

The genus *Sypharissa* (Liliaceae)

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ABSTRACT

The genus *Sypharissa* Salisb. (Liliaceae) is resuscitated and four species belonging to this genus are validly published.

RÉSUMÉ

LE GENRE SYPHARISSA (LILIACEAE)

On ressuscite le genre *Sypharissa* Salisb. (Liliaceae), auquel cette publication rattache valablement quatre espèces.

A group of species in the Liliaceae, all bearing caudate floral bracts, has been variously placed under the genera *Drimia*, *Urginea*, *Urgineopsis*, *Thuranthos*, *Rhadamanthus*, *Rhodocodon* and *Litanthus*. In 1977 Jessop sank *Urginea*, *Urgineopsis* and *Thuranthos* under *Drimia*. However, the species now all placed under this genus form a most heterogeneous assemblage and further study may assist in arriving at a more satisfactory arrangement. It was observed that a group of related species placed in a separate genus by Salisbury (1866), differed sufficiently from *Drimia* sensu lato and *Urginea* to be recognized as a genus on its own. The genus *Sypharissa* of Salisbury (1866) was not taken up by other systematists. Steinheil (1834) had established the genus *Urginea*, which consisted of two groups of species, one from the Mediterranean Region with four species and the other from the Cape Winter-rainfall Region with three species. The generic name *Urginea* was derived from Ben Urgin, the name of an Arab tribe. Steinheil illustrated the common species from Algiers, *U. fugax* (Moris) Steinheil, which has been selected as the lectotype.

The three Cape species placed by Steinheil under *Urginea* were illustrated and named by Jacquin in 1794-1795 as *Anthericum filifolium*, *A. exuviatum* and *A. fragrans*. Their flowers resemble those of *Anthericum*, such as *A. bipedunculatum* Jacq. [now *Chlorophytum triflorum* (Ait.) Kunth], which led Jacquin to place them in this genus. Subsequent systematists, however, aware of the fact that the underground parts were bulbous, not rhizomatous, removed them from *Anthericum* to *Albuca* (Ker-Gawler, 1805) to *Urginea* (Steinheil, 1834) and to *Ornithogalum* (Kunth, 1843). Eventually Salisbury (1866) placed them in a new genus, *Sypharissa*, the name being a reference to the striate, membranous, sheathing cataphylls, which reminded him of the slough of a snake. Baker in 1873 returned them to *Urginea* as the tribe *Sypharissa*.

A close examination of the three species illustrated by Jacquin, and one other recently described, all from the Winter-rainfall Region, revealed a number of differences with *Urginea* Steinheil s.s. and *Drimia* Jacq. The bulb is of the *Tulipa*-type, whereas that of *Drimia*

and *Urginea* is of the *Narcissus*-type. The shoot, consisting of synanthous deciduous leaves and a raceme, is surrounded by long, sheathing cataphylls which form very characteristic membranous apices that are markedly striate with raised dark transverse ridges. The leaves and racemes are deciduous while the bases of the cataphylls become swollen to form the bulb-scales. (In the *Narcissus*-type the leaf-bases swell up to form the bulb-scales.)† Other characters shared by these three species are the stout, erect stamens with basifixed anthers surrounding the ovary and the declinate, exerted style.

SYPHARISSA

Sypharissa Salisb., Gen. Pl.: 37 (1866). Type species: *S. exuviata* (Jacq.) Salisb. ex Oberm. (lecto-type).

Anthericum sensu Jacq. partly as to *S. exuviata*, *S. filifolia* and *S. fragrans*.

Urginea Steinheil in Annls Sci. nat., sér. 2,2: 322 (1834), partly as to South African species.

Urginea, tribe *Sypharissa* Bak. in J. Linn. Soc., Bot. 13: 216 (1873).

Drimia sensu Jessop in Jl S. Afr. Bot. 43: 269 (1977).

Bulb of the *Tulipa*-type. The young cataphylls prolonged above into cylindric membranous sheaths enveloping the new shoot, their length depending on depth of bulb; apical exposed part with raised, transverse, purple or brown ribs, becoming worn with age, lower part persisting, forming the swollen white bulb scales; caudex often woody in old bulbs and bearing long, stout roots in some species or many thinner ones. *Leaves* synanthous, deciduous, 1-∞, long, terete. *Raceme* simple, few to many-flowered; peduncle smooth, terete; lower bracts boat-shaped, from a wide base, acuminate, with a long, acute, basal spur, upper reduced, their spurs rudimentary. *Flowers* diurnal, open for part of the day, flowering for several days, sweetly scented. *Perianth* stellate, the 6 tepals spreading, usually white with a dark, reddish brown or green midrib. *Stamens* 6, erect, surrounding ovary, filaments firm, anthers basifixed, opening by longitudinal slits. *Ovary* 3-locular, oblong-globose with many biseriate axile ovules; style terete, exerted (at least when receptive) declinate; stigma globose, papillate. *Capsule* 3-locular, the valves with thickened margins; seeds oval, flat, with a loose dark shiny testa.

A genus of 4 species found in the Cape Winter-rainfall Region, east as far as Port Elizabeth and west as far as southern South West Africa. Flowering September-December.

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† Three species of *Ornithogalum*, namely *O. anguinum* Leight. ex Oberm., *O. monophyllum* Bak. (section *Urophyllon*) and *O. zebrinum* Bak. ex Oberm. (section *Osmyne*) appear to possess the *Tulipa*-type of bulb as well. They, too, form transversely striate cataphylls enveloping leaf and peduncle. The genus *Gethyllis* in the Amaryllidaceae also possesses the *Tulipa*-type of bulb, with well-developed cataphylls.

Key to species

- Leaves c. 4, coriaceous, linear, semi-circular or grooved, 3–4 mm in diam., glaucous-green; seed oval, c. 8 mm long; coarse plants with thick, long roots; raceme about as long as leaves or shorter . . . 1. *S. exuviata*
- Leaves many (1–few in juvenile plants), soft, 0.5–2 mm in diam., green; seeds 3–6 mm long; plants more slender; roots various; raceme as long as leaves or exerted:
- Leaves c. 1–1.5 mm in diam.:
- Raceme many-flowered, elongated, exerted above the bunch of leaves; roots thick, long, woody; seeds c. 6 mm long . . . 2. *S. fragrans*
- Raceme about as long as leaves; flowers usually close together, shortly racemose to subcorymbose (in juvenile plants); seeds c. 4 mm long . . . 3. *S. filifolia*
- Leaves c. 0.5 mm in diam., filiform, very many . . . 4. *S. multifolia*

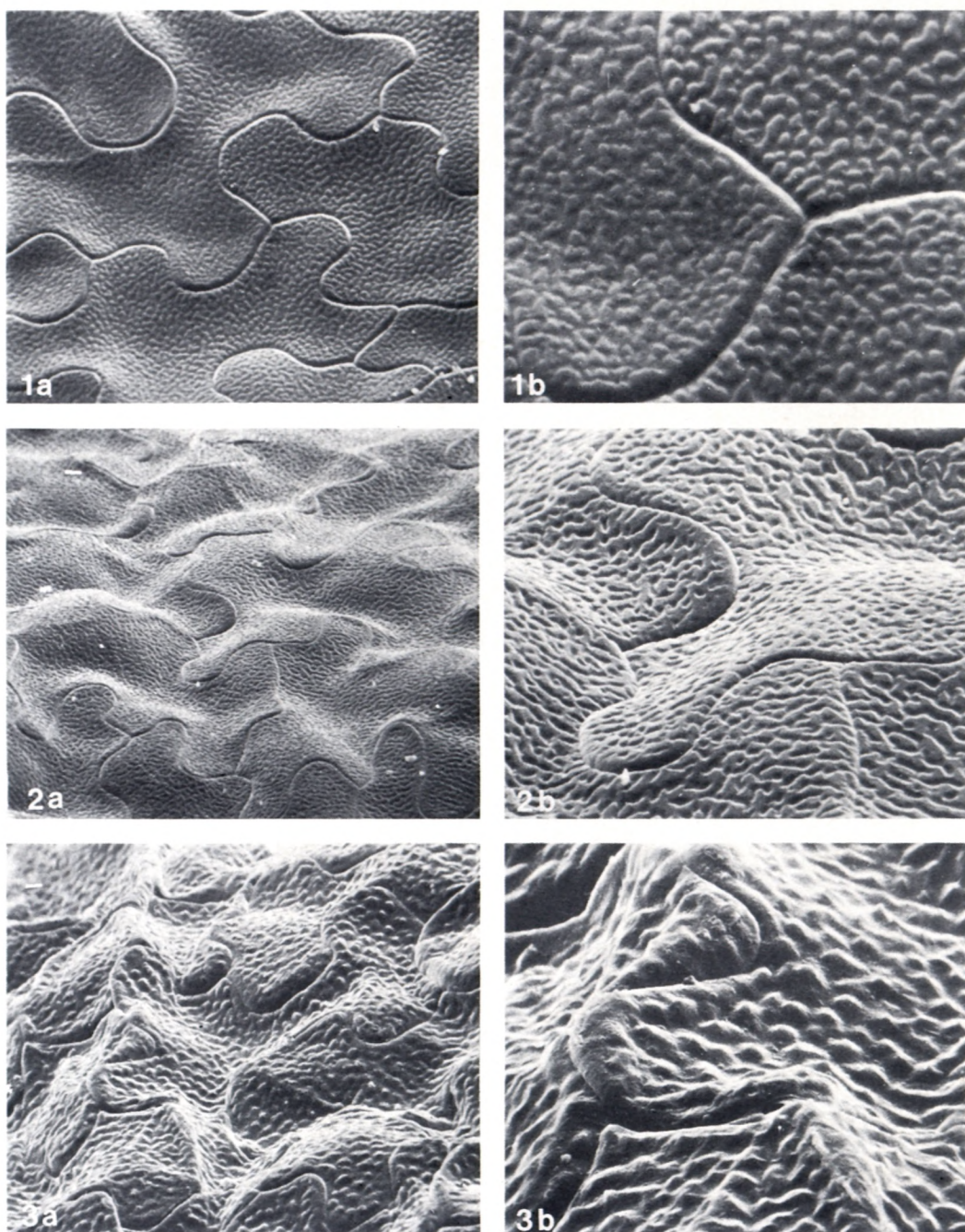


FIG. 1.—SEM photographs of testa of *Sypharissa* seeds. 1, *S. exuviata*: a, $\times 700$; b, $\times 2000$.
2, *S. fragrans*: a, $\times 700$; b, $\times 2000$ 3, *S. filifolia*: a, $\times 700$; b, $\times 2000$.

1. *Sypharissa exuviata* (Jacq.) Salisb. ex Oberm. comb. nov.* Iconotype: Cape, Jacq., Icon. Pl. Rar. 2 (13), t. 415 (1794).

Anthericum exuviatum Jacq., Coll. Suppl. 89, t. 14, fig. 2 (1797), Icon. Pl. Rar. 1.c.: Willd., Sp. Pl. 2: 136 (1799). *Phalangium exuviatum* (Jacq.) Poir., Encyc. 5: 243 (1804). *Albuca exuviata* (Jacq.) Ker-Gawl. in Curtis's bot. Mag. 22: t. 871 (1805). *Urginea exuviata* (Jacq.) Steinh. in Annls. Sci. nat., sér. 2,2: 330 (1834); Bak. in Fl. Cap. 6: 466 (1897); Duthie in Ann. Univ. Stell. 4, A, 2: 6 (1928); Adamson in Adamson & Salter, Fl. Cape Penins. 193 (1950). *Ornithogalum exuviatum* (Jacq.) Kunth, Enum. Pl. 4: 369 (1843). *Drimia exuviata* (Jacq.) Jessop in Jl S. Afr. Bot. 43: 276 (1977).

Coarse plants up to 1 m tall. *Bulb* ovoid with loose, broad, fleshy scales, the inner extended above into cross-barred, purplish, membranous sheaths up to 150 mm long; caudex elongated in older bulbs, hard, bearing many thick, long roots. *Leaves* 1–5, suberect or sprawling, semicircular becoming grooved when dry, up to 1 m long, 3 mm broad, leathery, glaucous. *Raceme* about as long as leaves or shorter, many-flowered; peduncle erect, stout in fruit; bracts long-caudate in lowest flowers, upper reduced; pedicels c. 10 mm long, up to 15 mm in fruit. *Flowers* typical; tepals up to 15 mm long and 5 mm broad. *Capsule* oblong-ovoid, 15–25 mm long; seeds typical, c. 10 mm in diam. Fig. 1.1.

Recorded from the Cape Winter-rainfall Region, from Namaqualand to Port Elizabeth and Grahamstown in sandy, peaty habitats or in humus-rich rock crevices, often locally frequent; flowering in September–October, but according to Adamson, only after fires.

CAPE.—2917 (Springbok): Steinkopf (–BD), Meyer sub Marloth 13320 (PRE). 3119 (Calvinia): Klipkoppie, Nieuwoudtville (–AC), Barker 9763 (NBG). 3317 (Saldanha): Kreefte baai (–BB), Rourke 587. 3318 (Cape Town): Malmesbury Commonage (–BC), Lewis 3621: Stellenbosch Flats (–DD), Duthie 1750; Camps Bay (–CD), Zeyher 4655 (SAM). 3325 (Port Elizabeth): Zwartkops River, Zeyher 105b (SAM). 3326 (Grahamstown): Bushman's River Bridge (–CB), Archibald 5314 (PRE). 3419 (Caledon): Rivierzondereinde (–AB), Zeyher 4248 (SAM). 3421 (Riversdale): 16 km S. of Albertinia (–BA), Acocks 22883.

2. *Sypharissa fragrans* (Jacq.) Salisb. ex Oberm. comb. nov. Type: Jacq., Hort. Schoenbr. 1, t. 86.

Anthericum fragrans Jacq., Hort. Schoenbr. 1, t. 86 (1797). Willd., Sp. Pl. 2: 135. *Phalangium fragrans* (Jacq.) Poir., Encycl. 5: 247 (1804). *Albuca fugax* Ker-Gawl. in Bot. Register 4: t.311 (1818), nom. nov. for *Anthericum fragrans* Jacq. (not to be confused with *Urginea fugax* Steinh.). *Urginea fragrans* (Jacq.) Steinh. in Annls Sci. nat. sér. 2,2: 328 (1834); Bak. in Fl. Cap. 6: 465 (1897). *Ornithogalum fragrans* (Jacq.) Kunth, Enum. Pl. 4: 366 (1843).

Drimia exuviata sensu Jessop in Jl S. Afr. Bot. 43: 276 (1977).

Plants usually found in groups. *Bulb* forming a long, woody caudex bearing long, thick, hard roots, the outer scales remaining fairly loose and soft; young inner tunics forming a short to long, white, membranous sheath (its length depending on depth of bulb) the upper part exerted, with an acute purple fluted apex. *Leaves* c. 20, terete, erect or somewhat flexuose, c. 300 mm long, soft. *Raceme* exerted above bundle of leaves, c. 40-flowered, elongating with age; peduncle firm, becoming woody in fruit. *Flowers* typical; tepals c. 10 mm long. *Capsule* narrowly oblong, 16 mm long, valves fairly thin; seed oblong, 8 mm, typical. Figs 1.2 & 2.

Recorded from Malmesbury to Calvinia, in sandy areas, locally abundant, in colonies; flowering September to November.

* Since Salisbury did not validly publish the combination, this is done here.



FIG. 2—*Sypharissa fragrans*. Raceme, $\times 2$, Hanekom 2086.

CAPE.—3118 (Vanrhynsdorp): summit of Gifberg (–DA), Hall 3906; Klawer (–DC), Godfrey VH-1254. 3119 (Calvinia): Lokenburg (–CA), Acocks 18572. 3218 (Clanwilliam): Het Kruis (–DA), Barker 2597. 3219 (Wuppertal): Citrusdal, Thee Rivier (–CC). Hanekom 2086. 3318 (Cape Town): near Hopefield (–AB), Letty 38. 3319 (Worcester): Saron (–AA), Herre in STE 26768.

This is the tallest species in the genus; it is many-flowered, attractive and strongly scented.

3. *Sypharissa filifolia* (Jacq.) Salisb. ex Oberm. comb. nov. Iconotype: Cape, Jacq., Icon. Pl. Rar. 2(15): t. 414 (1794).

Anthericum filifolium Jacq., Coll. Suppl. 93 (1797), Icon. Pl. Rar. 2 (15): 18, t. 414 (1794); Willd., Sp. Pl. 2: 135 (1799). *Phalangium filifolium* (Jacq.) Poir., Encycl. 5: 242 (1804). *Albuca filifolia* (Jacq.) Ker-Gawl. in Bot. Register 7: 557 (1821). *Urginea filifolia* (Jacq.) Steinh. in Annls Sci. nat. sér. 2,2: 329 (1834); Bak. in Fl. Cap. 6: 466 (1897); Duthie in Ann. Univ. Stell. 6A (2): 6 (1928); Adamson in Adamson & Salter, Fl. Cape Penins. 193 (1950). *Ornithogalum filifolium* (Jacq.) Kunth, Enum. Pl. 4: 369 (1843).

Anthericum spiratum Thunb., Prodr. 62 (1794). Syntypes: "Cap. b. spei", Thunberg s.n. (UPS—8413, 8414, microfiche!).

Urginea unifolia Duthie in Ann. Univ. Stell. 6A (2): 8–9 (1928); Adamson in Adamson & Salter, Fl. Cape Penins. 193 (1950). Type: Cape, Stellenbosch Flats, Duthie in STE 1891 (STE, holo.).

Urginea duthieae Adamson in Jl S. Afr. Bot. 8: 239 (1942) sine descr. latine and in Fl. Cape Penins. 194 (1950). Type: Cape, Stellenbosch Flats, Duthie in STE 1790 (STE, holo.); K), nom. nov. for *Urginea ecklonii* sensu Duthie in Ann. Univ. Stell. 6A (2): 6 (1928) non Bak. *Drimia duthieae* (Adamson) Jessop in Jl S. Afr. Bot. 43: 278 (1977).

Urginea flexuosa Adamson in Jl S. Afr. Bot. 8: 240–241 (1942), Fl. Cape Penins. 193 (1950). Type: Cape Peninsula, Smitswinkel Bay, Adamson 3099 (BOL, holo.).

Drimia exuviata sensu Jessop in Jl S. Afr. Bot. 43: 276 (1977), non Jacq.

Plants 100–300 mm tall. *Bulb* ovoid, c. 30–40 mm in diam. compact, often enclosing 2–3 daughter bulbs, or outer scales disintegrating and scales then

spreading (in juvenile plants the small bulbs consist of c. 4–6 rounded succulent opposing scales); cataphylls membranous, soon disintegrating; roots many, swollen during active growth. *Leaves* numerous, slender, filiform, glabrous, straight or laxly flexuose, up to 280 mm long and c. 1 mm in diam. (in juvenile plants with 1–3 leaves). *Inflorescence* racemose, about as long as leaves, 6–30-flowered (in juvenile plants the few flowers often congested to subcorymbose); peduncle terete; bracts of lowest flowers bearing a long sharp spur which is reduced in upper. *Perianth* with tepals 8–12 mm long, white or flushed with purple and with a dark midrib. *Stamens* typical. *Ovary* green, style white or purplish, declinate. *Capsule* oblong-globose, coriaceous, c. 10 mm long, brown; seeds numerous, ovate, 2–3 mm wide with a loose wide membranous wing, shiny black. Fig. 1.3.

Frequent on the Cape Peninsula to Vanrhynsdorp and east to Bredasdorp, in sandy or gravelly soil, locally common as scattered plants, flowering September to December. Adamson records it as flowering frequently after fires.

CAPE.—3118 (Vanrhynsdorp): S. of Vredendal (–DA), *Acocks* 19713. 3119 (Calvinia): Lokenburg (–CA), *Acocks* 17264. 3219 (Wuppertal): Citrusdal (–CA), *Barker* 7395. 3318 (Cape Town): Camps Bay (–CD), *Zeyher* 134; Stellenbosch Flats (–DD), *Duthie* in *STE* 652; *Taylor* 5147. 3319 (Worcester): Visgat–Agterwittenberg (–AA), *Emdon* 254; Tulbagh (–AA), *Barker* 9230. 3320 (Montagu): Poort N. of Pienaarskloof (–AA), *Acocks* 23709. 3418 (Simonstown): Bergvliet Farm (–AB), *Purcell s.n.* 3420 (Bredasdorp): 16 km SE of Buffelsjagtsrivier (–BA), *Acocks* 24268.

The SEM photos of the testa of the seeds of *S. filifolia* and *Urginea unifolium* Duthie revealed that they belong to one species. This was confirmed by a transverse section of the leaf. Duthie (1926) in her informative study of the *Urginea* species of the Stellenbosch Flats on Plate 4, figs 3, 5, 7 and 9, drew sections of the leaves of *U. exuviatum* and *U. filifolium*. It was seen that the transverse section of the leaf of *U. unifolium* was similar to that of *S. filifolia*. The testa of the seed of *U. duthieae* (SEM, $\times 700$, $\times 1\,000$) matched that of *Sypharissa filifolia*.

There is a problem about the dates of *Anthericum filifolium* Jacq. and *A. filifolium* Thunb., Prodr. 62, two different species which were both published in 1794. However, Roemer & Schultes (1829), and later Kunth (1843), accepted that Jacquin's name was older and Thunberg's plant was renamed *Anthericum nematodes* Roem. & Schl. (= *Urginea nematodes* Bak.) and *Ornithogalum thunbergii* Kunth.

4. *Sypharissa multifolia* (Lewis) Oberm. comb. nov.
Type: W. Cape, 42 km S. of Springbok. *Lewis* 2302 (SAM, holo.!).

Urginea multifolia Lewis in Ann. S. Afr. Mus. 40: 9 (1952). *Drimia multifolia* (Lewis) Jessop in JI S. Afr. Bot. 43: 278 (1977).

Bulb globose, c. 450 mm in diam. with pallid scales, often dividing and forming small clumps; roots thick; shoot surrounded by 1–several elongated, membranous, fluted, sheathing scales. *Leaves* very numerous (30–50), filiform, thin, up to 100 mm long, 0.5 mm broad, forming loose spirals. *Raceme* up to 250 mm long, exserted, firm about 30-flowered; lower bracts spurred; pedicels patent-erect, up to 8 mm long, thin. *Flowers* typical, with sweet scent (resembling that of *Lippia citriodora* fide Lewis). Capsule and seeds unknown.

Apparently rare in S.W. Cape and Namaqualand; on dolerite ridges.

CAPE.—2917 (Springbok): 42 km S. of Springbok (–DD), *Barker* 6310. 3017 (Hondeklip Bay): Kamieskroon (l'Aus), *Schlechter* 11222. 3119 (Calvinia): Kareekom, 40 km N.W. of Calvinia (–AB), *Leistner* 477.

UNCERTAIN SPECIES

A collection from South West Africa, *Giess* 12857 from farm Kubub, LU 15, sandy flats (2616 CB), is too incomplete for positive identification.

UITTREKSEL

Die genus Sypharissa Salisb. (Liliaceae) is weer erken en die vier soorte wat daaronder val is wettig gepubliseer.

REFERENCES

- ADAMSON, R. S. & SALTER, T. M., 1950. *Flora of the Cape Peninsula*. Cape Town: Juta.
- BAKER, J. G., 1873. Revision of the genera and species of Scilleae and Chlorogalae. *J. Linn. Soc., Bot.* 13: 209–292.
- JACQUIN, N. J., 1786–97. *Collectanea*. Vienna: Kraussiana.
- JESSOP, J. P., 1977. Studies in the Bulbous Liliaceae in South Africa: 7. *Jl S. Afr. Bot.* 43: 265–319.
- KER-GAWLER, J. B., 1805. *Albuca exuviata*. *Curtis's bot. Mag.* 22: t. 871.
- KER-GAWLER, J. B., 1821. *Albuca filifolia*. *Bot. Register* 7: t. 557.
- KUNTH, C. S., 1843. *Enum. Pl.* 4. Stuttgart & Tübingen: Cotta.
- POIRET, J. L. M., 1804. *Phalangium*. In Lamarck & Poiret, *Encyclopédie méthodique botanique* 5. Paris.
- SALISBURY, R. A., 1866. *The genera of plants*. London: Van Voorst.
- STEARNS, W. T., 1978. Mediterranean and Indian species of *Drimia* (Liliaceae): a nomenclatural survey with special reference to the medicinal squill, *D. maritima* (syn. *Urginea maritima*). *Ann. Musei Goulandris* 4: 199–210.
- STEINHEIL, A., 1834. *Urginea*. *Annls Sci. nat. Bot. Sér.* 2, 321–330.
- THUNBERG, C. P., 1794–1800. *Prodromus plantarum Capensium*. Uppsala: J. F. Edman.