AL FAATEH UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF BOTANY

FLORA OF LIBYA

4

15th. December, 1976

Editors:

S.I. ALI & S.M.H. JAFRI
Al Faateh University,
Faculty of Science,
Department of Botany, Tripoli.

GLOBULARIACEAE

by S. I. ALI

Illustrations by
Sami MAKAR

Fl.Lib.4:1-6.1976

GLOBULARIACEAE

S.I.Ali

Perennial herbs or low shrubs. Leaves exstipulate, simple alternate or whorled. Flowers in capitula or spikes with or without involucre of bracts. Flowers bisexual, zygomorphic, hypogynous, bracteate. Calyx 5, gamosepalous, persistent. Corolla 5, gamopetalous, zygomorphic, bilabiate, inner lip shorter, bidentate or bilobed, outer lip much longer, 3-lobed. Stamens 4, mostly didynamous, epipetalous. Pistil bicarpellary, syncarpous, unilocular; ovule 1, pendulous; style 1, stigma capitate or bilobed. Fruit a nut, enclosed in persistent calyx.

A small family with 2 genera and c. 30 species, distributed in the Mediterranean region and some parts of Europe. In Libya, the family is represented by 1 genus and 2 species.

GLOBULARIA

L. Sp.Pl.95.1753; Gen.Pl.ed.5.42.1754.

Flowers in capitula, generally surrounded by several whorls of involucral bracts. Corolla 2 lipped, outer lip bigger, generally formed by the fusion of 3 petals, often 3 lobed; inner lip much smaller, generally formed by 2 petals, bilobed. Stamens mostly 4, exserted, dehiscing longitudinally. Style generally smaller than stamens, stigmas 2.

A genus with about 28 species, distributed from Cape Verde and Canary Islands to N.Africa, S.Europe and Asia Minor.

+ Leaves entire to 3-lobed; capitula broadly obovate; involucre with spreading hairs only at the margin — 1. **G.alypum**
− Leaves entire, capitula ± globose; involucres with spreading hairs all over — 2. **G.arabica**

1. **Globularia alypum** Linn.,Sp.Pl.95.1753; Durand & Barratte,Fl.Lib.Prodr.193.1910; Pamp.Prodr.Fl.Ciren.412.1931; Schwartz in Bot.Jahrb.69:341.1938; Tutin in Tutin et al.,Fl.Eur.3:282.1972; Keith,Prelim.Check List Lib.Fl.522.1973. (Fig. 1).

Shrub,up to 1 m tall, young twigs and leaves covered with white calcareous dots. Leaves

whorled to alternate, obovate to entire or shallowly 3-lobed above, up to 18 x 8 mm, glabrous, calcareous-dotted, tip sharply pointed. Heads terminal or axillary,1-2 cm in diameter; involucral bracts imbricate, ovate, ovate-lanceolate to lanceolate, 5-6.5 mm x c. 2 mm, acute, spreading hairs at the margins only. Calyx 3.5-4.5 mm long, pilose, hairs spreading, teeth 2-2.5 mm long. Corolla 7.5-10 mm long, outer lip generally with 3 lobes, c. half as long as the corolla, rarely bilobed; inner lip generally with 2 small lobes. Stamens typically 4, didynamous, rarely almost equal, or only 3.

Type: "Habitat Monspelii and in regno Valentino".

A-3 Mesellata, Colline & N.-W. di Cussabat, 12.4.1913, *R.Pampanini* 2979 (FI); Tuil Chemis, a 50 km a sud di Garian, 25.3.1931, *G.Zodda* (FI); **A-6** Tolmeta, U. Bu Msceifa, 23.4.1933, *R.Pampanini* 7404 (FI); Barce, Sidi Ahmed el-Cheila, 6.4.1933, *R.Pampanini* 7402 (FI); Merg, Bueseir (fra Tocra e Merg), 1925, *H.Scaetta* (FI); north of Barce, 20 km, 2000 ft, jebel, clay terra-rosa-rocky, 18.11.1957, *Barry C.Park* 84 (K); 15 km E Al-Marj, along the road to Beida, 17.1.1967, *L.Boulos* 1107 (ULT); **A-7** 20 km from Taknis, bush, flowers violet, 2.3.1973, *S.I.Ali & S.A.Faruqi* 1233 (ULT); altipiano between Maraua and Faidia, 50 km from Faidia, in macchia, c. 600 m, fls. blue, 3.4.1939, *N.Y.Sandwith* 2300 (K); Marawah, flowers violet, 2.3.1973, *S.I.Ali & S.A.Faruqi* 1225 and 1229 (ULT); Messa a ovest di Cirene Gasr ez-Zaarura, 3.5.1934, *R.Pampanini e R.Pichi-Sermolli* 7408 (FI,K); Um el Adiab (Shahat, Cyrene), 600 m, shrub, sterile, *Khalifa el Karmanali* 940 (K); el-Beda, U.Scisu, 7 Maggio 1934, *R.Pampanini e R.Pichi-Sermolli* 7409 (FI); Apollonia (Marsa Susa), U.Scechaba, 1 Maggio 1934, *R.Pampanini e R.Pichi-Sermolli* 7407 (FI,G); Farzuga, before western end of Wadi el Kuf, macchia forest, 1350 ft, shrub, purple-blue flowers, eaten by sheep, 6"-1" high, papery bark, grey-yellow, leaves in clusters, 9.1.1959, *H.G.Keith* 431 (K); Wadi Qala'a above Ras Hilal, 500 m, maquis, 1-2 ft, shrub, 27.3.1970, *P.H.Davis* 50103 (E,K,ULT); Wadi El Hussaien, along the coastal road, Ras-El-Hilal-Shahat, 24.1.1967, *L.Boulos* 1418 (ULT); Apollonia-Rgua, 11.4.1933, *R.Pampanini* 7415 (FI); Umer-Rzem a sud est di Barce U.esc. Suenia, 18.4.1934, *R.Pampanini e R.Pichi-Sermolli* 7416 (FI); Near Wadi Mahbool, on rocks, small shrub with bluish flowers, common, 26.10.1975, *S.M.H.Jafri* 6133 (ULT); Wadi Mahbool, on rocks, very common, 26.10.1975, *S.M.H.Jafri* 6146 (ULT); Tra el-Gubba e U.el-Atrun Argub Dase, 14 Maggio 1934, *R.Pampanini e R.Pichi-Sermolli* 7420 (FI); Tra Derna e el-Mechili U. el-Magta-Bir Sas, 19.4.1934, *R.Pampanini e R.Pichi-Sermolli* 7418 (FI).

Distribution: Libya, Lebanon, Turkey, Greece, Kriti, Albania, Yugoslavia, Italy, Sicily,

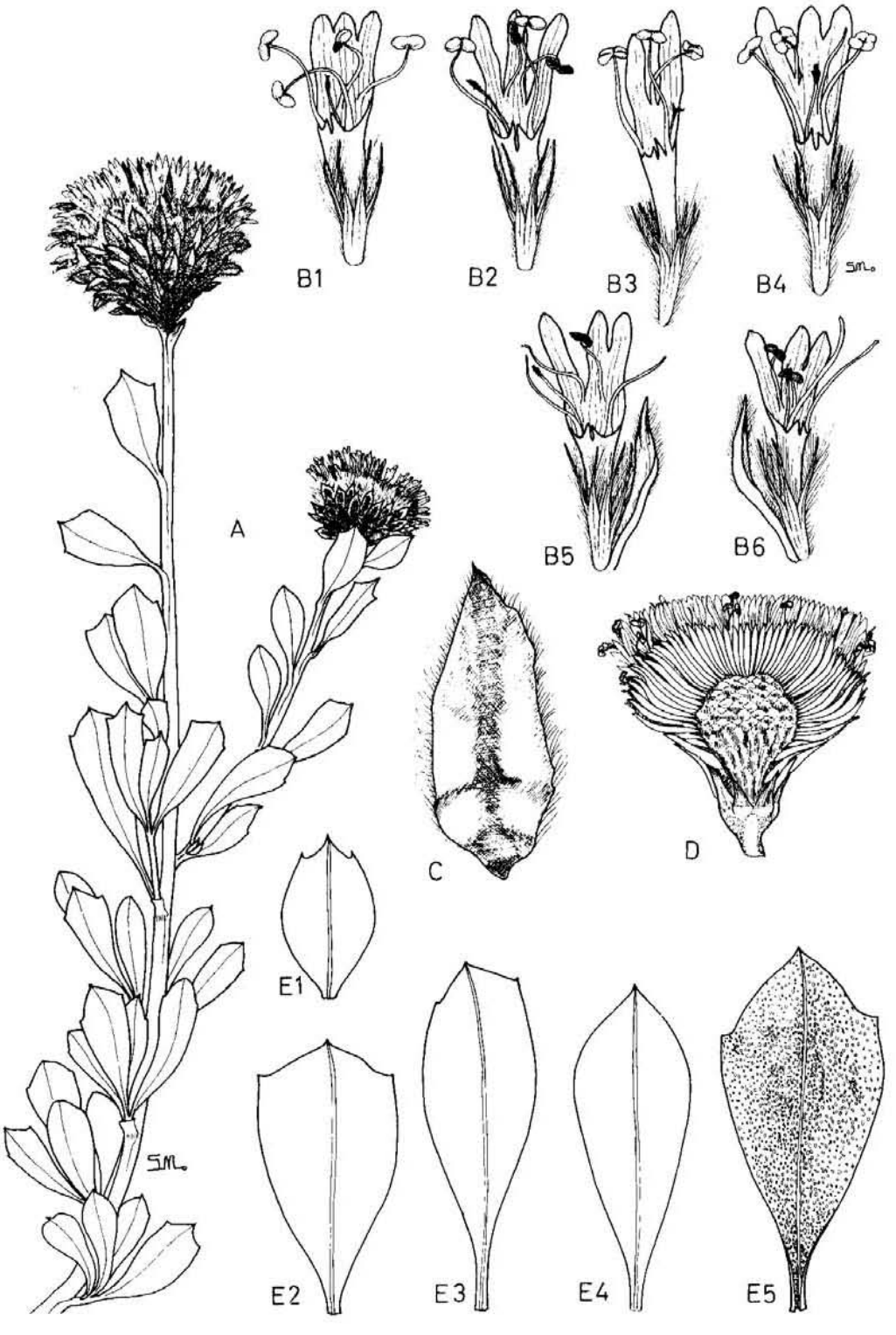


Fig. 1, **Globularia alypum:** A, Flowering plant x 2/5; B_1-B_6, Flowers x 4; C, Involucral bract x 6; D, Capitulum x 2; E_1-E_5, Leaves x 2,2/5.

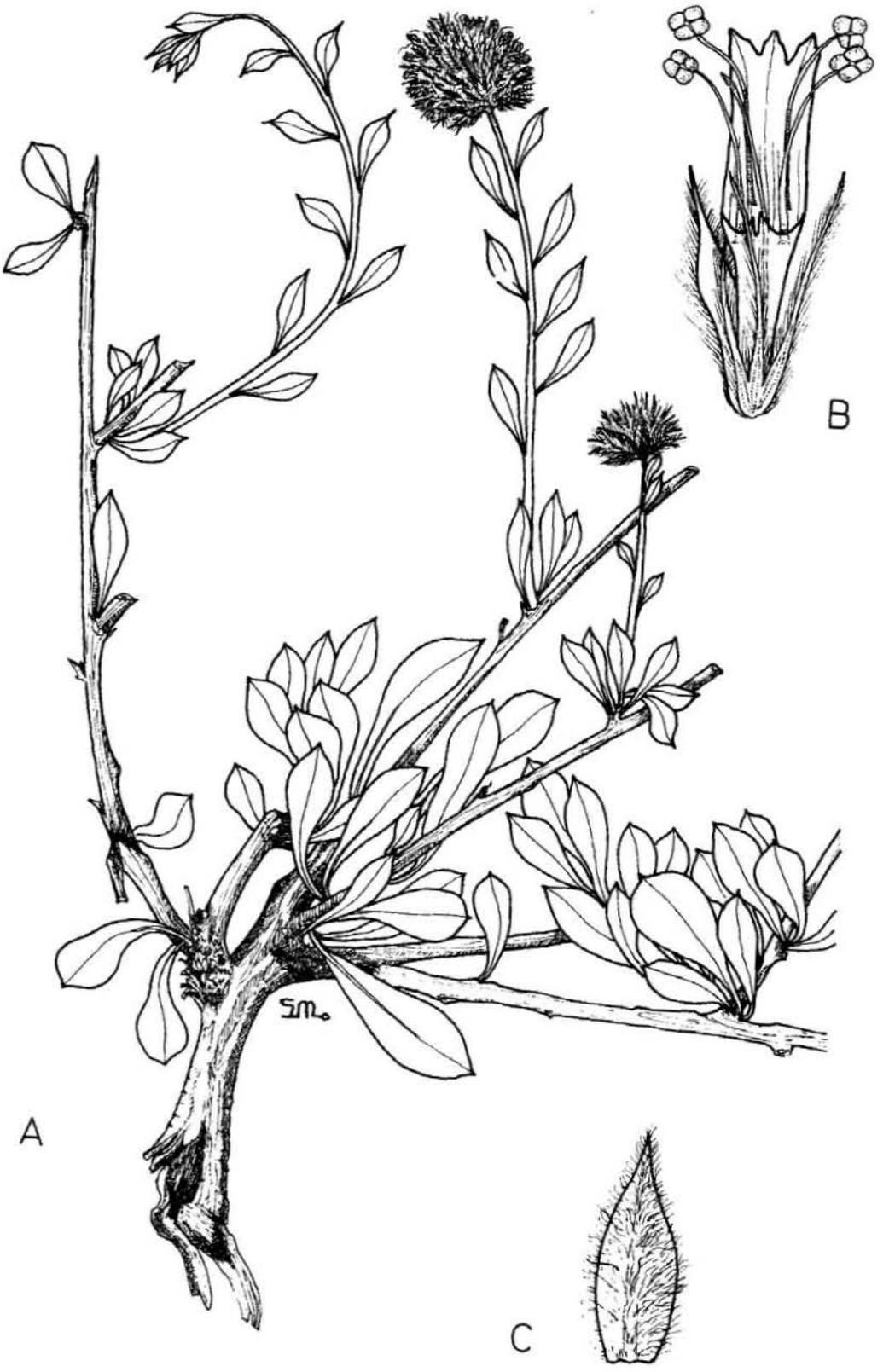


Fig. 2, **Globularia arabica:** A, Flowering plant x 1⅓; B, Flower x 7; C, Involucral bract x 7.

Sardegna, Corse. Spain, Portugal, Morocco, Algeria, Tunisia.

The floral structure is quite variable even within the same capitulum, particularly in the number, shape and the size of the lobes of the bigger as well as the smaller lip of the corolla, number, size and point of attachment of the filaments to the corolla (Fig.1, B_1, B_6).

The plant is common in the hilly areas and the maritime zone. The decoction of leaves and branches is used as a purgative and as a substitute for senna. The leaves are also used as a cure for intermittent fever. The plant is also browsed by goats.

Fl. October-April. *Vern.* Taselrha, Taseret, Tidintsnet, Zariga, Zrega, Zriga.

2. **Globularia arabica** Jaub. & Spach, Ill.Pl.Or.Nov.3:260.1847; Durand & Barratte, l.c.412; Schwarz, l.c. 342; Keith, l.c. 522. (Fig.2).

G.eriocephala Pomel, Nouv.Mat.Fl.Atl.111.1874.

Woody shrub, 30-40 cm tall, young branches and leaves covered with minute calcareous dots. Leaves alternate, in older branches sometimes clustered at nodes obovate, obovate lanceolate, spathulate, up to 21 mm x 8 mm, entire, mucronate, sometimes slightly lobed, glabrous. Heads terminal; bracts imbricate, ovate, entire, 4.5-5.5 x 1.5 mm acuminate, covered with white spreading hairs. Calyx c. 5 mm long with linear lobes, pilose with white spreading hairs; tube c. 1 mm long. Corolla c. 7-8 mm long; outer lip 3 lobed, inner lip bilobed, ± similar as in previous species. Stamens 4, almost of the same size.

Type: "ad rupes circa Alexandriam" *Aucher Eloy* 2538 (P-not seen)

A-7 Wadi Derna, limestone rocks, 8.4.1939, *N.Y.Sandwith* 2477 (K); Umm er-Rzem a sud est di Barce, 8.4.1933, *R.Pampanini* 7414 (FI); Tobruk, 23.3.1933, *R. Pampanini* 7421 (FI); Mirsa Tobruk, 6.4.1883, *G.Schweinfurth* 131 (P); Mirsa Tobruk, Kuste von Marmarica, 300 S.Meilen westl. von Alexandria, 3-7 April 1883, *G.Schweinfurth* 130 (P); Marmarica, Tobruk, colli aridi calcarei, 12.1.1912, *A.Vaccari* 65 (E,FI,MPU); el-Gefar presso Bomba, 17.4.1934, *R.Pampanini e R.Pichi-Sermolli* 7422 (FI); Umm er-Rzem a sud est di Barce, 8.4.1933, *R.Pampanini* 7414 (FI); **B-1** Wadi Malah, c. 10 km from Nalut, shrubby clump, 4.5.1972, *S.I.Ali & M.M.Khalifa* 294 (ULT); Near Ragrag Tejween, Gebel Nefousa, 11.5.1970, *M.M.Khalifa* (ULT).

Distribution: Libya, Tunis, Algeria, Egypt, Sudan, Ethiopia, Somali Republic, Yemen, Saudi Arabia, Lebanon.

The plant is present mostly on limestone rocks. It is reputed to have medicinal properties. It is used particularly as a purgative. *Fl.* April-May.

Acknowledgements: We are grateful to the authorities of the following herbaria for herbarium and library facilities: Herbarium Universitatis Florentinae, Florence, Conservatoire et Jardin botaniques, Geneva, Botanischer Garten und Botanisches Museum, Berlin-Dahlem, Museum National d'Histoire Naturelle, Laboratoire de Phanerogamie, Paris, Institut de Botanique, Université de Montpellier, Montpellier, Royal Botanic Gardens, Kew, British Museum (Natural History), London and Royal Botanic Gardens, Edinburgh. Our thanks are also due to Mr.B.L.Burtt, Mr.I.Hedge and Miss J.Lamond for going through the manuscript and offering valuable suggestions.

INDEX TO GLOBULARIACEAE

Globularia L. 1
G.alypum L. 1
G.arabica Jaub. & Spach 5
G.eriocephala Pomel 5