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Taxonomic assessment of three species of *Silene* (Caryophyllaceae) described by Boris K. Schischkin from Turkey

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Lazkov G.A. & Sennikov A.N. 2021: Taxonomic assessment of three species of *Silene* (Caryophyllaceae) described by Boris K. Schischkin from Turkey. — *Ann. Bot. Fennici* 58: 211–218.

Silene porphyrantha, established by Boris K. Schischkin on the basis of specimens collected during his expedition to Turkey in 1916, is the earlier and correct name for *S. konuralpiae* (“*konuralpii*”), which was recently described from the same area. A new description and a distribution map are provided for this species. Two more species of *S. sect. Auriculatae* described by Schischkin from Turkey are assessed and synonymised with broadly distributed species: *S. muradica* with *S. argentea*, and *S. pachyneura* with *S. arguta*. A revised identification key to the species traditionally included in *S. sect. Spergulifoliae* in Turkey is provided, with the exclusion of taxonomically misplaced or misidentified species. Nomenclature and typifications are established or verified for all accepted names and synonyms. Lectotypes of four species names are designated.

Introduction

In 1916, Boris K. Schischkin (1886–1963) travelled in present-day eastern Turkey (Bitlis, Erzurum, Iğdır, Muş and Van provinces) (Sennikov 2021). During these expeditions, he gathered extensive botanical collections, which were the basis of several species later described as new to science (Schischkin 1929, Sennikov 2021).

Among the species of *Silene* described by Schischkin from Turkey, three species (*S. muradica*, *S. pachyneura* and *S. porphyrantha*) belong to *S. sect. Auriculatae* as currently circumscribed (Jafari *et al.* 2020). Previous taxo-

nomic revisions of the flora of Turkey listed 11 non-auriculate species of this section, which were formerly treated as *S. sect. Spergulifoliae* (Coode & Cullen 1967, Davis *et al.* 1988); one more species was accepted later (Keskin & Kültür 2007) and two more were recently described (Aytaç *et al.* 2015, Yıldız *et al.* 2017). Mysteriously, all Turkish treatments omitted *S. pachyneura* and *S. porphyrantha*, which were neither accepted nor mentioned among synonyms. *Silene porphyrantha* differs from all other members of the section by its pink flowers. Recently, another pink-flowered species of the same section was described from north-eastern

Turkey as *S. konuralpii* (Firat & Yıldız 2016). This fact attracted our attention and triggered the present study, whose aim is to evaluate the three species traditionally included in *S. sect. Spergulifoliae*, which were established by Schischkin on the basis of his Turkish material.

Material and methods

The protologues of *Silene porphyrantha* (Schischkin 1920) and *S. konuralpii* (Firat & Yıldız 2016) were examined and compared with previous treatments and revisions of *Silene* in Turkey and the Caucasus (Coode & Cullen 1967, Davis *et al.* 1988, Lazkov 2012). Type specimens were examined *de visu* or from photographs. Diagnostic characters were evaluated on the basis of published treatments and our revision of herbarium material from Turkey and the Caucasus at LE.

An updated synopsis of three accepted species is provided, with essential synonyms showing our circumscriptions of the species, complete descriptions and updated distributional data. The descriptions are in agreement with the diagnostic characters used by Schischkin (1936a). References to protologues and type citations are verified and corrected.

Taxonomy and nomenclature

Silene sect. Auriculatae (Boiss.) Schischk.

Izv. Tomsk. Gosud. Univ. 77(3): 291. 1927. — *Silene* [unranked] *Auriculatae* Boiss., Fl. Orient. 1: 572. 1867. — TYPE: *Silene brevicaulis* Boiss. (designated by Chowdhury 1957: 242). — NOTE ON NOMENCLATURE. It has been commonly overlooked that Schischkin (1927) was the first to use the infrageneric name “*Auriculatae*” at the rank of section in *Silene*.

Silene sect. Spergulifoliae (Boiss.) Schischk., Fl. USSR 6: 652. 1936. — *Silene* [unranked] *Spergulifoliae* Boiss., Fl. Orient. 1: 572. 1867. — TYPE: *Silene spergulifolia* (Willd.) M. Bieb.

Silene ser. Suffruticosae Rohrb., App. Alt. Ind. Sem. Hort. Bot. Berol. 1867: 4. 1867. — *Silene sect. Suffruticosae* (Rohrb.) Schischk., Fl. USSR 6: 646. 1936. — TYPE: *Silene suffrutescens* M. Bieb.

Silene subsect. Repentes Chowdhuri, Notes Royal Bot. Garden Edinburgh 22: 238. 1957. — *Silene sect. Repentes* (Chowdhuri) Tzvelev, Novosti Sist. Vyssh. Rast. 33: 106. 2001. — TYPE: *Silene repens* Patr. (= *S. amoena* L.).

NOTES ON TAXONOMY. Tzvelev (2001) elevated subsections of *Silene sect. Spergulifoliae*, which were established or recognized by Chowdhury (1957), to the rank of section. These subdivisions were based on minor differences in the life form and hardly merit acceptance at any taxonomic rank (cf. Greuter 1995). The only difference between traditionally and uniformly accepted *S. sect. Spergulifoliae* and *S. sect. Auriculatae* (Boissier 1867, Schischkin 1936a, Coode & Cullen 1967, Greuter 1995) is the lacking or indistinct auricles on the petal claws (*vs.* distinct auricles in the latter section). This difference is subtle; the auricles can be differently expressed, and very similar species may differ in the presence of auricles. For this reason, Lazkov (2006, 2012) synonymised these sections. Indeed, among the species traditionally placed in *S. sect. Spergulifoliae* in Turkey (Coode & Cullen 1967), *S. arguta* has distinct auricles and was already treated as a member of *S. sect. Auriculatae* (Schischkin 1936a). This species is nevertheless formally included in the our treatment to allow a direct comparison with Coode and Cullen (1967).

Silene porphyrantha Schischk.

Vestn. Tiflissk. Bot. Sada 50: 28. 1920. — TYPE: Turkey, B9 Ağrı: Tutak district, Kılıçgediği Pass, subalpine meadows, 11 May 1916 B.K. Schischkin (lectotype LE barcode LE0107902, designated here; isolectotype LE barcode LE0107903) (Fig. 1).

Silene konuralpiae Firat & K.Yıldız, Phytotaxa 288: 215. 2016 [“*konuralpii*”], *syn. nov.* — TYPE: Turkey, B9 Ağrı: Eleşkirt district, Hayrangöl village, steppe on humid slopes, 2396 m a.s.l., 39°45′29″N, 42°24′00″E, 15 June 2016 M. Firat 32740 (holotype VANF; isotypes ANK, E barcode E00015074, herb. M. Firat, herb. Manisa Celal Bayar University). — NOTE ON NOMENCLATURE. “*Silene konuralpii*” was named after Leman Yasemin Konuralp, who is known for her popular book on the Turkish bulbous plants (Konuralp 2013). The original spelling of the species name is corrected to *S. konuralpiae* as required by Art. 60.8(b) of the ICN (Turland *et al.* 2018).

Root thick, up to 2 cm in diam. Caudex branches abbreviated, slightly lignified, with numerous elongated sterile and flower-bearing shoots. Sterile shoots 8–12 cm high, weakly covered with short crisped non-glandular hairs; leaves linear-lanceolate, 20–25 mm long, 0.5–2.5 mm wide, shortly pubescent, bearing abbre-



Fig. 1. Lectotype of *Silene porphyrantha*.

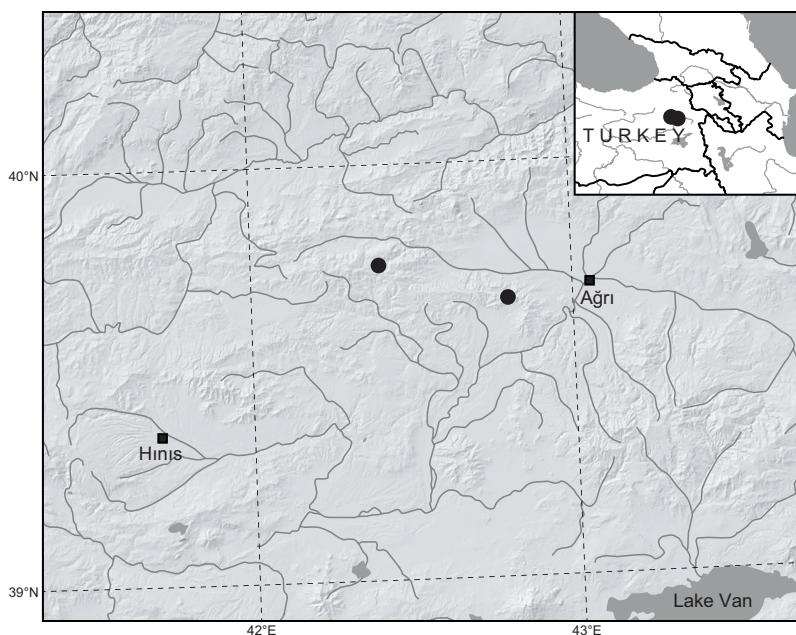


Fig. 2. Distribution of *Silene porphyrantha* in Turkey.

viated shoots with linear leaves in axils. Flowering stems 15–35 cm high, with long internodes, almost glabrous or with sparse pubescence below, rather densely pubescent with long articulate hairs above. Stem leaves lanceolate, 20–30 mm long, 4–6 mm wide; upper leaves (broadly) lanceolate, 10–20 mm long, 5–7 mm wide, with 3 prominent veins, acute at apex, slightly pubescent. Flowers androgynous, crowded in capitate inflorescences at top of stems and on short branches in axils of upper stem leaves. Bracts ovate, 5–10 mm long, 2.5–5 mm wide, usually purple. Pedicels abbreviated, about 1 mm long. Calyx 5–8 mm long, tubular-campanulate, with 10 prominent purple veins, swollen in fruit in upper part, covered with crisped eglandular hairs, teeth 1.0–1.8 mm long, triangular-ovate, margin membranaceous, with crisped ciliae. Petals 6–9 mm long, exserted from calyx. Limb 2–3.5 mm long, divided nearly half-way into oblong lobes, purple-pink, without coronal scales at base. Claw 4–6 mm long, oblong, almost unexpanded in upper part, non-auriculate, glabrous. Stamens glabrous. Pistil glabrous. Capsule 6–7 mm long, 3–3.5 mm wide, conical-ovoid, exserted from calyx. Anthophore 1–1.5 mm long, glabrous. Seeds 1.1–1.9 mm long, 0.8–1.2 mm wide, reniform, concave on back, finely obtuse-tubercled, brown.

DISTRIBUTION AND HABITAT. So far, *Silene porphyrantha* is known from two localities (35 km apart) in the Çakmak Dağı Mts. (Ağrı Province, Turkey; Fig. 2). It was found in subalpine meadows with sparse low-growing vegetation, at elevations between 2300 and 2500 m a.s.l.

SYNONYMY. *Silene konuralpiae* was compared in the protologue (Firat & Yıldız 2016) with *S. stenobotrys*, *S. spergulifolia* and *S. surculosa*. A key diagnostic character, which distinguished this species from the three taxa, was the pink flowers. This is exactly the same feature that distinguishes *S. porphyrantha*, which was described from the same area; the other characters of the two pink-flowered taxa coincide (Table 1), and *S. konuralpiae* is consequently reduced to a synonym of *S. porphyrantha* here. Apparently, the omission of this species in the *Flora of Turkey* (Coode & Cullen 1967, Davis *et al.* 1988) accounts for its later redescription.

TAXONOMY. *Silene porphyrantha* was originally included in the group *Capitellatae* (*Silene* sect. *Albopetalae*, *S.* sect. *Capitellatae* nom. *inval.*) and compared with *S. capitellata* (Schischkin 1920). That placement was incorrect because the petals in *S.* sect. *Albopetalae* (synonymised with *S.* sect. *Siphonomorpha*; Jafari *et al.* 2020) are entire to slightly emarginate, whereas in *S. porphyrantha* the petals are divided

to the half of their length. In fact this species fits well the circumscription of *S.* sect. *Spergulifoliae* (Coode & Cullen 1967, Greuter 1995) because of its deeply bifid petals and pubescent calyx with 10 prominent nerves, which are distally anastomosing. Fırat and Yıldız (2016) correctly placed their new species in *S.* sect. *Spergulifoliae*.

Silene argentea Ledeb.

Fl. Ross. 1: 311. 1842. — TYPE: Georgia. “E provinciis transcaucasicis occidentalibus versus fines turcicas”, *A. von Nordmann* (lectotype LE, designated by Lazkov 1996: 101). — NOTE. In 1835, Nordmann collected plants in southwestern Georgia, north of the present-day border of the Autonomous Republic of Adjara, which was at that time the border between the Russian Empire and the Ottoman Empire (Nordmann 1838).

Silene pruinosa Boiss., *Diagn. Pl. Orient.*, ser. 1, 1: 23. 1843. — TYPE: Turkey. C6 “Cappadocia ad Euphratem”, *P.M.R. Aucher-Éloy* 458 (lectotype G-Boiss, designated here; isoelectotypes G barcode G00226814, K barcode K000728499).

Silene cappadocica Boiss. & Heldr. in Boiss., *Diagn. Pl. Orient.*, ser. 1, 8: 86. 1849. — TYPE: Turkey. C4 “Koniah [Konya] in vineis arenosis”, June 1845 *T. de Heldreich* (lectotype G-Boiss, designated here; isoelectotypes K barcodes K000728484, K000728485, K000728487, W barcode W18890108492).

Silene muradica Schischk., *Vestn. Tiflissk. Bot. Sada* 50: 27. 1920. — TYPE: Turkey. B8 Muş: Malazgirt, gravelly slopes, 19 June 1916 *B.K. Schischkin* (LE barcode LE01071718, lectotype designated here).

Root thick, up to 2 cm in diam. Caudex branches abbreviated, slightly lignified, with

flower-bearing shoots. Sterile shoots usually absent, sometimes short. Flowering stems 15–55 cm high, with long internodes, with sparse retrorse pubescence below, rather densely pubescent with longer articulate hairs above. Stem leaves oblong to oblong-lanceolate, 15–25 mm long, 0.3–0.5 mm wide, shortly pubescent, usually without abbreviated shoots in axils; upper leaves (broadly) lanceolate, 5–10 mm long, 3–6 mm wide, acute at the apex, slightly pubescent. Flowers androgynous or functionally female, in rather loose panicle. Bracts lanceolate, 1–3 mm long, 0.5–1 mm wide, usually green. Pedicels abbreviated, 1–3 mm long. Calyx 5–16 mm long, tubular or tubular-campanulate, with 10 prominent greenish veins, swollen in fruit in upper part, covered with crisped eglandular or glandular hairs, teeth 1.5–2.5 mm long, triangular-ovate, margin membranaceous, with crisped ciliae. Petals 6–15 mm long, exerted from calyx. Limb 2–5 mm long, divided nearly half-way into oblong lobes, white to greenish yellow, with or without coronal scales at base. Claw 4–10 mm long, oblong, almost unexpanded in upper part, non-auriculate, glabrous. Stamens glabrous. Pistil glabrous. Capsule 5–7 mm long, 2.5–3.5 mm wide, ovate, included in calyx. Anthophore 1–5 mm long, pubescent. Seeds 1.0–2.0 mm long, 0.8–1.3 mm wide, reniform, concave on back, finely obtuse-tubercled, brown.

DISTRIBUTION AND HABITAT. This rather broadly distributed species occurs on rocky slopes and screes in Syria, Turkey, Georgia and Iran.

Table 1. Comparisons of diagnostic characters from the protologues and type specimens of *Silene porphyrantha* and *S. konuralpiae* (Schischkin 1920, Fırat & Yıldız 2016).

	<i>S. porphyrantha</i>	<i>S. konuralpiae</i>
Sterile shoot length (cm)	20–30	18–35
Stem leaf size (mm)	20 × 2.5	20–25 × 0.5–1.5
Inflorescence	dense, capitate or interrupted paniculate	dense dichasia on top and upper branches
Bracts	purplish, ovate, acute	purple, ovate to cordate, acute to obtuse
Calyx	obconic, 5.0 mm long, purplish, shortly and rather densely hairy	obconic, 5.0–7.5 mm long, burgundy-purple, velutinous, sometimes pilose, villose to whitish woolly pubescent in young flowers
Petals	8–9 mm long, pink-purple, 1/3 divided into two oblong lobes, glabrous or shortly ciliate	7–8 mm long, pinkish to purple, 1/3–1/2 divided into two lobes, glabrous
Capsule size (mm)	5 × 3 (when young)	6.5–7.5 × 3–4
Anthophore length (mm)	1.0	1.0–1.5

SYNONYMY. *Silene pruinos*a and *S. cappadocica* were separated (Coode & Cullen 1967) by the calyx size (11–16 mm in the former species, 5–11 mm in the latter). Plants with longer and shorter calyces occur within the same area in Turkey and were treated as conspecific in the Caucasus by Lazkov (2012).

Silene argentea was reported from Turkey already by Boissier (1867) but omitted by Coode and Cullen (1967). This forgotten name was restored for the species previously known as *S. cappadocica* by Lazkov (2012).

Coode and Cullen (1967) speculated that *S. muradica* may turn out to be a sex form of one of the previously described species of *S. sect. Spergulfifoliae*. Having examined the type collection of *S. muradica*, we can state with certainty that it represents a form of *S. argentea* with functionally female flowers, which are therefore smaller than those in the typical form of the species with hermaphrodite flowers. The other diagnostic characters (glaucous leaves, reduced sterile shoots in axils) completely coincide.

Silene arguta Fenzl

Pug. Pl. Nov. Syr.: 8. 1842. — TYPE: Turkey. “In subalpinis ac alpinis Tauri occidentalis”, *T. Kotschy 83* (holotype W, isotypes BM barcode BM000577740, K barcode K000728531, LE). — NOTE. Lazkov (2012: 201) designated an isotype at LE as the lectotype of this species name. The absence of the holotype at W (the only specimen indicated in the protologue) should be confirmed.

Silene pachyneura Schischk., Fl. USSR 6: 660. 1936; Schischk., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 7: 191. 1938. — *Silene arguta* var. *armena* Boiss., Fl. Orient. 1: 618. 1867. — TYPE: Turkey. B8 Erzurum: “Ad radices montium Tech-Dagh supra Erzeroum, in sterilibus”, August 1853 *A. Huet du Pavillon* (holotype G-Boiss; isotype JE barcode JE00016154). — NOTES ON NOMENCLATURE. Schischkin (1936a) validly published *Silene pachyneura* without a new descriptive matter in Latin but with a full and direct reference to the protologue of *S. arguta* var. *armena*, which satisfies the conditions for valid publication of a replacement name. According to his references, Schischkin intended to publish a Latin description at the same time in another journal (Schischkin 1936b) but the protologue did not appear there. It was published later in a dedicated paper (Schischkin 1938) but that publication was nomenclaturally superfluous, and Schischkin’s collections from Turkey designated as types (syntypes) in this work have no nomenclatural standing.

Root thick, up to 2 cm in diam. Caudex branches long, slightly lignified, with more or less elongated sterile and flower-bearing shoots. Sterile shoots 3–5 cm high, weakly covered with short crisped non-glandular hairs; leaves linear-lanceolate, 20–25 mm long, 0.5–2.5 mm wide, shortly pubescent, without abbreviated shoots in axils. Flowering stems 15–35 cm high, with long internodes, shortly and sparsely pubescent. Stem leaves lanceolate, (20)30–60 mm long, 3–8 mm wide, with 3–5 prominent veins, acute at apex, often slightly falcate; upper leaves sometimes (broadly) lanceolate, 10–20 mm long, 5–7 mm wide, with 3–5 prominent veins, acute at apex, shortly pubescent. Flowers androgynous, rarely functionally female, in 3-flowered dichasia at top of stems and on branches in axils of upper stem leaves. Bracts lanceolate, 3–10 mm long, 1.5–3 mm wide, herbaceous, margin membranaceous. Pedicels 3–15 mm long. Calyx 12–18 mm long, tubular or narrowly campanulate, with 10 prominent purple veins, swollen in fruit in upper part, covered with thick crisped eglandular or glandular hairs, teeth 2.0–3.0 mm long, triangular-ovate, margin membranaceous, with crisped ciliae. Petals 12–18 mm long, exserted from calyx. Limb 4–6 mm long, divided nearly half-way into oblong lobes, greenish white, with ovate coronal scales 1 mm long at base. Claw 8–12 mm long, oblong, auriculate in upper part, glabrous. Stamens glabrous. Pistil glabrous. Capsule 7–9 mm long, 3.5–4.5 mm wide, ovate, not exserted from calyx. Anthophore 3–5 mm long, shortly pubescent. Seeds 1.5–1.9 mm long, 0.8–1.2 mm wide, reniform, concave on back, finely obtuse-tubercled, brown.

DISTRIBUTION AND HABITAT. Montane to subalpine meadows in Turkey, Armenia, Azerbaijan and Iran.

SYNONYMY. The type collection of *Silene pachyneura* has leaves with 3 prominent nerves, which indicates its belonging to *S. arguta*. Schischkin (1936a) considered *S. pachyneura* distinct by its calyx size (11–13 mm vs. 15–17 mm in *S. sisianica*, which he accepted in place of *S. arguta* in Transcaucasia) but these differences are not reliable and fall within the variability of *S. arguta* (Lazkov 2012). The species name

(*pachyneura*) indicates thick nerves of the calyx, which are typical of *S. arguta*.

A revised circumscription of the species traditionally included in *Silene* sect. *Spergulifoliae* in Turkey

In the group corresponding to *Silene* sect. *Spergulifoliae* sensu Coode and Cullen (1967) we include 13 species occurring in Turkey. Besides the taxonomic rearrangements and synonymy mentioned above, we exclude *S. montbretiana*, which occurs in Iran and Azerbaijan and does not reach the Turkish border (Lazkov 2012). We also exclude *S. thymifolia*, whose presence in Turkey was considered doubtful (Coode & Cullen 1967) and still has not been confirmed (Lazkov 2012).

At the same time, we add *S. salsuginea*, which was placed in *S.* sect. *Succulentae* by Coode and Cullen (1967) on the account of its rather fleshy leaves, but is similar to the other species with fleshy leaves in *S.* sect. *Spergulifoliae*. The leaves of these species are non-glandular, unlike those in the members in *S.* sect. *Succulentae* (Greuter 1995) (the latter section was reduced to a synonym of *S.* sect. *Silene*; Jafari *et al.* 2020), whereas glandular pubescence is not uncommon in *S.* sect. *Spergulifoliae*.

Silene nemrutensis, which was originally compared with *S. arguta* (Yıldız *et al.* 2017), is essentially similar to *S. oreophila* and may turn out to be a variety of the latter species without a glandular pubescence on the calyx.

Identification key to the species traditionally included in *Silene* sect. *Spergulifoliae* in Turkey

1. Calyx 20–26 mm long 2
1. Calyx up to 18 mm long 3
2. Calyx with glandular pubescence *S. oreophila*
2. Calyx without glandular pubescence *S. nemrutensis*
3. Petal claws and anther filaments densely pilose
..... *S. stenobotrys*
3. Petal claws and anther filaments glabrous or petal claws slightly fringed 4
4. Plants densely pulvinate; stems abbreviated (2–3 cm long); leaves imbricate *S. bolanthoides*
4. Plants not pulvinate, with developed stem; leaves not imbricate 5

5. Underground stolons present; leaves somewhat fleshy .. 6
5. Underground stolons absent; leaves not fleshy 8
6. Leaf surface pubescent *S. sangaria*
6. Leaf surface glabrous 7
7. Anthophore 1–2 mm long; calyx crisped pubescent
..... *S. salsuginea*
7. Anthophore 2–5 mm long; calyx densely glandular
..... *S. surculosa*
8. Stems glabrous below, glandular above ... *S. oligotricha*
8. Stems with crisped pubescence 9
9. Plants with long underground rhizomes
..... *S. cephalantha*
9. Plants without long underground rhizomes 10
10. Cauline leaves with 3–5 prominent nerves; inflorescence few-flowered; capsule 8–12 mm long *S. arguta*
10. Cauline leaves with 1 prominent nerve; inflorescence multiflowered; capsule 3–8 mm long 11
11. Inflorescence densely capitate; bracts ovate, purple; petals pink *S. porphyrantha*
11. Inflorescence lax; bracts linear-lanceolate, green; petals white or yellowish 12
12. Cauline leaves green, with sterile shoots in their axils ...
..... *S. spergulifolia*
12. Cauline leaves glaucous, usually without sterile shoots in their axils *S. argentea*

Final remarks

Data mobilisation is urgently required to cover gaps caused by the failure to take into account herbarium collections and literature, which have been accumulated and are preserved outside of the countries of data origin. So far, such gaps still continue causing superfluous descriptions of taxa supposed to be local endemics of species-rich countries. These “false endemics” may distort the picture of biodiversity hotspots, and therefore a thorough cleaning of checklists of national endemics is highly recommended (Lazkov & Sennikov 2020, Sennikov & Lazkov 2020).

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The image of the lectotype of *Silene porphyrantha* is published with permission from the Komarov Botanical Institute, Saint-Petersburg, Russia. Sampsa Lommi (Helsinki) produced the map.

References

- Aytaç Z., Kandemir A. & Fişne A. 2015: *Silene kemahen-*

- sis (Caryophyllaceae): a new species from Erzincan (Turkey). — *Bağbahçe Bilim Dergisi* 2: 37–42.
- Boissier E. 1867: *Flora Orientalis*, vol. 1. — H. Georg, Basel & Genève.
- Chowdhury P.K. 1957: Studies in the genus *Silene*. — *Notes from the Royal Botanic Garden, Edinburgh* 22: 221–278.
- Coode M.J.E. & Cullen J. 1967: *Silene* L. — In: Davis P.H. (ed.), *Flora of Turkey and the East Aegean Islands*, vol. 2: 179–242. Edinburgh University Press, Edinburgh.
- Davis P.H., Mill R.R. & Tan K. 1988: *Silene* L. — In: Davis P.H., Mill R.R. & Tan K. (eds.), *Flora of Turkey and the East Aegean Islands*, vol. 10: 76–81. Edinburgh University Press, Edinburgh.
- Firat M. & Yıldız K. 2016: *Silene konuralpii* (Sect. *Spergullifoliae*, Caryophyllaceae), a new species from eastern Anatolia. — *Phytotaxa* 288: 214–226.
- Greuter W. 1995: *Silene* (Caryophyllaceae) in Greece: a subgeneric and sectional classification. — *Taxon* 44: 543–581.
- Jafari F., Zarre S., Gholipour A., Eggens F., Rabeler R.K. & Oxelman B. 2020: A new taxonomic backbone for the infrageneric classification of the species-rich genus *Silene* (Caryophyllaceae). — *Taxon* 69: 337–368.
- Keskin M. & Kültür Ş. 2009: The presence of *Silene cephalantha* Boiss. (Caryophyllaceae) in Turkey. — *Journal of the Faculty of Pharmacy of Istanbul University* 39: 61–63.
- Konuralp L.Y. 2013: *Wild flowers of Turkey I. Bulbous plants*. — M Grup Matbaacılık, Kayseri.
- Lazkov G.A. [Лазьков Г.А.] 1996: [A synopsis of the genus *Silene* L. (Caryophyllaceae)]. — *Botanicheskii Zhurnal (St. Petersburg)* 81: 99–111. [In Russian].
- Lazkov G.A. [Лазьков Г.А.] 2006: [*The Caryophyllaceae in Kyrgyzstan*]. — KMK Scientific Press, Moscow. [In Russian].
- Lazkov G.A. [Лазьков Г.А.] 2012: *Silene* L. — In: Takhtajan, A.L. [Тахтаджян А.Л.] (ed.), [*Conspectus florum Caucasii*] 3(2): 198–213. KMK Scientific Press, Saint-Petersburg & Moscow. [In Russian].
- Lazkov G.A. & Sennikov A.N. 2020: *Arenaria kandavanensis* is a synonym of *A. fursei* and belongs in *Eremogone* (Caryophyllaceae). — *Annales Botanici Fennici* 57: 185–190.
- Nordmann A. [Нордман А.] 1838: [Travels of Prof. Nordmann in Transcaucasia]. — *Zhurnal Ministerstva Narodno Prosveshcheniya* 20: 399–439. [In Russian].
- Schischkin V.K. [Шишкин В.К.] 1920: [Two new species of *Silene* L. from Turkish Armenia]. — *Vestnik Tiflisskago Botaniceskago Sada* 50: 27–29. [In Russian].
- Schischkin V.K. [Шишкин В.К.] 1927: [Preliminary identification key to the Crimean and Caucasian species of *Silene* L.]. — *Izvestiya Tomskogo Gosudarstvennogo Universiteta* 77: 279–292. [In Russian].
- Schischkin V.K. [Шишкин В.К.] 1929: [On the flora of Turkish Armenia. Part 1]. — *Izvestiya Tomskogo Gosudarstvennogo Universiteta* 86: 407–499. [In Russian].
- Schischkin V.K. [Шишкин В.К.] 1936a: *Silene* L. — In: Schischkin V.K. [Шишкин, В.К.] (ed.), [*Flora of the USSR*] 6: 577–691, 888–890. Academy of Sciences of the USSR, Moscow & Leningrad. [In Russian].
- Schischkin V.K. [Шишкин В.К.] 1936b: [New species of Caryophyllaceae]. — *Trudy Botanicheskogo Instituta Akademii Nauk SSSR*, ser. 1, 3: 167–188. [In Russian].
- Schischkin V.K. [Шишкин В.К.] 1938: [A new species of *Silene* L.]. — *Botanicheskie Materialy Gerbariya Botanicheskogo Instituta Imeni V. L. Komarova Akademii Nauk SSSR* 7: 191–192. [In Russian].
- Sennikov A.N. 2021: Botanical expeditions of Boris K. Schischkin and Vasily V. Sapozhnikov in Turkey. — *Annales Botanici Fennici* 58: 171–180.
- Sennikov A.N. & Lazkov G.A. 2020: Taxonomic revision of two Iranian endemics of *Arenaria* reveals further synonyms in *Eremogone* (Caryophyllaceae). — *Annales Botanici Fennici* 57: 223–226.
- Turland N.J., Wiersema J.H., Barrie F.R., Greuter W., Hawksworth D.L., Herendeen P.S., Knapp S., Kusber W.-H., Li D.-Z., Marhold K., May T.W., McNeill J., Monro A.M., Prado J., Price M.J. & Smith G.F. (eds.) 2018: International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017. — *Regnum Vegetabile* 159: 1–254.
- Tzvelev N.N. [Цвелев Н.Н.] 2001: [On the genera of tribe Sileneae DC. (Caryophyllaceae) in East Europe]. — *Novosti Sistematiki Vysshikh Rastenii* 33: 90–113. [In Russian].
- Yıldız K., Çırpıcı A., Dadandı M.Y. & Firat M. 2017: *Silene nemrutensis* (Caryophyllaceae), a new species from south-eastern Anatolia. — *Phytotaxa* 292: 189–195.