W. GREUTER

ARMEN TAKHTAJAN AND THE MEDITERRANEAN AREA

Գրյոյթեր Վ.: Արմեն Թախտաջյանը եւ Միջերկրայք:
Грёйтер В. Армен Тахтаджян и Средиземноморье.

Armen Takhtajan's old and close relations with the Mediterranean area and its plants are an aspect of his expertise that is often neglected, given the universal character of his interests and achievements. I first met Armen during the First International Symposium on Balkan Flora and Vegetation in Varna, Bulgaria, in June 1973 (Jordanov & al., 1975). I shall never forget (nor did he, during his lifetime) the hearty links then established. They were at the root of Armen's early involvement with OPTIMA (the Organisation for the Phyto-Taxonomic Investigation of the Mediterranean Area), founded the following year with Armen as a member of the first International Board. It is no coincidence that the invitation to hold the First OPTIMA Meeting (September 1975) in Crete was presented to the OPTIMA Board by a delegation of Greek botanists, and joyfully accepted, during the XII International Botanical Congress in Leningrad, of which Armen was President.

Armen, Nora with Lorna and Oleg Polunin in Bulgaria, 1973

To Varna, I had brought with me a one oka (c. 1.5 l) bottle of Macedonian tsipouro (a spirit resembling grappa), the strongest I could find in Thessaloniki, allegedly with 70 % alcohol content. This came in handy during the post-congress excursion when, arriving in Bakovo, we found the hotel bar and all taverns closed. We were a small group, including Armen, Hasse Runemark, and Jaakko Jalas, to kill that bottle during a night of high spirits, at the end of which Armen was admitted as an associate member of the arcane Aegean Academy of Sciences, on the grounds that, even if he had never botanised in the Aegean area, he had at least crossed it by boat, bound toward the Black Sea, and that he had successfully undergone all other mysterious admission trials. Armen later pretended that the tsipouro in question was the worst spirit he had tasted in his lifetime — but he said it with that marvellous, characteristic smile of his, shimmering from his eyes but appearing to have its roots far behind, deep in his profound and profoundly humorous Armenian soul.

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TWO NEW SPECIES OF *AMBERBOA* (*ASTERACEAE, CARDUEAE*) FROM CENTRAL ASIA

Two species of *Amberboa* (Pers.) Less. new to science are described and illustrated. *A. takhtajanii*, collected in Zaisanian salt steppe (m. Ashutas) in East Kasakhstan, is related to *A. turanica* Iljin, but differs by the shape and size of leaves, involucre and phyllaries. *A. gubanovii* was collected in East Kopetdag (Turkmenistan) and is related to *A. amberboi* (L.) Tzvelev, distinguishing though by the leaf shape, glabrous involucre, the shape and size of phyllaries and slightly radiant marginal flowers.

Asteraceae, Amberboa, taxonomy, new species, m. Ashutas, Kopetdag ridge

Գաբրիելյան Է. Յ. Ամբերբոայի (*Asteraceae, Cardueae*) երկու նոր տեսակ Կենտրոնական Ասիայից: Նկարագրված է գիտության համար երկու նոր տեսակ *Amberboa* (Pers.) Less. ցեղից: *A. takhtajanii* տեսակը հավաքված է Արեւելյան Ղազախստանի Զայսանյան աղուտային տափաստանից (Աշուտաս սար), որը ազգակից է *A. turanica* Iljin տեսակին, սակայն տարբերվում է տերեւների, փաթաթոցի եւ փաթաթոցի թերթերի ձեւով եւ մեծությամբ: *A. gubanovii* տեսակը հավաքված է Արեւելյան Կոպետդաղից, որը ազգակից է *A. amberboi* (L.) Tzvelev տեսակին, սակայն տարբերվում է տերեւների ձեւով, մերկ փաթաթոցով, փաթաթոցի թերթերի ձեւով եւ մեծությամբ, եզրային ծաղիկների կառուցվածքով:

Asteraceae, Amberboa, կարգաբանություն, նոր տեսակներ, Աշուտաս սար, Կոպետդաղ լեռնաշղթա

Габриэлян Э. Ц. Два новых вида Амбербоа (*Asteraceae, Cardueae*) из Центральной Азии. Описано два новых для науки вида рода *Amberboa* (Pers.) Less. *A. takhtajanii* собран из Зайсанской степи на солончаках (г. Ашутас) в Восточном Казахстане и более или менее сближается с *A. turanica* Iljin, отличаясь формой и величиной листьев, обертки и листиков обертки. *A. gubanovii* собран в Восточном Копетдаге, близок *A. amberboi* (L.) Tzvelev, отличаясь формой листьев, голой оберткой, формой и размерами листиков обертки, а также едва увеличенными краевыми цветками.

Asteraceae, Amberboa, систематика, новые виды, гора Ашутас, хребет Копетдаг

Amberboa (Pers.) Less. is not a large genus, but from the point of view of taxonomy and nomenclature it is very complex. The species of this genus were placed in a vast genus *Centaurea* L. (Linnaeus, 1753: 909, Willdenow, 1803),

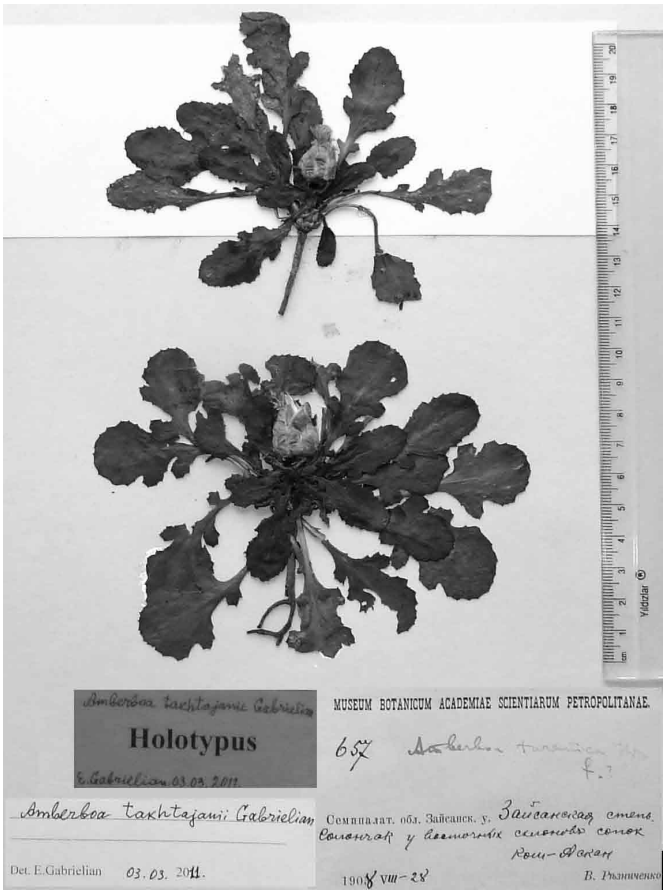

Fig. 1. Holotype of *Amberboa takhtajanii* (ERE).

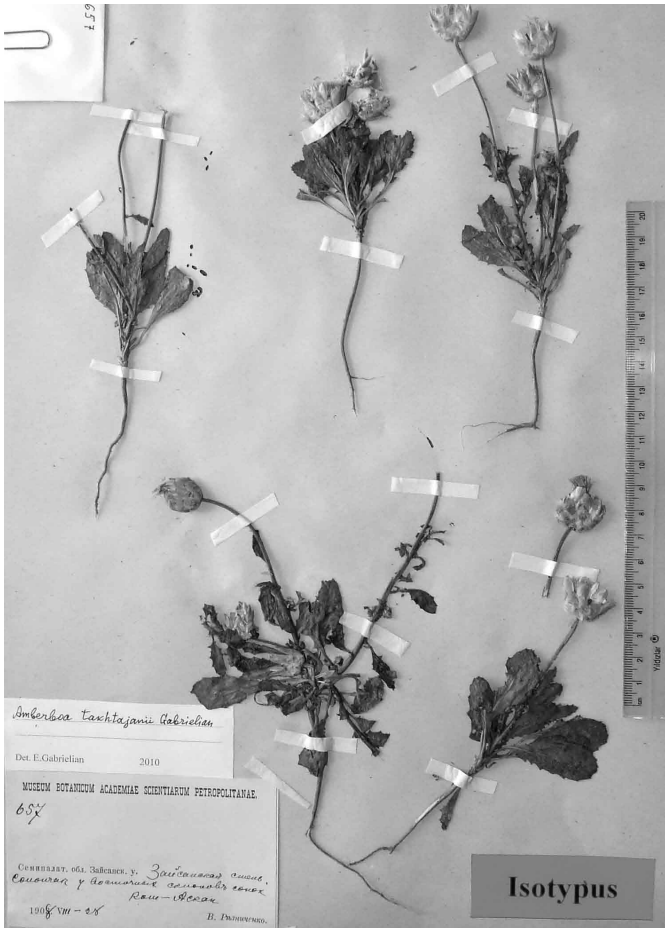

Fig. 2. Isotype of *Amberboa takhtajanii* (LE).

or in *Chryseis* Cass. (Cassini in Cuvier, 1817: 154). Often the representatives of a distinct genus, *Volutaria* Cass., were and are still included in *Amberboa* (Boissier, 1875: 605—607; Dinsmore in Post, 1933: 101—102; Feinbrun-Dothan, 1978: 389—390; Feinbrun-Dothan & Danin, 1991: 725—726; Boulos, 1995: 149). *Volutaria* species were collected by me in Israel and compared with representatives of *Amberboa*. They deviate markedly and shouldn't be included in the latter genus.

During a monographic study of all *Amberboa* species, conducted since the 1970-ies in the herbaria B, B-WILLD, BM, E, G, G-BOIS, G-DC, HUJ, K, LE, LINN, MHM, MW, P, TBI, TGM, W, and WU, it became clear that there was a great muddle in the identification of species, which I had to correct, and much unindentified material to be determined. In LE not only the Caucasian and General herbaria were studied, but also the rich collections of Middle-Asia including Turkmenia, Kirghizia, Uzbekistan, Tadzhikistan, Kazakhstan, Karakalpakia, as well as Mongol-Chinese (Dzhungaria) and Inner Mongolia-China.

While working in BM with authentic materials in the Clifford Herbarium, as well as at LINN, the lectotypes of two Linnean binomials — *Amberboa moschata* (L.) DC and *A. amberboi* (L.) Tzvelev, were established (Gabrielian & Jarvis, 1996). *A. moschata* and *A. glauca* had often been united or confused. Nevertheless our research, underpinned by the study of the type specimen of *A. glauca* in B-WILLD, revealed many new diagnostic features between them (Gabrielian, 1995; Gabrielian & Javis, 1996; Gabrielian, 2008). In the LE herbarium several species new to science from Central Asia have been identified and described that await publication. Two of them are dealt with here.

Thus to the 8 currently known *Amberboa* species (*A. amberboi, A. bucharica* Iljin, *A. glauca* (Willd.) DC., *A. iljiniana* Grossh., *A. moschata*, *A. nana* (Boiss.) Iljin, *A. sosnovskyi* Iljin, *A. turanica* Iljin) 2 new ones are added, as follows.

Amberboa takhtajanii Gabrielian, sp. nova

Holotypus: Regio Semipalat., districtus Zajsansk. Steppa Zajsanskaya. Locus salsus declivia orientalia calles Kosch-Askan. 28.VIII.1908. *V. Reznitchenko N 657* (ERE 178680; iso. LE). Fig. 1—4.

Species affinis *A. turanicae* Iljin a qua foliis rosularibus lyrato-pinnatifidis apice semper rotundatis (nec plerumque indivisis rarius pinnatilobatis apice acutatis), aeque ac forma involucri et phyllariorum differt.

Planta annua, acaulis vel caulibus paucis ± brevibus, 2—7 (9) cm longis. Folia 4—6 cm longa, glabra; rosularia lyrato-pinnatifida segmento terminali semper rotundato 2—2,5 cm in diam., margine leviter et irregulariter dentati, dentibus 10—12 apice cartilagineo-mucronatis. Capitula solitaria. Involucrum ovoideum, 1,3—1,5 cm longum, adultum a latere visum subquadratum, lanatum. Phyllaria exteriora lata rotundata, scariose purpureo-marginata et ad nervos purpurascentia, exappendiculata; interiora oblonga, 2—3 mm lata, appendice anguste triangulari, scariose purpureo-marginata, caduca. Flores flavi, marginales steriles pauci, non radiantes, centralibus tubulosis aequilongi. Achenia 4—5 mm longa; pappus 5—6 mm longus.

Plant annual, acaulescent or with several more or less short stems, 2—7 (9) cm long. Leaves 4—6 cm long, glabrous; rosette leaves lyrate inparipinnatifid with terminal segments always suborbicular, 2—2,5 cm diam., on margin shallowly and irregularly dentate; the 10—12 teeth ending in cartilaginous short mucros. Capitula solitary. Involucre broadly ovoid, 1,3—1,5 cm long, adults almost square, lanate. Outer phyllaries broad, rounded with narrow purple scarious margins without appendages; inner ones narrow, 2—3 mm broad, oblong-linear, appendages narrowly triangular, 2—3

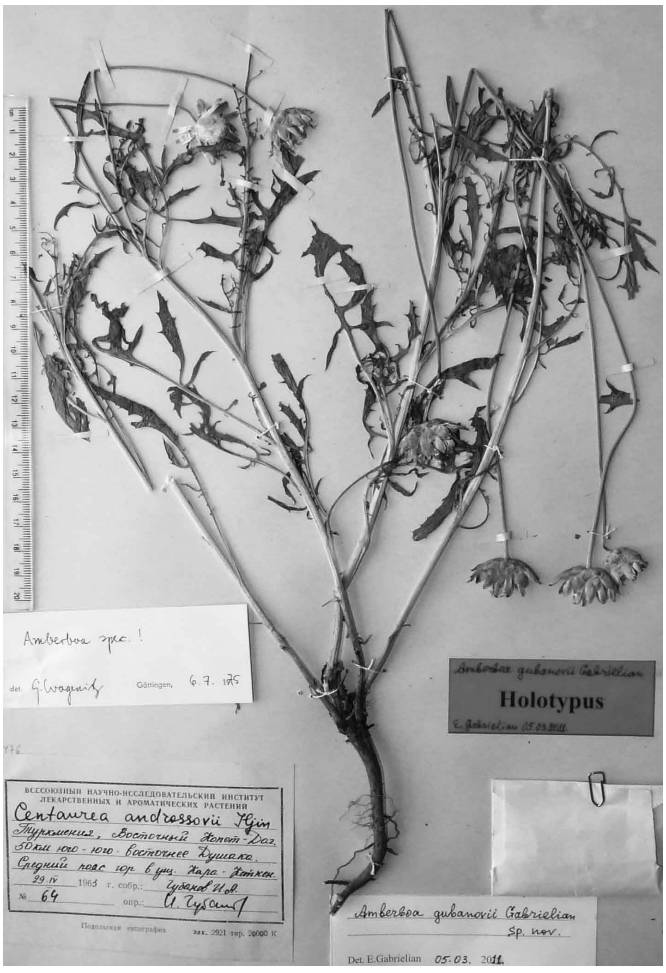

Fig. 5. Holotype of *Amberboa gubanovii* (ERE).

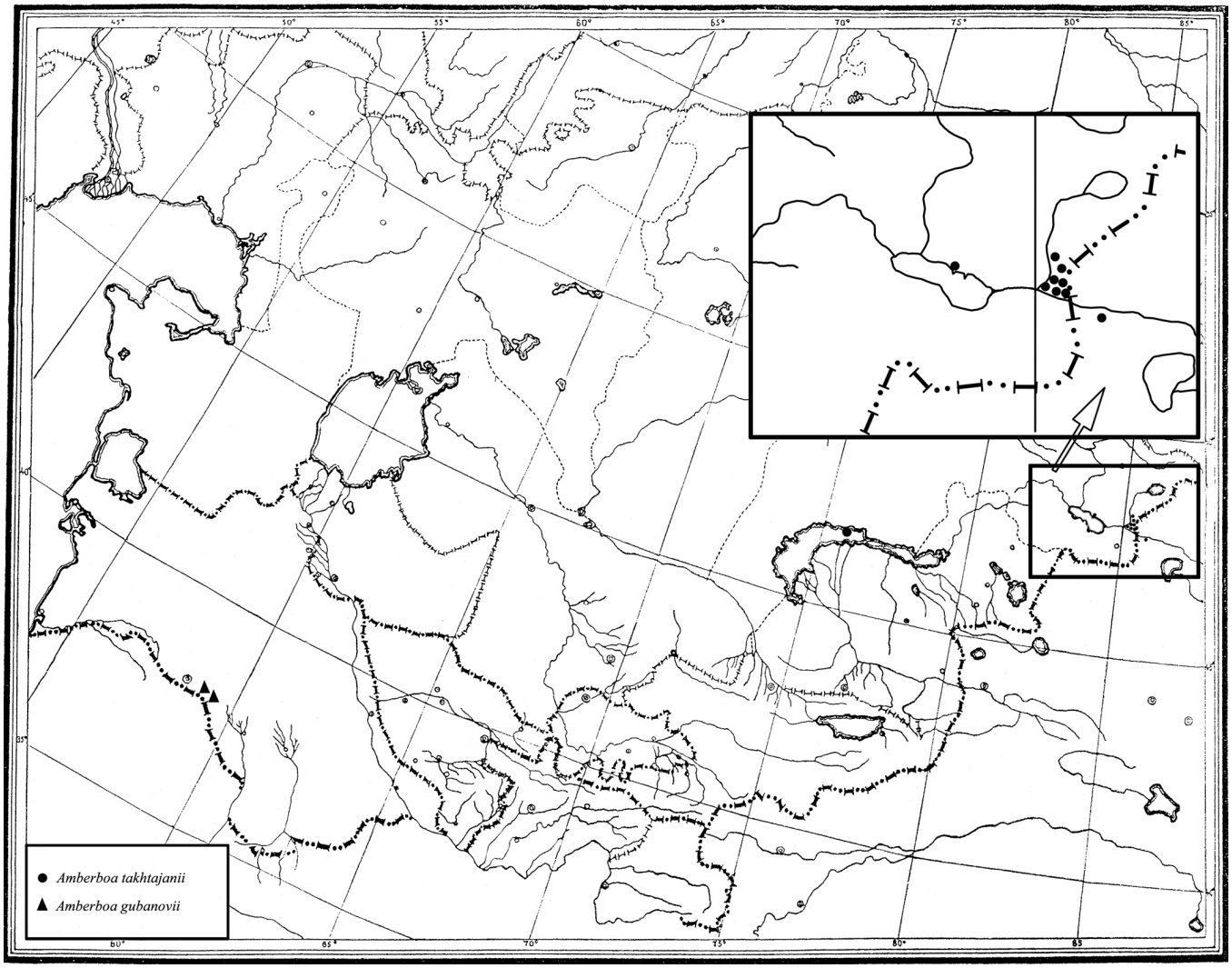

Fig. 3. Distribution of *Amberboa takhtajanii* and *A. gubanovi*.

mm long, with purple paleaceous margin, caducous. Flowers yellow; marginal ones very few, sterile, not radiant, not exceeding tubular ones central. Achenes 4—5 mm long; pappus 5—6 mm long.

Eponymy. The species is named in honour of Armen Takhtajan, one of the greatest botanists and phylogeneticists of the XX Century, founder of the Takhtajan School of Botany in Armenia and St. Petersburg.

Paratypes: East Kazakhstan Noor-Saissan, 1839. Leg. D. Bongard. Det. K. A. Meyer as *Cryseis odorata* (LE); Semipalatinsk reg., Zajsansk distr., loamy slopes. 6.7.1903. V. Reznitchenko (LE); Ibidem, Ashu-Das hill, loamy slopes. 6.7.1909. V. Reznitchenko (LE); Ibidem, North bank of lac Zaisan, place Dzhailabai, 3—4 verst to the west of cape Barkhot near lac Djaman-kul'. 7.1905. Leg. A. Sedel'nikov. Det. as *A. odorata* (LE); Ibidem, Kaldzhir valley on the left bank of river Kaldzhir, Ashu-Das. Hill near Chernyi Irtysh. 19.7.1908. leg. & det. B. A. Keller as *A. odorata* (LE); West Mongolia. [China]. River Chernyi Irtysh, left bank, place Dzhelkaidar, m. Kyzyl-Kuduk, loamy slopes. 8.6.1914; leg. & det. B. Schischkin as *A. odorata,* Iljin as *A. turanica*, 2 samples (LE); Semipal. reg., Zaisansk. distr., near vill. Ordynka, summit of m. Ashu-Das. Stony slopes, 20.6. 1914. leg. & det. B. Schischkin as *A. odorata,* Iljin in 1930 as *A. turanica* (LE); Ibidem, loamy steppe, idem (LE); East Kazakhstan, Zaisansk depression, m. Ashutas near vill. Rozhdestvenka. On Tertiary clay. 12.7.1965. leg. V. Vasilevich, Z. Karamysheva & al., det. R. Kamelin as *A. turanica* (LE).

Site ecology and phenology: the locus classicus of *A. takhtajanii* is mt. Ashutas, and almost all known collections of this species are from there (Fig. 4, page 43). That remarkable mountain, consisting of Tertiary sediments, is located in the Zaisan basin, between the Altai, Tarbagatai and Saur mountain ridges. Mt. Ashutas (48°01' N 85°20' E), about 8 km long and reaching 618 m a.s.l., is situated between the Kaldzhir and Alkabek rivers, to the west of lake Zaisan on the right bank of Cherny Irtysh (Kryštofovič & al., 1956). The top of the mountain is almost flat, on the side of Cherny Irtysh the slopes are steep while on the opposite side they are sloping gradually. One can meet here Tertiary clays of different colors from white and light yellow to dark red. These multicoloured sediments often appeared in discrete precipices or as agglomerations of debris and heaps of scree. Sands, stony slopes with some steppe vegetation and solonchaks are meet here too. This mountain is particularly rich in Late Oligocene fossil plant and animal remains. A propos fossils *Magnolia takhtajanii* Pneva (Pnjova, 1986) was also described from Mt. Ashutas.

A. takhtajanii flowers in June-July, fruiting in July-August.

Amberboa gubanovii Gabrielian sp. nova

Holotypus: Turkmenistan, Kopet-Dag orientale. 50 km ad austro-orientalem ab Duschak. Regio montana media in fauce Kara-Ketken. 29.IV.1963. Gubanov I. A. N 64, ERE 80027, iso. MW. Fig. 3, 5.

Species affinis *A. amberboi* (L.) Tzvelev a qua foliis omnibus petiolatis pinnatisectis, lobis peranguste lanceolatis, involucro glabro, forma et magnitudine appendicis phyllariorum nec non floribus marginalis paulum auctis differt.

Planta erecta, annua, valde ramosa, glabra, ad 50 cm lata. Folia omnia plus minusve petiolata, pinnatisecta; lobis

anguste lanceolatis, 2,5 cm longis, 2—5 mm latis, margine integris vel acute 2—5 dentatis. Capitula longe (15—26 cm) pedunculata, solitaria, terminalia. Involucrum 15 cm longum, 1,2 cm latum, glabrum. Phyllaria exteriora oblongo-ovata, breviter acuminata; interiora anguste linearia, 1,5—2 mm lata, appendice parva 1—2 (3) mm longa, oblonga, membranacea. Flores flavi, marginales steriles pauci, paulo tantum aucti, quam centrales bisexuales tubulosi 2—3 mm longiores. Achenia 3—4 mm longa, 1 mm lata; pappus 2—3 mm longus, argenteo-pilosus.

Erect annual plant, strongly branched, glabrous, up to 50 cm high. All leaves more or less petiolate, pinnatisect; lobes narrowly lanceolate, 2,5 cm long, 2,5 mm broad; margin entire or with 2—5 acute teeth; terminal lobe somewhat wider. Capitula with long (15—26 cm) peduncle, solitary, terminal. Involucre 1,5 cm long, 1,2 cm broad, glabrous. Outer phyllaries oblong-ovate, apex shortly acuminate; inner ones linear, 1,5—2 mm broad with small, 1—2 (-3) mm long, oblong, membranous appendages. Flowers yellow; marginal ones sterile, few, somewhat radiant, with 8—9 very short (2 mm long) lobes, exceeding the bisexual, central, tubular ones by 2—3 mm. Achenes 3—4 mm long, 1 mm broad; pappus 2—3 mm long, silvery hairy.

Eponymy. The species is named in honour of Ivan Gubanov, a well known botanist and assiduous explorer of Russian and Central Asian plants.

Site ecology and phenology: *A. gubanovii* grows in the montane belt from 800 to 1000 m a.s. l. on clayey desert or loamy, sandy, or stony steppe.

A. gubanovii flowers in April and May, fruiting in May-June.

Acknowledgements

I would like to express my special thanks to my old friends Vanda Avetisyan and Werner Greuter who kindly edited the Latin diagnoses, to Merine Sargsyan and Ivan Gabrielyan who helped preparing the photographs of type specimens, the map and photo of m. Ashutas.

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A REVISION OF *PAPAVER* SECT. *ARGEMONIDIUM* SPACH (*PAPAVERACEAE*).

Papaver sect. *Argemonidium* consists of 11 species: *P. argemone*, *P. nigrotinctum*, *P. virchowii*, *P. davisii*, *P. meiklei*, *P. minus*, *P. hybridum*, *P. apulum*, *P. ocellatum*, *P. pavoninum*, and *P. armenii* newly described here. All are briefly characterised, their distribution and relationships are discussed, and a key for their determination is provided. One new subsection is described, *P.* subsect. *Globosa*. Three new combinations are established, *P. meiklei* (Kadereit) M. V. Agab., *P. davisii* (Kadereit) M. V. Agab., and *P.* subsect. *Argemonidium* (Spach) M. V. Agab.

Papaver sect. Argemonidium, distribution, key, new species, new subsection, three new combinations.

Աղաբաբյան Մ. Վ. ***Papaver*** **ցեղի** ***Argemonidium*** **Spach սեկցիայի (*Papaveraceae*) վերաքննում**: *Papaver* ցեղի *Argemonidium* սեկցիան ընդգրկում է 11 տեսակ՝ *P. argemone*, *P. nigrotinctum*, *P. virchowii*, *P. davisii*, *P. meiklei*, *P. minus*, *P. hybridum*, *P. apulum*, *P. ocellatum*, *P. pavoninum*, ինչպես նաեւ առաջին անգամ նկարագրված *P. armenii* տեսակը: Տրվում են բոլոր տեսակների հակիրճ նկարագրությունը, տարածվածությունը, քննարկվել են միջտեսակային կապերը, բերվում է նաեւ տեսակների որոշման բանալին: Նկարագրվել է նոր ենթասեկցիա՝ *P.* subsect. *Globosa*: Հաստատվել են երեք նոր կոմբինացիաներ՝ *P. meiklei* (Kadereit) M. V. Agab., *P. davisii* (Kadereit) M. V. Agab. *P.* subsect. *Argemonidium* (Spach) M. V. Agab.

Papaver ցեղի Argemonidium սեկցիան, տարածվածությունը, բանալին, նոր տեսակ եւ ենթասեկցիա, երեք նոր կոմբինացիա:

Агабабян М. В. Ревизия секции *Papaver* секц. *Argemonidium* Spach (*Papaveraceae*). *Papaver* секц. *Argemonidium* включает 11 видов: *P. argemone*, *P. nigrotinctum*, *P. virchowii*, *P. davisii*, *P. meiklei*, *P. minus*, *P. hybridum*, *P. apulum*, *P. ocellatum*, *P. pavoninum*, а также, впервые описанный *P. armenii*. Все виды коротко охарактеризованы, дано их распространение и обсуждены межвидовые связи, а также приведен ключ для определения видов. Описана новая подсекция, *P.* subsect. *Globosa*. Установлены три новые комбинации: *P. meiklei* (Kadereit) M. V. Agab., *P. davisii* (Kadereit) M. V. Agab., и *P.* subsect. *Argemonidium* (Spach) M. V. Agab.

Papaver секц. Argemonidium, распространение, ключ для определения видов, новый вид, новая подсекция, три новые комбинации.

Introduction

Papaver sect. *Argemonidium* Spach originally consisted of 2 species only: *P. argemone* L. and *P. hybridum* L. E. Spach (1839) provided a fairly full description, stressing the section's two main diagnostic features: capsules covered with bristles and narrowly linear-spatulate, blackish violet staminal filaments. Whereas the section is generally considered to consist of annual species, Spach in his original description already mentioned that it is "... tantôt annuelle, tantôt bisannuelle ...", (the "biennial" growth form is also mentioned by J. W. Kadereit, 1988). Subsequently F. Fedde (1909), in his monograph of the family, recognised 6 species and several varieties in the section, whereas Kadereit (1986) reduced the number of species to four, but recognised several subspecies.

Papaver sect. *Argemonidium* is characterised by a peculiar general habit, uncommon elsewhere in the genus but shared with *Roemeria* Medikus. Same as several other *Papaver* sections it consists of annuals, but the first internode above the basal rosette is robust and significantly longer than the next internodes, the following leaves forming a kind of second rosette from which lateral stems (when present) branch off. The section's primary morphological characteristic is the bristly capsule. At species level, the following characters are significant: overall size, flower bud shape (globose or elongate) and indumentum (white or brownish bristles of varying number and density); pedicels (always curved in bud but erect or nodding at anthesis); colour and shape of petals (distinctive for each taxon, but unfortunately colour is difficult to describe, and impossible to observe on dried specimens where it turns to either blackish or pale rose); and, most importantly, indumentum and shape (globose