

M. Mesbah, C. Chatelain, R. El Mokni & C. Loup

Nomenclatural revision of the *Silene canopica* complex (*Caryophyllaceae*) across Middle East to the Maghreb region

Abstract

Mesbah, M., Chatelain, C., El Mokni, R. & Loup, C.: Nomenclatural revision of the *Silene canopica* complex (*Caryophyllaceae*) across Middle East to the Maghreb region. — Fl. Medit. 35: 239-252. 2025. — ISSN: 1120-4052 printed, 2240-4538 online.

The taxonomic identities of five taxa of *Silene* L. (*Caryophyllaceae*) found in Egypt have been widely confused in historic herbaria, particularly in the Boissier's Flora Orientalis herbarium (G-BOIS). To disentangle this confusion, which remains in current floras, we present a nomenclatural and taxonomic revision of the *Silene canopica* complex including *Silene biappendiculata* Ehrenb. ex Rohrb., *S. canopica* Delile ex Spreng, *S. colorata* subsp. *oliveriana* (Otth ex DC.) Rohrb., *S. obtusifolia* Willd. and *S. villosa* Forssk. Moreover, we confirm that *S. biappendiculata* is a synonym of *S. canopica*. A lectotype was designated for *S. biappendiculata*, *S. canopica*, *S. mauritanica* and an epitype for *S. colorata* subsp. *oliveriana*.

Key words: Nomenclature, *Caryophyllales*, North Africa, Egypt. Syria, Jordan.

Article history: Received 5 November 2025; received in revised form 19 December 2025; accepted 20 December 2025; published 26 December 2025.

Introduction

The genus *Silene* L. (*Caryophyllaceae*) is widely distributed in the temperate zones of the northern hemisphere. Its biodiversity is predominantly found in the Mediterranean Basin and Western Asia (Greuter 1995; Oxelman & al. 2013). Recent taxonomic studies of the genus in the Mediterranean have revealed complicated interspecific relationships, suggesting a need for nomenclatural revision (Jeanmonod 1985; Du Pasquier & Jeanmonod 2016; Đurović & al. 2018; Iamónico 2022). North Africa shows significant diversity with over 144 taxa, 55 of which are endemic (Quézel 1957, 1978; Dobignard & Chatelain 2011; Mesbah 2021). Among all sections *Silene*, sect. *Silene*, is the most species-rich and the most extensively represented in North Africa with up to 93 taxa which 23 are present in Egypt. Several taxonomic ambiguities are highlighted within this section ex. *Silene colorata* complex, *S. nocturna* complex, *S. canopica* complex (Oxelman & Lidén 1995; Jafari & al. 2020; Saez & al. 2022; Mesbah & al. unpubl. data).

The present study focuses on the revision of five taxa belonging to *Silene* sect. *Silene*: *Silene biappendiculata* Ehrenb. ex Rohrb., *S. canopica* Delile ex Spreng., *S. colorata* subsp. *oliveriana* (Otth ex DC.) Rohrb., *S. obtusifolia* Willd., and *S. villosa* Forssk. The original description of *S. biappendiculata* also mentions two varieties, α and β *latifolia*, which were never clearly differentiated or formally recognized in the literature. Owing to mixed herbarium identifications, these taxa are here referred to as the *Silene canopica* complex. They occur mainly in Egypt and also in the Arabian Peninsula, on arid and sandy environments, except for *S. obtusifolia*, which is largely restricted to the western Mediterranean. Morphologically, they are characterized by a developed indumentum, scorpioid monochasial (rarely dichasial) inflorescences, simple or bifid petals (up to two-thirds), clawed but usually not auriculate limbs, and flat to concave dorsally canaliculated seeds features often leading to confusion in herbaria and floras (Boissier 1867; Maire 1963; Mesbah & al. unpubl. data).

By designating type specimens for the taxa within the *S. canopica* complex and conducting detailed seed morphology analyses, this study provides a refined classification of this taxonomically challenging group in Egypt and adjacent regions, and proposes an identification key to identify these taxa.

Material and Methods

This revision is based on the examination of herbarium specimens from Boissier's Flora Orientalis herbarium (G-BOIS), the Geneva herbaria (G, G-DC), and the Raffeneau-Delile herbarium in Montpellier (MPU), supplemented by digitized specimens accessed via the Global Biodiversity Information Facility (<http://www.gbif.org/>).

Specimens of *Silene canopica*, *S. biappendiculata*, *S. oliveriana*, *S. villosa*, and *S. obtusifolia* were studied. Morphological characters of vegetative and reproductive organs were assessed, and geographic distribution and habitat data were compiled from specimen labels.

Seed micromorphology, a key diagnostic character in *Silene*, was examined when available. Seed images were obtained from type material using a VHX-7000 digital microscope ($\times 200$). Taxonomic literature was consulted to ensure accurate species delimitation and nomenclature. Accepted names are indicated in bold italic.

Key to the *Silene canopica* complex

1. Annual plant with agglutinating viscus glandular hairs ***S. villosa***
- 1a. Annual or perennial plant with pubescent hairs 2
2. Annual or perennial plant; leaves obovate or obovate-oblong; sides of the seeds deeply excavated ***S. obtusifolia***
- 2a. Annual plant, leaves linear-oblong or lanceolate; sides of seeds not deeply excavated; dorsal edge of seeds grooved so as to create two wing-like flanges 3
3. Leaves linear or linear-lanceolate; seeds reddish brown, 0.8–1.2 mm long ***S. colorata* subsp. *oliveriana***
- 3a. Leaves oblong-lanceolate, linear uppermost; seeds blackish to dark brown, 1.2–1.7 mm long ***S. canopica***

Taxonomy and nomenclature

1. *Silene canopica* Delile ex Spreng., Syst. Veg. (ed. 16) 2: 406. 1825. – *S. canopica* Delile, Descr. Fl. Egypt, vol. 2: 62. 1812, *nom. nud.* (Art. 38.1a of ICN). – *S. canopica* Delile, Descr. Fl. Egypt, Ed. 2, vol. 19: 88. 1824, *nom. nud.* (Art. 38.1a of ICN).
- Lectotype** (designed here): Egypt: “Fl. Aeg. n° 443, Egypt, bord de la mer à Elarich”, s.d., *Raffeneau-Delile 443* (MPU091805!) (Fig. 1).
- = *S. biappendiculata* var. *latifolia* Rohrb. in Bot. Zeitung (Berlin) 25: 82. 1867. **Lectotype** (designated here): Egypt: “Alexandria”, 23.II.1855, *Ehrenberg s.n.* (G-BOIS (G00545215!)) (Fig. 2).
- = *S. canopica* Boiss., Fl. Orient. 1: 596. 1867 (nom. illeg., superfl.). **Lectotype** (designed here): Egypt: “prope Alexandria”, 23.II.1858, *Samaritani 2999* (G-BOIS (G00545152!)); **isolectotype**: (JE00013347 photo !).
- = *S. obtusifolia* sensu Boiss., Fl. Orient. 1: 593 1867.
- *S. ptolemaica* Ehrenb., Monogr. Silene: 105. 1869 (nom inval.).

Annual *plant* with erect, branching whitish appressed, pubescent hairs. *Leaves* oblong to oblong-lanceolate to linear in the upper leaves. *Inflorescence* terminal monochasial scorpioid cyme, 4–6 flowers per inflorescence. *Calyx* ciliate, with pubescence along nerves. *Capsule* ovoid, carpophore longer than or equal to capsule. *Seeds* dark brown to blackish, reniform, 0.8–1.2 mm long, the sides flat or slightly excavated, the dorsal edge with a wide and relatively deep longitudinal groove bearing two narrow tuberculate canals beneath each margin (Fig. 4A-G); seed coat partially tuberculate with narrow striations extending to margin.

Distribution. – Egypt, Palestine (probably also Libya, but no specimen available for confirmation).

Notes. – *Silene canopica* was mentioned twice without description in Raffeneau-Delile, first in his *Description de l'Égypte – Histoire Naturelle* (Raffeneau-Delile, 1812: 62) and in its second edition (Raffeneau-Delile, 1824: 88). A specimen originating from Raffeneau-Delile's herbarium deposited at MPU (MPU091805) bears the number 443 as in the original list published in 1812 (Fig. 1), this specimen is hereby designated as the Lectotype. The validation of the *Silene canopica* name was published by Sprengel (1825: 406) who provided a description referring to Raffeneau-Delile, but without citing any specimen. Later, Boissier published in his *Flora Orientalis* (1867: 596) a new species based on the specimen collected by Samaritani [2999] under the illegitimate later homonym *S. canopica*. He was clearly unaware that Sprengel had already validated *S. canopica* in 1825 with a collection from Delile, although he mentioned the Delile publication. He created additional confusion in proposing the specimen by Samaritani [2999] to describe *S. biappendiculata*, which also overlooked Rohrbach's treatment of the genus *Silene* (1867: 82). To clarify these confused identifications we propose the Lectotypification of *S. canopica* from Boissier (McNeil & al. 2014).

Moreover, the main origin of all misinterpretations come probably from Rohrbach's (1867) description of *S. biappendiculata*, because he recognized two varieties, “α” and



Fig.1. Lectotype of *Silene canopica* Delile, (Raffeneau-Delile, “Del. fl. Ag. n443 Egypte” (MPU091805); © Montpellier.



Fig. 2. Lectotype *Silene biappendiculata* Ehrenb. ex Rohrb. (Ehrenberg s.n., (G-BOISS G00545215);
© Conservatoire et Jardin botaniques, Genève.

“*β latifolia*”, which have never been clearly distinguished nor treated as separate taxa in subsequent literature. The taxonomic history of *S. biappendiculata* has thus been characterized by significant nomenclatural confusion and overlapping morphological characters of two taxa, leading to repeated misidentifications. It could explain why specimens attributed to this species have been variously labeled as *S. canopica* Boiss., *S. colorata* Poir., *S. colorata* var. *ligulata* Viv. apud Rohrbach, *S. obtusifolia* Willd., and *S. oliveriana* Otth.

Now, with the identification of the original material of α and β varieties, we can confirm that the variety α (*S. biappendiculata* var. *biappendiculata*) corresponds to *Silene colorata* subsp. *oliveriana*, and the β *latifolia* corresponds to *S. canopica*.

Later, the *Flore d'Afrique du Nord* (Maire, 1963) provides a detailed account of *S. biappendiculata*, referencing materials from Rohrbach, Boissier, Cosson and from an incomplete specimen collected near Ramleh, Alexandria by Letourneux. This particular specimen, *Letourneux 180* (G-BOIS (G00545213)), was initially identified as *S. obtusifolia* Boiss. non Willd. Then, Maire, following Durand & Barratte (1910), listed *S. obtusifolia* Boiss. non Willd. as a synonym for *S. biappendiculata*.

Additional specimens examined. EGYPT – Alexandria: Aboumoundoud près du Nil, s.d., *Raffeneau-Delile s.n.* (MPU091803 upper part); Ramlé et Mandara propre Alexandria, II/III.1877-1878, *Letourneux 180* (G00545213); Ramleh, Alexandria, 5.III.1880, *Barbey s.n.* (G00606269). El Fayoum: El Mandarah, 6.IX.1880, *Barbey s.n.* (G00606264). Ismailia: Ismaïlia, 18.III.1880, *Barbey s.n.* (G00606262). Sharqia: Salehiha in desertis ad Salehia, 26.IV.1820, *Ehrenberg s.n.* (K005011477) photo!; s.l. Egypte, V.1869, s.c. (K005011478) photo!. PALESTINE – Darom: Wadi el Grafi, 25.III.1880, *Barbey s.n.* (G00606267). Southern District: Bir Saba, 29.III.1880, *Barbey s.n.* (G00606263).

2. *Silene colorata* subsp. *oliveriana* (Otth ex DC.) Rohrb., Monogr. Silene: 116. 1869.

≡ *S. oliveriana* Otth ex DC., Prodr. 1: 373. 1824.

≡ *S. colorata* var. *oliveriana* (Otth ex DC.) Durand & Barratte in Fl. Liby. Prodr. 36. 1910.

Lectotype (designed by Jafary & al. 2024: 98): Syria: “entre Alep et Mossoul”, s.d., *Olivier s.n.* (G-DC (G00215019!)).

Epitype (designated here): Jordan, Arabia Petraea finus Sabastina, III.1846, *Boissier s.n.* (G0060250!) (Fig. 3)

= *S. biappendiculata* Rohrb. in Bot. Zeitung (Berlin) 25: 82. 1867. **Lectotype** (designated here): Egypt: “Damiette”, 1820, *Ehrenberg s.n.* (K00728430) photo!

Annual plant; stem pubescent. Leaves linear or lanceolate, all pointed. Inflorescence scorpioid cyme, 4–8 flower per inflorescence. Calyx, 6–7mm, turbinate at anthesis, covered with short, non-glandular hairs, pubescence over the nerves, lobes ciliate. Capsule ≥ the length of the carpophore. Seeds reddish-brown, 1.2–1.7mm long, reniform, granular, flatter sides slightly excavated with tubercles centrally; dorsal edge is acutely grooved with a narrow canal at the base with minute tuberculate margins. (Fig. 4B–E).



Fig. 3. Epitype of *Silene colorata* subsp. *oliveriana* (Oth ex DC.) Rohrb. (Boissier s.n., G00606250);
© Conservatoire et Jardin botaniques, Genève.

Distribution and ecology. – From Iran and Turkey to Tunisia, in arid areas with predominantly sandy soils.

Notes. – Jafary & al. (2024) designated a lectotype for *Silene oliveriana* from the de Candolle herbarium (G00215019). The type specimen of *S. oliveriana* (G00215019), collected by Olivier in Syria, is unfortunately not an ideal reference, as the material bears an immature inflorescence with undeveloped capsules and seeds. Another very small specimen from Aleppo to Mosul, preserved in P (P055436625) and lacking a collector's name, is likewise immature. This incomplete specimen has likely contributed to the confusion regarding determination of this taxon. To resolve any doubts about *Silene oliveriana* and clarify the species descriptions, we have identified a specimen, *Boissier s.n.* (G0060250) from Jordan, that corresponds well and has all the characters (seeds) needed for identification, and we have designated it as an epitype. Based on morphological similarities with *S. colorata*, including a turbinate calyx at anthesis, short eglandular pubescence on the calyx and veins, an inflated capsule, and seeds with a grooved margin, *S. oliveriana* is here treated as a subspecies of *S. colorata* (i.e., *S. colorata* subsp. *oliveriana*), following historical taxonomic treatments.

Several misinterpretations are found in the historical literature; Rohrbach (1869: 105) stated *Silene oliveriana* from Boissier was based on the specimen collected by G.B. Samaritani [2999] non Otth, and placed this name in synonymy with *S. biappendiculata*. However, Boissier never described *S. oliveriana* nor mentioned a [2999] specimen for this species. Instead, in the *Flora Orientalis* (1867: 596), Boissier explicitly assigned this specimen [2999] to *S. canopica*. We, therefore, conclude that Rohrbach's interpretation was erroneous. Some pages after, Rohrbach (1869: 105) cited two specimens under *Silene biappendiculata*. The first specimen: *Ehrenberg s.n.* collected in "Damietta" or "Damitta" is the type of *S. biappendiculata* var. α (K00728430) but identified by us as *S. colorata* subsp. *oliveriana*. The second specimen, "pr. from Alexandriam", should correspond to the type of *S. biappendiculata* var. β *latifolia* (as syn. of *S. canopica*). This specimen was received by Boissier from the Museo botanico Berolinensi (G-BOIS (G00545215)), but the original specimen from Berlin was destroyed during the Second World War, it's the reason we lectotypify on Boissier's herbarium.

Additional specimens examined. EGYPT – Alexandria: Madinat, Borg El Arab, 14.III.1944, *Davis 6546B* (E00057097) photo!; Beheira: Keluan ad Nili ripas, 27.IV.1910, *Muschler s.n.* (K005011472) photo!; Damietta: Damiette sand, 27.IV.1910, *Muschler s.n.* (K005011481) photo!; Damiette, sand, 1820, *Ehrenberg s.n.* (K00728430) photo!; Kafr el-Sheikh: Baltim (Brullus), 5.IV.1887, *Ascherson 1434* (BR028387268) photo!; Marsa-Matruh Matruh, 27.VI.1907, *Ball s.n.* (K005011475) photo!; Matruh, 10.IV.1932, *Shabetai 23* (K005011474) photo!;

IRAQ – Al-Anbar: 12 km south of Rutba, Northern Desert, 4.III.1963, *Barkley 33Ir53/3* (K005011749) photo!; Al Qādisīyah: Distr. Diwaniya desertum meridionale prope As-Salman, 22.IV.1957, *Rechinger 9289* (E00057099) photo!; Buskaya, 4.IV.1958, *Rawi & Haddad 25580* (K005011763) photo!; Al-Muthanna: 25 Km S.E. of As.-Salman, 18.III.1955, *Rawi 14903* (K005011757) photo!; Diyala: Jabal (Hanrim) (nr. Table Mt.), 30.III.1932, *Guest 1906* (K005011766) photo!; Region and District FUJ; Jabal (Hamrin),

06.III.1955, *Wheeler W308* (K005011760) photo!; Between Saugur and Jannura, left bank of the Diyala near Qoraitu, 21.III.1958, *Poore 492* (K005011762) photo!; Kirkuk: On the (Banko) of the River Zab, near Kirkuk, 15.III.1956, *Grigg 51* (K005011753) photo!; Kirkuk Liwa, 20.III.1963, *Barkley & Jumaa 4540* (NY04411061) photo!; Ninive: Falvil N.W. of Mosul, 29.III.1982, *Khayat s.n.* (K005011739) photo!; Qora Tafa, 02.IV.1931, *Guest 1474* (K005011767) photo!; Wasit: 616km. S Badra, 13.IV.1957, *Al-Rawi 18182* (K005011752) photo!; ISRAEL/OCCUPIED PALESTINIAN TERRITORY – Southern District: Tell Fara, 19.II.1930, *Harding 166* (K005011719) photo!; Tell Fara, 03.III.1930, *Harding H783/1930* (K005011717) photo!; Tell Fara, 02.IV.1930, *Harding 267* (K005011720) photo!; Tel Aviv/Jaffa: Saronae, Jaffa, 25.IV.1912, *Meyers & Dinsmore 8423b* (K005011724) photo!; JORDAN – Arabia petraea_finus Palestina, III.1846, *Boissier s.n.* (G00606250); Arabia (Petram, Palestina), 01.III.1846, *Boissier s.n.* (K005011734) photo!; Arabia Petrae, 01.III.1846, *Boissier s.n.* (K005011735) photo!; Bishra, 6 km NE Irbid, 26.IV.1975, *Boulos, Jallad & al. 8228* (E00057094) photo!. LEBANON – Beirut: Salhieh, Jardin d’Szet Pacha, 12.IV.1856, *Gaillardot 1634* (G-BOIS G00545111!); Jardin de college d’Autoura, 18.II.1857, *Gaillardot 1637* (G-BOIS G00545142!); Nabatieh: Nabatieh, V.1938, *Gombault 5783* (P05436615) photo!; Sidon district: Jardin d’Szet Pacha à Salhieh, 12.IV.1856, *Gaillardot 1634* (G-BOIS G00545111!); Tyr: South Liban, Naqoura, *Gombault 1036* (P05436614) photo!; LIBYA – Tripoli: Tripoli, sur les collines du sud, près du château, IV.1866, *Blanche s.n.* (P05436635); Tripoli, 22.X.1887, *Taubert & Barbey s.n.* (G00606268); Tripolitaine, Gargaresh, 25.IV.1933, *Bornmüller 614* (P05032124) photo!; PALESTINE – Jéricho: Jericho, 01.I.1863, *Lowne 3* (K005011723, K005011721) photo!; Jericho 8.IV.1880, *Barbey s.n.* (G00628107); Palestine à la frontière, IV.1846, *Boissier s.n.* (G00606224); Palestinian Territory, occupied “West Bank”, 29.III.1926, *Mushak 29* (K005011726) photo!; Wuste Judah, 1858, *Roth 69* (G-BOIS G00545108!). SAUDI ARABIA – Northern Borders: Jabal Amud: S. of Turayf, 08.III.1988, *Harrat 6522* (E00648942) photo!; SYRIA – Daraa: A l’est de Saïda, 22.I.1853, *Blanche 7* (E00057103), (K005011711) photo!; Sables au Sud et près d’Abacouch, env. de Saida, 10.III.1853, *Blanche 923* (K005011716) photo!. Deir ez Zor: not far north of Iraqi border at Abu Kamal, 6.III.1955, *Helbaek 234* (K005011744) photo!. Homs: S-E. Al Qaryatayn, 13.IV.1943, *Davis 5663B* (E00057109) photo!; Syria borealis, Djebel Muhassan 12.III.1865, Iter Syr.-Armen. *Haussknecht s.n.* (G-BOIS G00545115!).

TUNISIA – Medenine: Djerba Midoun, vers Midoun, 05.IV.1975, *Van den Berghen s.n.* (BR0000028390459) photo!; Mezraia (Djerba), 06.II.1978, *Van den Berghen s.n.* (BR0000028390473) photo!; Mezraia (Djerba), 28.XII.1978, *Van den Berghen s.n.* (BR0000028390442) photo!. Medenine: Medenine, 14.III.2006, *Dobignard 13452* (G); Rass Tourgueness, 22.III.2006, *Dobignard 13641* (G). Sfax: îles Kerkennah (île Gharbi), 5.IV.2014, *Chatelain cc2386* (G00394866); TURKEY – Hatay: Antioche, *Hatay s.n.* (P05436622) photo!

3. *Silene villosa* Forssk., Fl. Egypt.-Arab.: 88. 1775.

Lectotype (designated by Melzheimer, 1988: 496): Egypt: “prope pyramidas Gizenses”, (I.1762), *Forsskål 560* (C10003075) photo!

Annual *plant*, stems covered with agglutinating viscous glandular hairs. *Leaves* narrowly oblanceolate to linear-lanceolate. *Inflorescence* cymose with 1–3 flowers per inflorescence. *Flowers* pedicel long as twice the length of the calyx; capsule 2/3 as long as the calyx. *Seeds* small, 6–8 mm long, reniform, greyish brown, sides flat, dorsal surface with a wide, shallow groove, the seed coat patterned into roundish cells (Fig. 4C–F).

Distribution and ecology. – Common from Morocco to Pakistan in arid areas with predominantly sandy soils.

Notes. – *Silene villosa* was first published by Peter Forsskål in *Flora Aegyptiaco-Arabica* (Forsskål, 1775: 88). The original material was collected by himself during his expedition to Egypt and the Arabian Peninsula (1761–1763). There is two parts in [C] for this collection, one with the number 550 and second with 550 corrected to 560, which is the Lectotype. Because of its polymorphism, *S. villosa* was often overlooked in major floristic works or treated in a broad sense within complexes of morphologically close species, such as *S. canopica*.

Ali & Jafri (1978) in *Flora of Libya* and Boulos (1999) in *Flora of Egypt* recognized *S. villosa* as a distinct species based on consistent morphological traits; particularly dense villous indumentum on stems and calyces, a short inflorescence with up to 3 flowers, shorter petal claws, *Flowers* pedicel long, twice the length of the calyx after anthesis.

Additional specimens examined. ALGERIA – Adrar: Tit, Adrar, 01.III.2017, *Benhouhou SB17* (ENSA13020); Palmeraie Tamentit, Adrar, 10.III.2021, *Benghanem NB31* (ENSA13300). El-Oued: Mguebra dans l’oued Rir, 08.IV.1858, *Cosson s.n.* (G00642718). Ghardaia: El Goléa, 21.III.1904, *Chevallier s.n.* (G00642719); Metlili, 06.V.1897, *Chevallier 170* (G00431399). Naâma: Aïn Sefra, 17.V.1856, *Cosson s.n.* (G00642721); Aïn Sefra, 07.V.1856, *Bourgeau 229* (G00642731); Tyout, sud-ouest de la province d’Oran, V.1922, *Alleizette s.n.* (G00431410);

EGYPT – Alexandria: Mariout, Basse-Egypte, 04.III.1880, *Barbey 151* (G00642708); Ramleh, Alexandria, 1882, *Bloomfield s.n.* (G00642707); Mariut, V.1890, *Schweinfurth 35* (G00642706). Asyut: Lycopolim (Syouth), 03.III.1848, *Kralik s.n.* (G00642730). Cairo: Le Caire, 17.II.1881, *Cramer s.n.* (G00642717); El Marg, 08.V.1908, *Burdet 74* (G00642716). Giza: Sakkara, II.1846, *Boissier s.n.* (G00642729); Sakarah pyramides, 18.III.1848, *Kralik 2397* (G00642720); Près des Pyramides de Gyseh, 12.II.1880, *Cramer s.n.* (G00642725). Ismailia: Ismailia, 18.III.1880, *Barbey s.n.* (G00642715). North Sinai: El Arish (Sinaï), 01.V.1991, *Podlech 49928* (G00642713). Port Said: Matarich (Matarieh), 27.III.1891, *Burdet 72* (G00628105). Qalyubia: Abu-Zabel, 07.I.1855, *Wiest 76* (G00642733). Egypte (s.l.), s.d. Delile, R., s.n. (G00642727);

LYBIA – Cyrenaïque, 1826, *Pacho s.n.* (G00642732);

MOROCCO – Tan-Tan: Oued Chebeika, bordure de l’Oued Chebeika, 9km de l’océan, 22.IV.1989, *Jacquemoud 4225* (G00642714).

4. *Silene obtusifolia* Willd., Enum. Pl. 1: 473. 1809.

Lectotype – (designated by Bureva & al. 2006: 124) *Willdenow B-Willd 8629* (LECB0001901); iso– : s.l., s.d, *Willdenow B-Willd 8629* (B -W08629-010);

= *S. mauritanica* Pomel, Nouv. Mat. Fl. Atlant. 2: 328. 1875.; **Lectotype** (designed here): Oued Mersa bou Nouar, *s.d.*, *Pomel s.n.* (MPU005823); **isolectotype** – (P00375406); non *S. mauritanica* Pott ex Rohrb. Monogr. Silene: 84. 1869, *nom. nud.* (Art. 38.1a of ICN).

Annual or perennial *plant* with white hairy stems. *Leaves* obovate or obovate-oblong, the upper leaves narrower and obtuse at the apex. *Gynophore* 1/3 the length of the capsule. *Seeds* blackish-brown, 6.5–7.5 mm long, lateral surface deeply excavated, dorsal surface shallowly grooved, the seed coat patterned with striations. (Fig. 4, D.H).

Distribution and ecology. – Morocco, Algeria, Spain, Portugal and Tunisia, (Egypt?). Predominantly on maritime rocks and, sometimes, on sand.

Notes. – The name *Silene obtusifolia* was first validly published by Willdenow in Enumeratio plantarum (Willdenow, 1809: 473), based on material collected from an unidentified locality (one in LECB and two sheets in B). This taxon is included in our revision because of the numerous historical misapplications associated with its name, despite its ecology not being typically linked to sandy habitats. Boissier, in *Flora Orientalis* (1867), introduced the illegitimate name *Silene obtusifolia* Boiss. (non Willd.), which does not correspond to Willdenow's protologue and was applied to Egyptian specimens that we now recognize as *S. canopica*. His interpretation, however, was not adopted in subsequent literature; notably, Durand & Barratte (1910) and Maire (1963) did not follow this usage, and the name has since generally been treated as a synonym of *S. biappendiculata*.

Silene obtusifolia Willd. is distinguished by a dense indumentum, obovate to obovate-oblong leaves with obtuse or narrowly acute apices, and seeds that differ significantly from those of *S. biappendiculata* (Fig. 3). This taxon is well represented on coastal rock in western Algeria, Morocco, and in the Iberian Peninsula. From Egypt we know only one specimen from Boissier collected in 1886, and we recently observed three new localities from Tunisia (Herb. *El Mokni*) from coastal Tunisia; it suggests that the presence of this taxon in North Africa may be greater than previously assumed, warranting further biogeographical investigation.

Concerning *S. mauritanica*, three specimens are preserved. One is handwritten by Maire as "Type" and bears a label from Munby (MPU005822), but it is from a locality not included in the protologue. The others (MPU005823 and P00375406) match the protologue's data and are original material. Following (Dmina & al. 2013) we select the specimen MPU005823 as the Lectotype of the name and the specimen P00375406 as its duplicate.

Additional specimens examined. – ALGERIA – Ain Timouchent: au bord de la Plage Madegh, 18.IV.2019, *Mesbah MM08* (ENSA13973). Oran: Oued Mersa-bou Nouar, *s.d.*, *Munby s.n.* (MPU005822); Sur les dunes de sable rocheuse à Cap Blanc, 19.IV.2019, *Mesbah MM09* (ENSA13973). MOROCCO – Tanger: Cap Spartel, V.1849, *Boissier & Reuter s.n.* (G00642774); Cap Spartel, 19.V.1980, *Charpin, Fernández Casas & al. MARI8* (G00642775); Tanger, rivière des juifs, 08.III.1911, *Pitard 401* (G00642507); Tanger, 24.IV.1924, *Maire s.n.* (G00402712); Tanger-Tetouan: 5km E of Tanger to Ceuta, 22.VI.1989, *Podlech 46738* (G00642772). Al Hoceima: Bocoya, c. Marsa Saguira, 19.V.1927, *Font Quer 182* (G00642776). TUNISIA – Bizerta: Bizerta-city (Sidi Salem Plage), 05.IV.2022, *El Mokni s.n.* (Herb. R. El Mokni), *ibidem*, 18.IV.2023, *El Mokni s.n.* (Herb. R. El Mokni). Jendouba: Tabarka (Zone Touristique Plage), 03.V.2024, *El Mokni s.n.* (Herb. R. El Mokni).

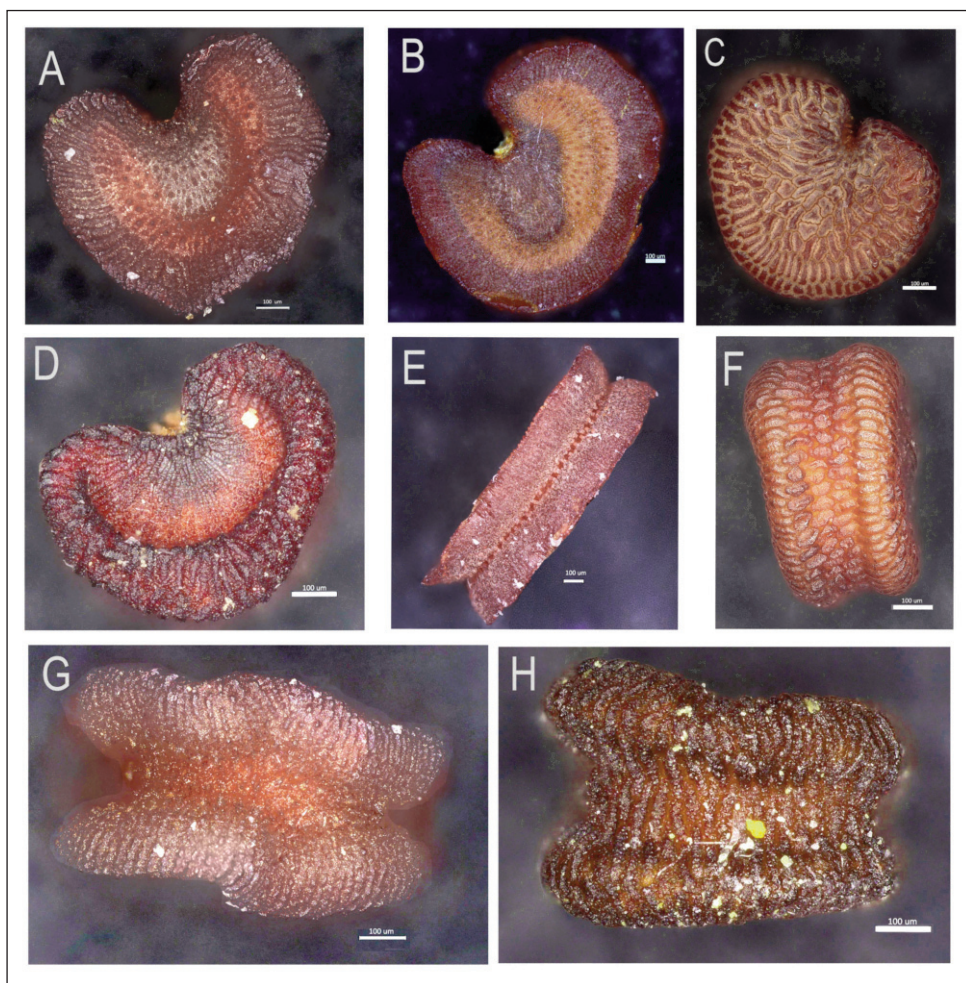


Fig.4. Seed morphology of five *Silene* species, with digital microscope VHX-7000 ($\times 200$) of: **A, G.** *Silene canopica* Delile (Ehrenberg s.n., G00545215); **B, E.** *S. colorata* subsp. *oliveriana* (Boissier s.n., G00606250); **C, F.** *S. villosa* (Podlech 33649, G00642710); **D, H.** *S. obtusifolia* (Mesbah M9, ENSA13974). Lateral view (A, B, C, D); dorsal view (E, F, G, H). (Photos: Mesbah).

Acknowledgments

We express our gratitude, to Errol V  la for his assistance in photographing the seeds at CIRAD, Montpellier. We also thank to Juan-Carlos Zamora for his nomenclature comments, and to Daniel Hoffman for his assistance with translation and his constructive comments.

References

- Ali, S. I. & Jafri, S. M. H., 1978: Flora of Libya, **8**. – Tripoli.
- Boissier, P. E. 1867: Flora Orientalis, **1**. – Geneva.
- 1867–1888: Flora Orientalis, sive enumeratio plantarum in Oriente a Graecia et Aegypto ad Indiae fines hucusque observatarum, **5**. – Genève & Bâle.
- Boulos, L. 1999: Flora of Egypt, **1**. – Cairo.
- Buyreva, V. A., Byalt, V. V. & Orlova, L. V. 2006: The Willdenow's type specimens in the herbarium of Saint Petersburg State University (LECB). – Bot. Zhurn. **91**: 114-129.
- Dcaisne, J. 1835: Énumération des plantes recueillies par M. Bové dans les deux Arabies, la Palestine, la Syrie et l'Égypte. – Ann. Sci. Nat., Bot., sér. II, **3**: 257-291.
- Domina, G., Greuter, W., Marino, P & Schäfer P. A. 2013: Types of names of *Orobanch* taxa described from North Africa. – Pl. Biosyst. **174(3)**: 758-766. <https://doi.org/10.1080/11263504.2013.829883>
- Du Pasquier, P. E. & Jeanmonod, D. 2016: Lectotypification of three species of *Silene* sect. *Italicae* (Rohrb.) Schischk. (*Caryophyllaceae*). – Candollea **71**: 19-22. <https://doi.org/10.15553/c2016v711a4>
- Durand, E. & Barratte, G. 1910: Florae Libycae Prodromus, ou catalogue raisonné des plantes de Tripolitaine. – Geneva.
- Đurović, S. Z., Kuzmanović, N., Tomović, G. & Niketić, M. 2018: Nomenclatural notes and typification of the names related to *Silene saxifraga* group (*Caryophyllaceae*). – Phytotaxa **344(3)**: 201-214. <https://doi.org/10.11646/phytotaxa.344.3.1>
- Forsskål, P. & Niebuhr, C. 1775: Flora Aegyptiaco-Arabica: sive descriptiones plantarum. – Hauniæ (Copenhagen).
- Greuter, W. 1995: *Silene* (*Caryophyllaceae*) in Greece: a subgeneric and sectional classification. – Taxon **44**: 543-581. <https://doi.org/10.2307/1223499>
- Iamónico, D. 2022: Taxonomic remarks on the south-east European and west Turkish *Silene lydia* (*Caryophyllaceae*). – Nord. J. Bot. **2022(9)**: e03490. <https://doi.org/10.1111/njb.03490>
- Jafari, F. & Rabeler R. K. 2024: First record of *Silene oliveriana* (*Caryophyllaceae*) in Iran with nomenclatural and taxonomic notes. – Phytotaxa **676(1)**: 95-100.
- , 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. <https://doi.org/10.1002/tax.12230>
- Jeanmonod, D. 1985: *Silene amana* Boiss.: une confusion. – Candollea **40**: 1-3.
- Le Floch, E., Boulos, L., & Véla, E. 2010: Flore de Tunisie. Catalogue synonymique commenté. – Tunisie.
- Maire, R., 1963: Flore de l'Afrique du Nord, **10**. – Paris.
- McNeill, J. 2014: Holotype specimens and type citations: General issues. – Taxon **63(5)**: 112-113
- Melzheimer, V. 1988: *Silene* L. – Pp. 341-508 in: Rechinger, K. H. (ed.), Fl. Iranica, **163**. – Graz.
- Mesbah, M. 2021: Étude taxonomique et biogéographique de quelques espèces du genre *Silene* L. (*Caryophyllaceae*) en Algérie. – Thèse de doctorat, Université de Mira-Bejaia.
- Oxelman, B. & Lidén, M. 1995: Generic boundaries in the tribe *Sileneae* (*Caryophyllaceae*) as inferred from nuclear rDNA sequences. – Taxon **44**: 525–542. <https://doi.org/10.2307/1223498>
- , Rautenberg, A., Thollesson, M., Larsson, A., Frajman, B. & al. 2013: *Sileneae* taxonomy and systematics. – <http://www.sileneae.info> [accessed 06/08/2025]
- Quézel, P. 1957: Peuplement végétal des hautes montagnes de l'Afrique du Nord: essai de synthèse biogéographique et phytosociologique. – Paris.

- 1978: Analysis of the flora of Mediterranean and Saharan Africa. – Ann. Missouri Bot. Gard. **65**: 479-534.
- Raffeneau-Delile, A. R. 1812: Description de l'Égypte, Histoire naturelle, **2**. – Paris.
- 1824: Description de l'Égypte, Histoire naturelle, **19(2)**. – Paris.
- Rohrbach, P. 1867: Beitrag zur Kenntniss des Gattung *Silene*. – Bot. Zeitung **25**: 82-88.
- 1869: Monographie der Gattung *Silene*. – Leipzig.
- Sáez, L., Mesbah, M., López-Alvarado, J., Bacchetta, G., El Mokni, R. & al. 2022: Re-establishment of *Silene neglecta* Ten. (*Caryophyllaceae*) with taxonomic notes on some related taxa. – PhytoKeys **195**: 143-160. <https://doi.org/10.3897/phytokeys.195.81370>
- Sprengel, K. P. J., 1825: Caroli Linnaei Systema Vegetabilium, umtibus Librariae Dieterichianae, **2**. – Gottingen.

Addresses of the authors:

Melilia Mesbah¹ (<https://orcid.org/0000-0002-2609-9913>), Cyrille Chatelain² (<https://orcid.org/0000-0001-6929-0008>), Ridha El Mokni³ (<https://orcid.org/0000-0003-3849-1039>) & Caroline Loup⁴,

¹Laboratory of Ecology and Environment, Faculty of Nature and Life Sciences, University of Bejaia, 06000 Bejaia, Algeria and Gothenburg Global Biodiversity Centre, Box 461, 405 30 Gothenburg, Sweden.

²Conservatoire et Jardin botaniques de Genève, ch. de l'Impératrice 1, C.P. 71, 1292 Chambésy, Switzerland.

³University of Monastir, Department of Pharmaceutical Sciences 'A', Laboratory of Botany, Cryptogamy and Plant Biology, Faculty of Pharmacy of Monastir, Avenue Avicenna, 5000-Monastir, Tunisia. University of Carthage, Laboratory of Forest Ecology, National Research Institute of Rural Engineering, Water and Forests, 2080-Ariana, Tunisia.

⁴Laboratoire de Botanique, Institut des Sciences de l'Évolution, Université de Montpellier II et CNRS, Place Eugène Bataillon, F-34095, Montpellier, Cedex, France.

Corresponding author: melilia.mesbah@univ-bejaia.dz