

Taxonomic notes on *Silene* subg. *Otites*

Taxonomické poznámky o podrodu *Otites* rodu *Silene*

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Results of a taxonomic study of *Silene* L. subg. *Otites* (ADANSON) REICHENB. are presented. Two sections are recognized by the present author: sect. *Balcansilene* ŠOURKOVÁ (type species *S. roemerii* FRIV.) and sect. *Otites* [type species *S. otites* (L.) WIBEL]. Within sect. *Otites*, four series are delimited: ser. *Macrocarpae* SCHISCHKIN ex ŠOURKOVÁ (type species *S. hellmannii* CLAUS), ser. *Otiteae* (BOISS.) ROHRB. [type species *S. otites* (L.) WIBEL], ser. *Effusae* ŠOURKOVÁ [type species *S. wolgensis* (HORNEM.) BESSER ex SPRENGEL] and ser. *Borysthénicae* ŠOURKOVÁ [type species *S. borysthénica* (GRUNER) WALTERS]. Four new combinations are proposed: *Silene graniticola* (KLOKOV) ŠOURKOVÁ, *S. moldavica* (KLOKOV) ŠOURKOVÁ, *S. borysthénica* (GRUNER) WALTERS subsp. *parviflora* (HORNEM.) ŠOURKOVÁ and *S. donetzica* KLEOPOV subsp. *sillingeri* (HENDRYCH) ŠOURKOVÁ.

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The taxonomy of *Silene otites* (L.) WIBEL and related species has recently been dealt with by a number of authors (see e. g. WRIGLEY 1962, CHATER et WALTERS 1964, JORDANOV et PANOV 1966, COODE et CULLEN 1967, HOLUB 1970, HOLUB et al. 1971, KLOKOV 1975), resulting in accounts of the genus *Silene* in various regional floras or in papers on nomenclature, chromosome counts etc. Little attention was paid to species relationships and taxonomy at the supraspecific level. Only KLOKOV (l. c.), mentions and validates his sections of the genus *Otites* ADANSON, invalidly published in 1948 and 1952. The other authors, except for HOLUB, treat this group as a section of the genus *Silene* without any more detailed subdivision.

The position of *Silene otites* (L.) WIBEL and related species among the other groups of *Silene* and within *Dianthoideae-Lychnideae* will be discussed elsewhere. It is proposed that these species be treated as subg. *Otites* (ADANSON) REICHENB. Morphologically (unisexual flowers, dioecism, large number of comparatively small flowers, racemiform or panicle inflorescence of many-flowered verticillasters), they represent a relatively advanced species group. The differences between “*Otites*” and the other groups are not always clear-cut as presumed by various authors. This holds true particularly of the quantitative characters of flowers and inflorescence and the degree of unisexuality. Some species of the subg. *Otites* do have sterile stamens in the female flowers.

A more detailed examination of the species demonstrated that the subg. *Otites* is not uniform from the morphological and evolutionary viewpoint. Several distinct groups of related species with characteristic combinations of morphological features can be distinguished. There are considerable differences in the presence or absence of rudimentary sterile stamens in female flowers, hairiness of pedicels, calyx, petals and filaments, size of flowers,

form and size of petals and capsules, and shape of inflorescence and the like. Some of them are evolutionarily important. For instance, cuneate and bifid petals, hairy pedicels and calyx, ciliate claws and filaments, large flowers and capsules, and the perennial character are more primitive than linear and entire petals, glabrous pedicels, calyx, claws and filaments, small flowers and capsules, and the biennial condition. These differences make it possible for the following sections and series to be delimited:

Silene L. subg. *Otites* (ADANSON) REICHENB. Conspectus 207, 1828
(genus *Otites* ADANSON Fam. Pl. 2 : 255, 1763)

Plantae perennes vel biennes, dioicae. Inflorescentia racemi- vel paniculiformis, flores in verticillastris oppositis rarissime in dichasiis obvis dispositi. Flores numerosi, parvi (calyces 10-nervi, per anthesin 2–8 mm longi), feminei sine rudimentis staminum vel staminibus sterilibus instructi. Petala coronata, integra apice obtuso vel truncato, rarius leviter emarginata vel breviter bifida. Carpophorum subnullum. Capsulae (1.7) 2.5–9.5 mm longae.

Typus subgeneris: *Silene otites* (L.) WIBEL

sect. ***Balcanosilene*** ŠOURKOVÁ, sect. nova

{Plantae perennes, plerumque caespitosae rosulis sterilibus numerosis. Caulis in inflorescentia, pedicelli et calyces hirsuti, rarius subglabri. Petala alba, cuneata vel linearia, apice saepius bifido, rarius obtuso vel truncato, unguibus ciliatis. Filamenta staminum florum masculorum saltem ad basin ciliata. In floribus femineis stamina sterilia retenta! Capsulae 4–6.5 mm longae.

Typus sectionis: *Silene roemerii* FRIV.

This section includes four species (*S. roemerii* FRIV., *S. scutneri* BOISS., *S. velenovskyana* JORDANOV et PAXOV, *S. ventricosa* ADAMOVIĆ) distributed in the Balkan peninsula (Yugoslavia, Albania, Bulgaria, Greece). By its sterile stamens in female flowers, often white bifid petals, relatively large flowers and capsules, hairiness of petals, filaments, calyx and pedicels it represents the most primitive group of species within the subg. *Otites*. On the other hand, the inflorescence is of an advanced type — dense, many-flowered verticillasters, more or less contracted (short, capituliform or racemiform, rarely paniculate, with congested verticillasters at the apices of short branches). Ecologically, the section *Balcanosilene* is a very homogeneous one, all the species growing in mountain or subalpine meadows.

sect. *Otites*

Plantae perennes vel biennes. Caulis in inflorescentia, pedicelli et calyces hirsuti vel glabri. Petala flavida, albida, rarius alba, sublinearia, limbis angustatis apice obtuso, truncato vel leviter emarginato, unguibus paulum dilatatis, ciliatis vel glabris. Filamenta staminum florum masculorum ciliata vel glabra. Flores feminei staminibus sterilibus nullis. Capsulae (1.7) 2.5–9.5 mm longae.

Typus sectionis: *Silene otites* (L.) WIBEL

About 20 species belong to this section, extending from England and Iberian Peninsula to Iran, Mongolia and Siberia. Four series can be distinguished:

ser. *Macrocarpae* SCHISCHKIN ex ŠOURKOVÁ hoc loco
(rjad *Macrocarpae* SCHISCHKIN FL. URSSR 6 : 688, 1936 — descr. rossica!)

Plantae perennes, plerumque caespitosae, caulibus plurimis. Inflorescentia racemiformis vel paniculam parvam ad basin cum ramulis brevibus formans, verticillastra supra praecipue in plantis femineis pauciflora (saepe tantum biflora). Pedicelli et calyces aequae ad staminum fila-

menta petalorumque unguis hirsuti vel glabri. Capsulae quam in subgeneris speciebus ceteris majores, (5) 6.5—9.5 mm longae, ovoideo-conicae vel ovoideo-oblongae.

Typus seriei: *Silene hellmannii* CLAUS

Here belong *S. cyri* SCHISCHKIN, *S. graniticola* (KLOKOV) ŠOURKOVÁ, *S. hellmannii* CLAUS, *S. krymensis* KLEPOW, *S. muradica* SCHISCHKIN, and possibly also *S. trichocalycina* (BOISS.) BORNM. and *S. roopiana* KLEPOW, the latter three species being insufficiently known. They all occur in countries adjacent to the Black and Caspian Sea. The discontinuous distribution and morphological characters (comparatively large flowers and capsules, few-flowered verticillasters, hairiness of pedicels, calyces, claws of petals and filaments in some species suggest that this section is of considerable age. The species of the ser. *Macrocarpae* may be presumed to be very close to the ancestors of the other series of the section *Otites*.

ser. *Otiteae* (BOISS.) ROHRB. Monogr. 75 et 109, 1868
(grex *Otiteae* BOISS. Fl. Or. 1 : 606, 1867)

Plantae perennes vel biennes, pluri- vel unicaules. Inflorescentia racemi- vel saepius paniculiformis (panicula pyramidalis). Flores flavidi, rarius albidii. Pedicelli, calyces, unguis petalorum atque filamenta glabra. Capsulae (3.5) 4—6.5 mm longae, ovoideo-oblongae, ovoideae vel oblongae.

Typus seriei: *Silene otites* (L.) WIBEL

Species of this series [*S. chersonensis* (ZAPAL.) KLEPOW, *S. exaltata* FRIV., *S. densiflora* D'URV., *S. donetzica* KLEPOW, *S. moldavica* (KLOKOV) ŠOURKOVÁ and *S. otites* (L.) WIBEL] are mainly European in their distribution. Several of them are distributed also in Asia Minor and in the Caucasus.

ser. *Effusae* ŠOURKOVÁ, ser. nova

Plantae biennes, plerumque caule unico, aliquando a basi ramoso. Inflorescentia paniculiformis, tantum rarissime racemiformis; paniculae pyramidales, sed praecipue in plantis masculis interdum etiam ovoideae, saepe effusae. Flores plerumque in dichasiis obviis, non in verticalistris dispositi. Pedicelli et calyces glabri, unguis petalorum (quae albidia sunt) vel staminum filamenta ciliata. Capsulae ovoideae vel ovoideo-oblongae, 3.5—6 mm longae.

Typus seriei: *Silene wolgensis* (HORNEM.) BESSER ex SPRENGEL

This series includes two species: *S. baschkirorum* JANISCH. and *S. wolgensis* (HORNEM.) BESSER ex SPRENGEL. *Otites jenissensis* described recently by KLOKOV may also belong here. The distribution area of this series reaches from the southern part of E. Europe to SE. Siberia. Its name is derived from the specific name *S. effusa* OTTH which is a synonym of *S. wolgensis*. The name "*Wolgenses*" has been used by SCHISCHKIN (1936 : 685) in another sense, for an invalidly published taxon "*rjad Wolgenses*" including the present series *Otiteae* and *Effusae*.

ser. *Borysthenicae* ŠOURKOVÁ, ser. nova
(rjad *Parviflorae* SCHISCHKIN Fl. URSS 6 : 689, 1936 — descr. rossica!)

Plantae perennes, saepe cum caulibus plurimis, breviter ascendentibus. Inflorescentia rarissime racemiformis, saepissime paniculam (plerumque cylindricam ramis aequilongis) formans. Flores albidii pedicelli et calyces pubescentes vel glabri, unguis petalorum ciliati, filamenta ciliata vel saltem filamenta staminum interpetalorum ad basin papillosa. Capsulae parvae, globosae vel subglobosae, (1.7) 2—3 mm in diametro.

Typus seriei: *Silene borysthenica* (GRUNER) WALTERS

This series consists of two psammophilous species, *S. borysthénica* (GRUNER) WALTERS and *S. media* (LITW.) KLEOPOW growing on sands from C. Europe to NW. Mongolia.

New combinations

Silene granitcola (KLOKOV) ŠOURKOVÁ, comb. nova. — Bas.: *Orites granitcola* KLOKOV Bot. Žurn. AN URSSR, Kyjiv, 5/1 : 21, 1948.

Silene moldavica (KLOKOV) ŠOURKOVÁ, comb. nova. — Bas.: *Orites moldavica* KLOKOV Bot. Žurn. AN URSSR, Kyjiv, 5/1 : 24, 1948.

Silene borysthénica (GRUNER) WALTERS subsp. *parviflora* (HORNEI.) ŠOURKOVÁ, comb. nova. — Bas.: *Viscago parviflora* HORNEI. Hort. Hafn. 411, 1813. — Syn.: *Silene orites* (L.) WIBEL subsp. *parviflora* (PERS.) ŠMALG. Fl. Sred. Juž. Rossii 1 : 143, 1895; *Orites borysthénica* (GRUNER) KLOKOV subsp. *parviflora* (HORNEI.) HOLUB Folia Geobot. Phytotax., Praha, 5 : 437, 1970.

Silene donetzica KLEOPOW subsp. *sillingeri* (HENDRYCH) ŠOURKOVÁ, comb. nova. — Bas.: *Silene densiflora* d'URY, subsp. *sillingeri* HENDRYCH Studia Bot. Czechosl., Praha, 9 : 116, 1948.

A more detailed study of these and other species will be published later.

SOUHRN

V rámci podrodu *Orites* (ADANSON) REICHENB. (rod *Silene* L., *Caryophyllaceae*) autorka na základě rozdílné stavby samičích květů rozlišuje dvě sekce. Sekce *Balkanosilene* ŠOURKOVÁ se vyznačuje především zachovanými sterilními tyčinkami v samičích květech; typem této sekce je *S. roemerii* FRIV. Sekce *Orites*, zahrnující typ podrodu — *S. orites* (L.) WIBEL — se naproti tomu vyznačuje samičími květy bez jakýchkoli zbytku tyčinek. Tuto druhou sekci autorka na základě řady dalších znaků (především odění květních stopek, kalichu, nehtu korunních lístku a nitky, dále pak velikosti a tvaru tobolek a v neposlední řadě i podle toho, zda se jedná o rostliny vytrvalé či dvoulété) člení na čtyři serie: ser. *Macrocarpae* SCHISCHKIN ex ŠOURKOVÁ — typ serie *S. hellmannii* CLAUSS, ser. *Oriteae* (BOISS.) ROHRB. — typ serie *S. orites* (L.) WIBEL, ser. *Effusae* ŠOURKOVÁ — typ serie *S. wolgensis* (HORNEI.) BESSER ex SPRENGEL, ser. *Borysthénicae* ŠOURKOVÁ — typ serie *S. borysthénica* (GRUNER) WALTERS. Kromě toho jsou v článku uveřejněny i čtyři nové kombinace: *S. granitcola* (KLOKOV) ŠOURKOVÁ, *S. moldavica* (KLOKOV) ŠOURKOVÁ, *S. borysthénica* (GRUNER) WALTERS subsp. *parviflora* (HORNEI.) ŠOURKOVÁ a *S. donetzica* KLEOPOW subsp. *sillingeri* (HENDRYCH) ŠOURKOVÁ.

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