 23.07.2005, R.M. Fritsch, M. Keusgen, H. Hisoriev & I. Kudratov 6219 (holotype GAT).

Scapus 25 usque 40 cm altus, folia tenuia laevia semi-nitida oblique erecta et ovaria rotundato-triangularia sublaevia. Differt ab aliis speciebus rubrifloribus characteribus supra citatis; *A. winklerianum* statura humiliore et foliis strictis impolitis asperis, *A. pseudowinklerianum* foliis crassis strictis nitidis et ovariiis globosis subtiliter tuberculatis.

Bulbs depressed-globose, rarely more than 2 cm wide, outer tunics greyish brown. Scape cylindrical-conical, slightly flexuose, smooth, (15) 25–40 cm high, 4–5 mm in diameter, vividly green with glaucous bloom, near base brown flushed. Leaves 1–2, narrowly lanceolate with a linear medium part, gradually tapering in a hooded tip, lower part ± canaliculate and with fine teeth, upper part even and smooth, strictly upright, later upper part hanging down, very thin, upper side smooth or with fine grooves, lower side with dense fine ribs, 35–60 cm long, 1–3(4.5) cm wide, vividly green but brown flushed near base, weakly glossy because of glaucous bloom. Outer sheath leaf delicately membranous, visible but soon decaying. Spathe membranous, completely split in 2 widely ovate-triangular parts more or less adpressed to the pedicels, yellowish-brownish with brown veins. Flowers narrowly funnel-shaped, with nice sweet odor, anthesis in May. Inflorescence initially ovate-fasciculate later widely fasciculate, moderately many-flowered, (1.5)2–4 cm in diameter. Pedicels thin and wiry, nearly straight, cylindrical, green. Tepals up to 1/3 of its length basally united, the free part widely lanceolate, outer ones narrower and initially somewhat shorter, obliquely forward directed and slightly recurved, arcuately tapering into an obtuse plicate tip, c. 12 (free part 7–8) mm long, inner tepals 2 mm, outer ones 3 mm wide, pinkish-carmine with narrow green median vein. Filaments basally united with the tepals and among themselves, free part of outer filaments 1/3 as long as the free part of tepals, shortly subulate, fleshy, free part of inner filaments 2/5–3/5 as long as the free part of tepals and ± triangular; basally more intensely red colored than upper part. Anthers ovately arrow-shaped, tipped by a short outgrowth of connective, c. 1.5 mm long and 0,8 mm wide, yellow. Pollen faintly yellow. Ovary long stalked, ovate, 3 mm long and nearly 2 mm in diameter, green (sutures brighter), somewhat glossy, surface cells of up-

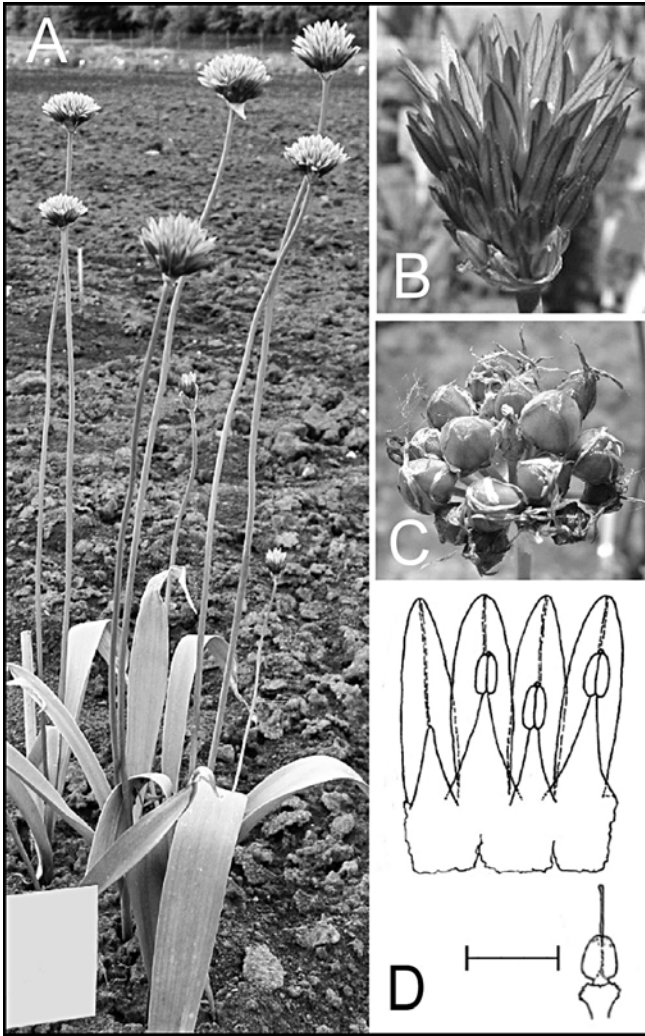


Fig 1. *Allium intradarvazicum*. A: Cultivated plants from type location in anthesis, B: inflorescence in early stage of anthesis, C: green capsules, D: stamens with anthers, tepals, and ovary, scale bar = 4 mm.

per part shallowly tuberculate, those of lower part \pm smooth, mound of nectary very small, located near the very base of ovary. Style conically filiform, 1–3 mm long, basally whitish and pinkish-carmine above. Stigma very shortly incrassate, whitish. Capsule triangularly globose, valves with irregular ribs, about 6–7 mm in diameter, opening by narrow clefts. Seeds 2–3 (6) per loculus, 2–2.5 mm long, c. 1.5–2 mm wide and thick, dull black.

Distribution: Tajikistan: Darvaz mountain range, only known so far from Khumbov valley.

Other material seen: Two accessions cultivated in Gatersleben from bulbs collected in Tajikistan, Darvaz range, Khumbov canyon: (1) TAX6450 leg. 07.05.2007 (GAT), from Regi Ravon above third bridge, E exposed loamy-stony slope between shrubs and perennials, 2100 m, 38°37'24,1" N, 70°51'48,7" E, 22.07.2005, R.M. Fritsch, M. Keusgen, H. Hisoriev, I. Kudratov 6216; (2) TAX6454 leg. 14.05.2007 (GAT), small canyon Osiobdara near village Gshun, S exposed loamy-stony slope, among high perennials, 2700 m, 38°39'24,1" N, 70°51'20,1" E, 24.07.2005, R. M. Fritsch, M. Keusgen, H. Hisoriev, I. Kudratov 6221.

1.2. *A. sect. Thaumasioprason* Wendelbo

Vvedensky determined two herbarium specimens kept at TAD as "*Allium angustitepalum* Wendelbo aff.". However, only at a first glance these plants look like members of *A. sect. Megaloprason* Wendelbo. On closer examination, the tepals are not reflexed after anthesis (Fig. 2), and the ovaries show a smooth surface and a very narrow base. In addition, a pedicel character is very specific: the ovaries are not only inflated near the base but also at the tip (Fig. 2 inset). The conical widening of the tip of pedicels directly below the flower is an extremely common character in the genus *Allium*, but this kind of spherical inflation is not known from any other species. These plants represent a hitherto undescribed species:

Allium kbozratense R.M. Fritsch, *spec. nova* — Fig. 2.

Typus: Tajikistan, Yugo-vostochn. chast Yuzho-tadzhikistanskoj depressii, zapadnyj sklon khrebta Khirikh, 2 km yugo-vostochni kishlaka Sarygor, na galechnikakh [Khozratishoh mountain range SE of Kulyab, W slope of Khirikh massif 2 km SE of vill. Sarygor, gravel area], 1400 m, 01. VI. 1961, Soskov & Yunusov 283 (left plant; holotype TAD 12811).

Statura graciliore, scapus usque 25 cm altus foliis anguste-lanceolatis acutis et brevioribus quam scapus, inflorescentia deinde basi dilabentia, flores kermesini stellari-infundibuliformes tepalis strictis deinde non reflexis, ovaria subpolita applanato-obovata basin versus peracutata, pedicelli tenues stricti basi elongato-obovati et apice sphaerico-inflati. Differt ab speciebus *A. sectionis Megaloprason* tepalis post anthesin non reflexis et ovarii subpolitis non verrucosis, et ab specie affini *Allio scotostemon* tepalis lanceolatis subacutis (non elliptico-oblongis obtusis) et filamentis tertia partis brevioribus tepalorum (non equilongis) et statura graciliore (non compacta humiliore).

Bulbs ovate, c. 1.5 cm in diameter and 2 cm long, outer tunics membranous, grey up to brown. Scape erect, slightly flexuose, cylindrical, probably smooth, c. 3 mm in diam., 15–25 cm long. Leaves 2 (3), blade very narrowly lanceolate, long tapering, 4–8 mm wide, 20–30 cm long. Spathe irregularly split, patent. Flowers funnel-shaped star-like, anthesis in the beginning of June. Inflorescence semi-globular, moderately dense, c. 4 cm in diameter, after anthesis (and in the

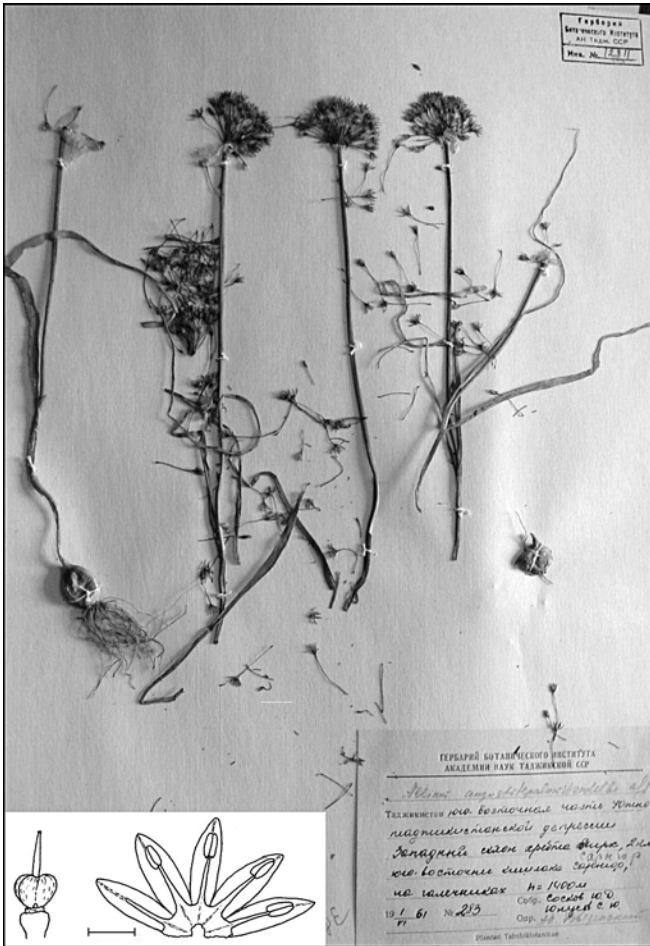


Fig 2. *Allium kbozratense*, type specimen (holotype: most left plant), inset: ovary, stamina with anthers, and tepals, scale bar = 2 mm.

dry state, Fig. 2) basally disintegrating. Pedicels thin and wiry, nearly straight, at base long-obovate and at tip somewhat spherically inflated. Tepals lanceolate, 4,5–6 mm long, carmine, after anthesis brownish but direction unchanged. Filaments roughly $2/3$ as long as tepals, subulate, inner ones basally slightly wider, probably whitish. Anthers oblong, about 1 mm long and 0.5 mm wide. Ovary depressed obovate with 6 shallow furrows, strongly tapering towards base but not stalked, about 2 mm long and in diameter, surface \pm smooth but not glossy. Style long-conical tapering towards the undivided stigma. Capsule and seeds not seen.

Distribution: South-East Tajikistan, southern part of Khozratishoh mountain range.

Other material seen: Yu.-v. chast tadjikistan. depressii, 6 km S.-v. kishl. Iel, k yu.-v. ot kishl. Sary-Mazgar. Skaly [southeastern part of the south-Tajik lowland, 6 km NE of village Iol SE of village Sary-Mazgar, rocks], 1400–1500 m, 18. VI. 1961, *Yu. D. Soskov & S. Yu. Yunusov 1440* (TAD 12812). Possibly also another sheet may belong here, with inflorescence and flowers untypically developed in the press: Tajikistan, Gory u k-ka Iol nedaleko ot k-ka Sary-Mazgar, kamenistaya sklon, [mountains near village Iol not far from village Sary-Mazgar, stony slope] 14000 (sic!) — 1500 m nad u. m., 06. VI. 1991, *A. Seisums* (LE, also labelled as “Holo-Typus *A. pandzhi Seisums*”, a name never validly published).

One may assume that the capsules of *A. khozratense* do not open very much but are dropping down with the seeds inside as it is known from *A. giganteum* and *A. macleanii* of *A. sect. Compactoprason* (Fritsch 1992). All the above mentioned specific characters do not allow to assign *A. khozratense* with certainty to any of the known sections of *A. subg. Melanocrommyum*. A certain affinity (but no close relationship) may exist to *A. scotostemon* Wendelbo which shows, despite of a much more condensed habit, a similar shape of tepals and filaments, and shares basally disintegrating inflorescences with all species of *A. sect. Thaumasioprason*. *Allium gypsaceum* Vved. (*A. sect. Popovia* F.O. Khass. & R.M. Fritsch) also possesses basally disintegrating inflorescences but completely different flower characters. Further investigations will be essential in order to verify whether this affiliation is correct, or if *A. khozratense* belongs to a not yet recognized taxonomic group.

1.3. *A. sect. Longibidentata* (R.M. Fritsch) R.M. Fritsch, **stat. et comb. nov.**

≡ *Allium* L. sect. *Acmopetala* R.M. Fritsch subsect. *Longibidentata* R.M. Fritsch in Linzer Biol. Beiträge 26: 974, 1994. — Type: *A. fetisowii* Regel.

Recent molecular-phylogenetic studies of *A. subg. Melanocrommyum* (Gurushidze et al. 2008) arranged the species in a basal grade (8 species) and a core clade with all the remaining species. The divisions within the grade were statistically well supported. One group represents *A. fetisowii* in the wide sense consisting of two statistically well supported geographical subgroups (1. west of 76° E longitude; 2. south of Kirgizian Alatau and Talassian Alatau mountain ranges) and a third weakly supported geographical subgroup (east of 76° E longitude). The large genetic distance between these subgroups favors to recognize them at the level of a section.

Well visible morphological differences between the two “northern” subgroups (1. and 3.) were not found yet. They constitute typical *A. fetisowii* which grows on grassy steppe slopes. However, plants of the “southern” (2.) subgroup differed morphologically from them by shorter and broader leaves and by tepals completely turned backwards. They occur in higher altitudes under more hu-

mid conditions among other perennials and small bushes and represent another taxon:

Allium chychkanense R.M. Fritsch, **spec. nova.** — Fig. 3.

Type: Cultivated in Gatersleben no. TAX5057, leg. 05.05.1999, (holotype GAT), plants collected in Kyrgyzstan, Talassischer Alatau, Rechter Hang am Chichkan-Fluß ca. 15 km unterhalb des Alabel-Passes, trockene Stellen am Hang, ca. 2200 m, 42°15' N, 73°00' E, 03.07.1994, R.M. Fritsch, K. Pistrick & F. O. Khassanov 1206 (GAT, TASH).

Eminent foliis usque 5 cm latis et non plus 25 cm longis, tepalis sub anthesin perfecte retrorsis, et dentibus lateralibus brevibus variabiliformibus basin fila-

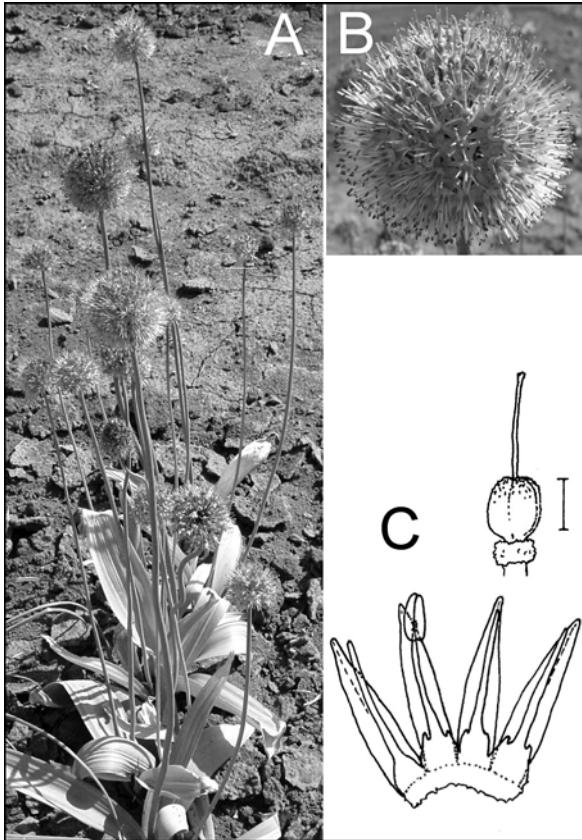


Fig 3. *Allium chychkanense*. A: Cultivated plants from type location in anthesis, B: inflorescence in full anthesis, C: ovary, stamina with anthers, and tepals, scale bar = 2 mm.

mentorum interiorum (et non numquam exteriorum) versus. *Allium fetisowii* differt foliis usque 2 cm latis et usque 40 cm longis, dentibus lateralibus basin interiorum filamentorum versus longe triangularibus. *Allium schachimardanicum* non eminet dentibus basin filamentorum interiorum versus.

Bulbs depressed-globose, 8–25 mm in diameter, 2–20 mm long, inner tunics membranous, white, outer ones grey to black, decomposing in pieces. Scape cylindrical, smooth, 4–6 mm in diameter, 40–60 cm long, green, basally purple flushed. Leaves 1–2, lanceolate, stiff up to low obliquely positioned, \pm longitudinally carved, later nearly flat, 20–25 cm long, 1.5–5 cm broad, vividly green, glaucous, basally violet flushed, upper side with shallow ribs, lower side with flat and broad ribs, shortly arcuately tapering in a hooded (often reddish) tip, margin reddish, smooth or very finely toothed. Outer sheath leaf delicate, quickly decaying. Spathe membranous, nearly completely divided into two shortly tipped valves, \pm reflexed. Anthesis in May. Inflorescence very dense, many-flowered, initially oval, later globular or somewhat conical. Pedicels thin, wire-like, straight, 15–25 mm long, green, basally reddish. Flowers initially cup-shaped, star-like. Tepals lanceolate to triangular, turned backwards but upper part slightly inverted, shortly tipped, tip claw-like, 6–8 mm long, 1.2–2 mm wide, rose, the greenish median vein is visible at the outer side only in the distal part. Filaments approximately as long as the tepals, basally c. 0.5 mm long united and shortly triangular widened (inner ones twice as broad as the outer ones), above subulate, inner (and often also outer) filaments basally with a blunt, irregularly formed tooth at every side, pink, basally mostly whitish. Anthers oblong, 1.6–2 mm long, c. 1 mm wide, violet. Pollen yellowish grey. Ovary globular-pyriform, stipitate, c. 2 mm long and in diameter, surface coarsely tuberculate, slightly glossy, with shallow longitudinal furrows, greenish with purplish flushed sutures. Mound of ovary slit-like near the base. Style conical-threadlike, 3–6 mm long, rose, like the undivided stigma. Capsule triangular-pyramidate, 4–5 mm long and in diameter, finely scrobiculate, yellowish-brown, slightly glossy. Seeds dull black, 1.5–1.8 mm long, c. 1.2 mm wide and thick.

Distribution: moderately dry slopes and river terraces in higher altitudes of the Susamyr massif, Central Tian-Shan mountain range.

Other material seen: Cultivated in Gatersleben no. TAX5060, leg. 29.05.1996 and 03.05.1999 (GAT), collected in Kyrgyzstan, Chichkan-Tal ca. 25 km südlich vom Pass Alabel, schattiger Südhang, Talassischer Alatau, 1750 m, 42°10' N, 72°52' E, 04.07.1994, R. M. Fritsch, K. Pistrick & F. O. Khassanov 1210.

Allium schachimardanicum Vved. shows similar leaves as the new species but differs in tepals with retrorse basal and introrse upper part and filaments without side-teeth. It grows on rock terraces in a small area of Alai mountain range only. This species belongs molecularly to the core clade where also other subsections of *A. sect. Acropetala* were inserted (Gurushidze et al. 2008). Thus the former *A. subsect. Longibidentata* cannot longer be inserted under *A. sect. Acropetala* but represents a section of its own to which only *A. fetisowii* and *A. chychkanense* belong.

2. *A.* subg. *Reticulatobulbosa* (Kamelin) Friesen sect. *Campanulata* Kamelin

In the mountains south and east of Tashkent, most often *A. jodanthum* Vved. with deep-carmine flowers can be met with, and also two forms of *A. barsczewskii* Lipsky with pinkish-violet (f. *violaceum* Krassovs.) and white flowers (f. *niveum* Krassovs.) are not rare on slopes covered with good soil. On rocky outcrops and terraces a more delicate, rose-pinkish flowering, and narrow-leaved species is sometimes found which keys out as *A. inconspicuum* Vved. according to Vvedensky & Kovalevskaya (1971). However, the original description of the latter species, based on plants from the Kazakh steppe areas north of Tashkent, mentions mostly rough leaf margins, light violet flowers, and violet anthers. Plants from the Kazakh Syrdarya-Karatau mountain range, also keying out as *A. inconspicuum*, have smooth leaves, blood-red tepals, and yellow anthers (see Fritsch 2008: 77, fig. 30 C) and represent probably another related taxon. The different key characters of the discussed taxa are compared in Table 1. The plants from the Chatkal mountain range (Fig. 4) also do not belong to *A. kysylkumi* Kamelin which has pinkish tepals with scarcely darker median vein, smooth leaves, and as main difference crown-like outgrowths at the top of ovary. Thus the plants similar to *A. inconspicuum* represent a new species, a fact which also could be clearly recognized in cultivated specimens.

Table 1. Key characters of *A. inconspicuum*, *A. barsczewskii*, and *A. furkatii*

Taxon	<i>A. inconspicuum</i> s. lat. (Karatau)	<i>A. inconspicuum</i> s. str.	<i>A. barsczewskii</i>	<i>A. furkatii</i>
leaf blades	Smooth	rough	smooth	dentate or shortly hairy along margin
flower shape	urn-shaped	(no data)	narrowly funnel-shaped	widely funnel-shaped
Tepals	blood-red	light violet	white, pink to purplish pink	pink with purple median vein
filaments	pink with blood-red distal part	(no data)	white throughout or with pink distal part	whitish with purple distal part
Anthers	Yellow	violet	yellow or purple	purple

Allium furkatii R.M. Fritsch, **spec. nova** — Fig. 4.

Type: Cultivated in Gatersleben no. TAX6360, leg. 07. 05. 2007 (holotype GAT); plants collected in Uzbekistan, Chatkal range, above village Sukok 50 km eastern Tashkent, southern rocky slope, steppe meadow, 1380 m, 41°14'54,7" N, 69°49'01,3" E, 20.07.2005, R.M. Fritsch et F.O. Khassanov 4209.

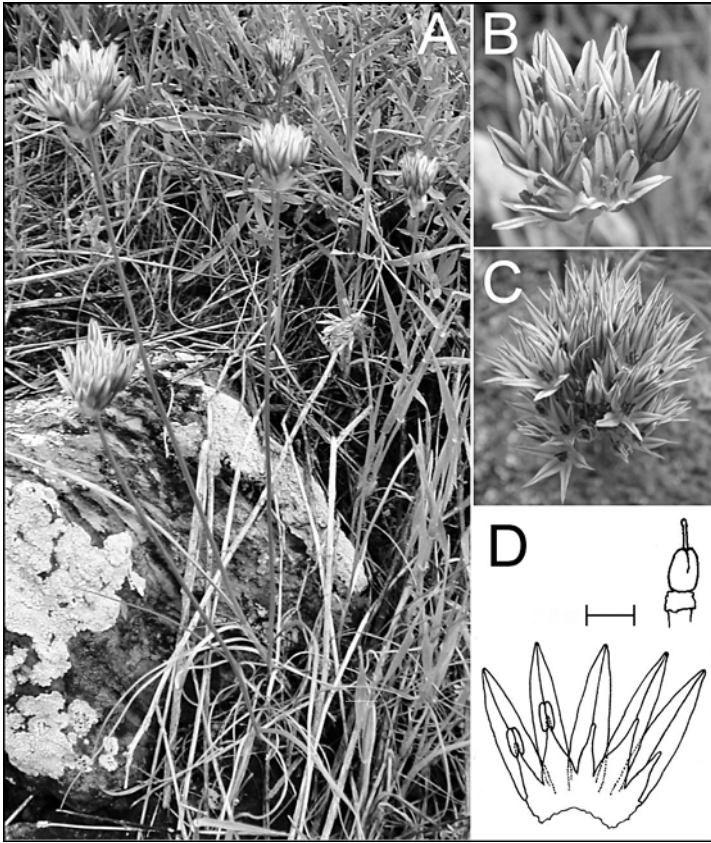


Fig 4. *Allium furkatii*. A: Flowering plants at type location, B: inflorescence at type location, C: inflorescence of cultivated plant, D: ovary, stamens with anthers, and tepals, scale bar = 2 mm.

Folia angusta marginibus dentatis sive brevis pilosis, flores late infundibuliformes, et tepala rosea nervo mediano conspicuo purpureo. Ab speciebus affinis differt foliis non glabris, forma et colore florum et tepalis nervo mediano parum conspicuo.

Bulbs narrowly ovate, c. 5–7 mm in diameter, 1.5–2 cm long, covered by yellowish-brown reticulate tunics. Scape cylindrical, straight, 20–40 cm long, 2–3 (4) mm in diameter, smooth, green. Leaf sheaths covering the stem up to $\frac{1}{4}$ of its length, coarse, greenish, basally purple flushed; leaf blades sub-cylindrical, later semi-cylindrical, 15–25 cm long, 1–2 mm wide, coarse by short cilia along margins and partly along the longitudinal ribs of lower side; vividly green. Spathe membranous, very shortly beaked, brownish with carmine flush, veins

yellowish-brown. Flowers campanulate, at full anthesis triangular-funnel-shaped. Inflorescence fasciculate, dense. Pedicels straight, stiff, smooth, shorter than flowers, after anthesis elongated; green, reddish flushed. Tepals basally 2.5–3.5 mm high connate, free part narrowly lanceolate, ± triangularly tapering in a short obtuse tip, 6–7 mm long, plicate, pink with purple median vein, outer tepals c. 2 mm wide, with basal margins covering the margins of inner ones, inner tepals c. 1.5 mm wide. Filaments basally 2.5–3 mm high adnate to the bases of tepals, fleshy, free part basally connate and triangularly widened (inner filaments two times wider than outer ones), whitish, upper part subulate and pink or purple. Anthers oblong, c. 1 mm long and 0.5 mm wide, purple. Pollen yellowish. Ovary ovate with three shallow longitudinal furrows, c. 2–2.5 mm long, c. 1.5 mm in diameter, mound of nectary not seen, nearly smooth, green. Style ± conically filiform, 1–3 mm long, pinkish, with white sub-capitate stigma. Capsule broadly pyriform-triangular, 4–5 mm in diameter.

Distribution: Western Chatkal range, dry and rocky slopes.

Other materials seen: Uzbekistan, Schotterhang oberhalb Taschkent, ca. 1700 m, 15. 6. 1984, *P. Gutte* (GAT); cultivated in Gatersleben no. TAX5804 leg. 2005, collected by Dr. Maltzev in the vicinity of Parkent (S Tashkent), Chatkal mountain range, Uzbekistan (GAT).

Acknowledgements

Thanks are due to the directors of the supporting institutions, Prof. Dr. H. Hisoriev (Institute of Botany of the Tajik Academy of Sciences, Dushanbe), Prof. Dr. O. A. Ashurmetov (Scientific-Productive Centre “Botanika” of the Uzbek Academy of Sciences, Tashkent), for technical and organizational support, and Parvina Kurbonova, Hikmat Hisoriev, and Furkat Khassanov for organizational work and leading participation in the research missions. In addition, I would like to thank them and Michael Keusgen for detailed and often long discussions on newly collected plants during field-work. I would also like to express my gratitude to the staff of the IPK taxonomic *Allium* reference collection, Mrs. Ch. Koch, Dr. K. Pistrick, and Mr. K. Hecker, for permanent support and assistance especially when I took part in the missions. Financial support by the *VolkswagenStiftung* (Hannover, Germany) as part of the “PharmAll” project in the frame of the program “Zwischen Europa und Orient — Mittelasien/Kaukasus im Fokus der Wissenschaft” is gratefully acknowledged.

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