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MORACEAE

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MORACEAE

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Trees or shrubs, rarely herbs, with milky juice, monoecious or dioecious. Leaves alternate, rarely opposite, simple; stipules 2, often caducous and leaving a scar. Flowers unisexual much reduced, often in heads, discs or hollow receptacles, actinomorphic. Perianth segments (0-) 4. Male flowers: stamens usually as many as and opposite to the perianth segments; filaments usually inflexed in bud; anthers 2-locular, dehiscing longitudinally; vestigeal ovary present or absent. Female flowers: ovary 2-carpellary (one carpel often not developed), usually 1-locular, superior to inferior; ovule solitary, pendulous from the apex, rarely basal and erect; styles mostly 2, filiform. Fruit a small achene, nut or drupe, usually forming a multiple fruit together. Seed albuminous or exalbuminous, with often curved embryo.

About 53 genera and nearly 1400 species, mostly tropical or subtropical; represented by 2 genera and 4 species in Libya, most of them being cultivated.

+Flowers in catkins; fruit multiple formed by the juicy perianth	1. **Morus**
–Flowers enclosed within the fleshy globular-pyriform receptacle, becoming fleshy later and forming a false fruit (syconus)	2. **Ficus**

1. MORUS*

L., Sp. Pl. 986. 1753; Gen. Pl. ed. 5:424. 1754.

Trees or shrubs, monoecious or dioecious, with milky juice. Leaves alternate, simple, toothed or lobed, stipules small, lateral, caducous. Inflorescence spicate or catkins. Male flowers: sepals 4, imbricate; stamens 4, inflexed in bud, pistillode turbinate. Female flowers: sepals 4-5, ovate, concave, accrescent at length and succulent in fruit; ovary included, straight, 2-locular; stigma bifid; ovule pendulous. Fruit a syncarpium, composed of spikes or heads of many achenes with succulent perianth. Seeds globose, endospermic.

MORACEAE

About 10 species, tropical and temperate, widely introduced and cultivated for its edible fruits or wood; represented here by 2 cultivated species.

+Fruiting spikes much longer than the peduncles, 2-3 cm long; margins of sepals and stigmas villous	1. **M. nigra**
–Fruiting spikes as long as the peduncles, 1-1.5 (-2.5) cm long; margins of sepals and stigmas glabrous or short-papillose	2. **M. alba**

1. ***Morus nigra** L., Sp. Pl. 986. 1753; Keith, Prelim. Check List Lib. Fl. 674. 1965.

Tree 8-10 m tall; branches reddish-brown, rough and stout. Leaves ovate, entire or often lobed, cordate at base, obtuse, obtusely crenate-dentate, somewhat stiff, scabrid above, pubescent beneath, 5-10 x 4.5-9 cm. Fruiting spikes subsessile, much longer than the peduncles; margins of fruiting perianth and stigmas always villous. Sorosis 2-2.5 cm long, oblong, black or dark purple, acid.

Type: Described from Italy.

A-3 Tripoli, behind Faculty of Science, Al Faateh University, 16.4.1977, *F.B. Rateeb* 103 (ULT).

Distribution: U.S.S.R., Central Asia, Central and S. Europe, Mediterranean region, Turkey & Iran.

Fl. Apr.-May *Vern.* tut aswad, tut shami

2. ***Morus alba** L., Sp. Pl. 986. 1753; Keith, l.c. (Fig. 1)

Tree 5-8 m tall; branches greyish-brown, smooth and slender. Leaves ovate, truncate, rounded or subcordate at base, acute, entire, serrate, dentate or lobed, glabrous above, pubescent on the veins beneath, soft and thin. Fruiting spikes as long as the peduncles; fruiting perianth glabrous. Stigmas glabrous or short papillose. Sorosis oblong 1-1.5 (-2.5) cm long, sweetish, white or reddish-black.

Type: Described from China.

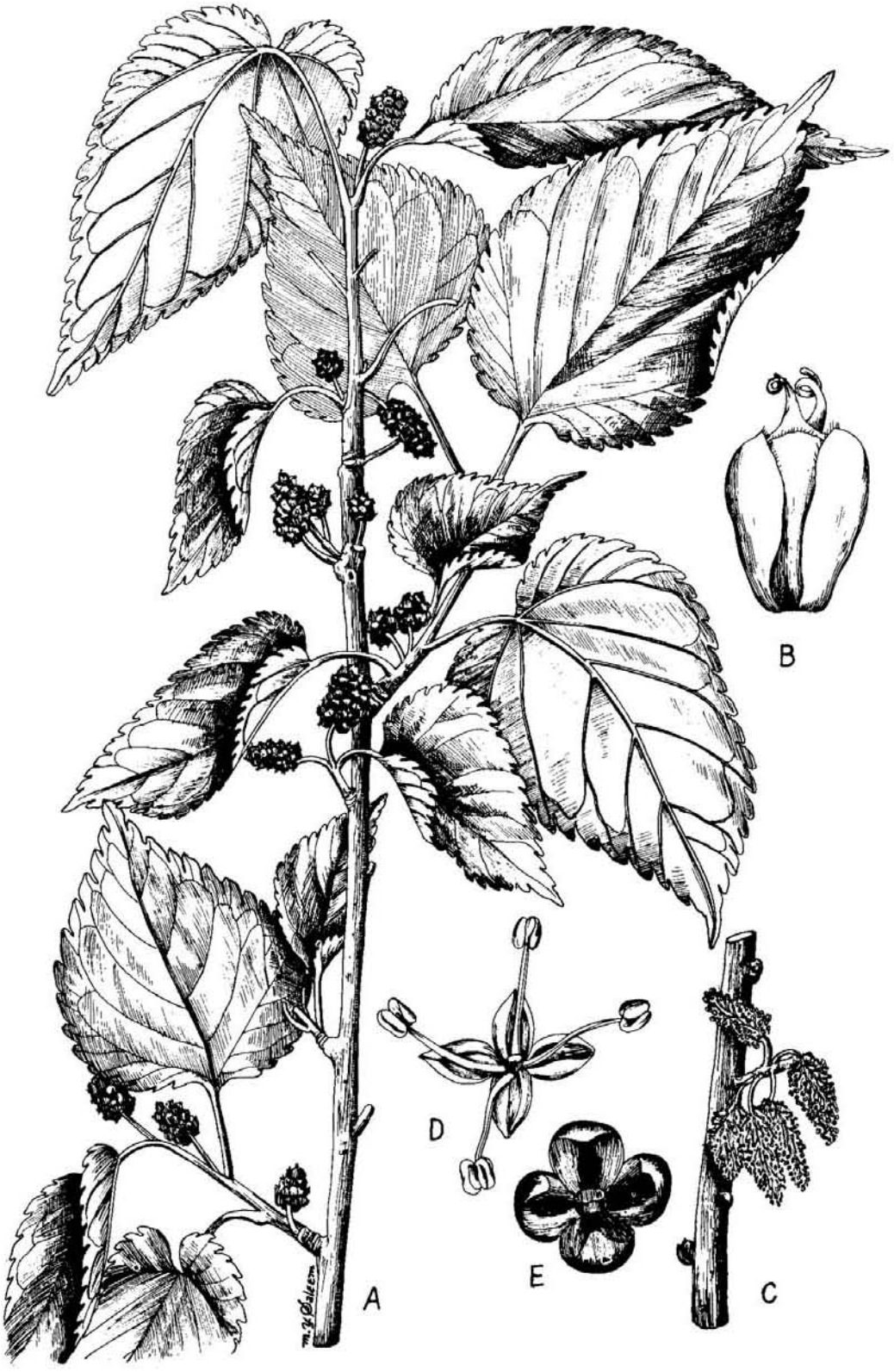


Fig. 1. **Morus alba**: A, fruiting branch x ½; B, a female flower x 10; C, male catkins x ½; D, a male flower x 6; E, a neutral flower with pistillode x 10.

A-3 Tripoli, Al-Faateh University Campus, cultivated tree, 1.4.1978, *M.A. Siddiqi* 284 (ULT)

Distribution: U.S.S.R., Central Asia, C. & S. Europe, Turkey, N. Africa, Pakistan, India, China & Japan.

Widely cultivated in Libya and elsewhere for its foliage importance in sericulture, which is used as a food for the silkworms. The fruit is eaten fresh or dried and the branches are used in making baskets and for the odd jobs.

Fl. Mar.-Apr. *Vern.* Tut abiad.

2. **FICUS**

L., Sp. Pl. 1059. 1753; Gen. Pl. ed. 5. 482. 1754.

Trees or shrubs, with milky latex. Leaves alternate or opposite, entire or lobed; stipules usually deciduous, convolute on the young buds. Flowers unisexual, minute, inserted on the inner wall of a fleshy hollow, globular or pyriform receptacle, with a bracted base and an umblicate apex bearing an open mouth guarded with scales. Male flowers of the receptacle usually near the mouth, perianth 3-6, imbricate in the bud, rarely reduced to a single one; stamens 1-2 (-6) opposite the perianth segments; filaments straight in the bud. Female flower: perianth segments usually narrow than in the male, reduced or obovate, 5-lobed; ovary 1-locular; style lateral, stigmas (1-) 2. Fruit false, consisting of the fleshy receptacle, and minute, crustaceous, 1-seeded utricles, with membranous testas.

A large genus of c. 800 species, spread over the tropical and subtropical regions of the world; represented in Libya by 3 species which are known from cultivation only.

1. +Leaves entire, glossy above, glabrous beneath, pinnately nerved. Fig less than 1 cm in diam. 2
   –Leaves dentate-crenate, scabrid above, pubescent beneath, palmately nerved. Fig 2.5-3 cm in diam. 2. **F. carica**

2. +Leaves ovate to rhomboid-elliptic, petiole 0.7-1 cm long. Fig ± sessile, subglobose, glabrous 1. **F. retusa**
   –Leaves lanceolate or linear-lanceolate, petiole 2-6 cm long. Fig pedunculate, globose, pubescent 3. **F. salicifolia**

1. ***Ficus retusa** L., Mant. 129. 1767. (Fig. 2)



Fig. 2 **Ficus retusa**: A, fruiting branch x ½; B, a staminate flower x 25; C, a pistillate flower x 25; D, false fruit (syconus) x 3; E, v.s. of syconus x 3.

F. benjamina auct. non L. (1767): Willd., Sp. Pl. 4:1143. 1806; Keith, Prelin.. Check List Lib. Fl. 498. 1965.

A small, evergreen tree with wide umbrella-like top, sometimes with few aerial roots. Leaves persistent, coriaceous, glossy above, glabrous beneath, ovate to rhomboid-elliptic, up to 6-8 x 3-3.5 cm, cuspidate or subacute; petiole up to 7-10 mm long, less than ¼ the length of the blade, base 3-nerved narrowed into the petiole. Receptacle sessile, small, in axillary pairs c. 5 mm in diam., yellow or reddish at maturity; basal bract broadly ovate, obtuse, spreading, persistent. Male flowers: sepals 3, subspathulate; stamen 1; anthers cordate-apiculate, as long as the filaments. Female flower, sessile or pedicelled; achene ovoid or obovoid; style short, stigma cylindric or clavate. Syconus subglobose, 5-7 mm in diam. solitary or in pairs, purple when ripe, with small yellowish specks.

Type: Described from India. Herb. Linn. (LINN)

A-3 Tripoli, Al-Faateh University Campus, 23.7.1980, *M.A. Siddiqi* 409A (ULT).

Distribution: N. Australia, East Indies, Malaysia, New Caledonia, northward to the Philippines and S. China, Tropical Asia.

A commonly cultivated roadside tree and hedge plant in Libya, often variously trimmed. Differs from *F. benjamina* by its oblong-obovate, obtusish leaves and sessile fruits.

Fl. Throughout the year.

2. **Ficus carica** L., Sp. Pl. 1059. 1753; Keith, l.c. 498. (Fig. 3)

Deciduous tree or shrub with milky latex, up to 5 (-7) m tall; crown broadly ovoid or rounded, sometimes branching from the base; bark light grey, ± smooth. Buds glabrous. Leaves 10-30 cm long and broad, broadly ovate, cordate or orbicular, cordate at base, 3-5-lobed, repand, rarely undivided, thick, scabrous above, pubescent beneath; lobes dentate or dentate-crenate; petiole 2-5 cm long, ¼-½ the length of the blade, hairy. Fig or (syconus) solitary axillary, or above axils on the previous years branches, subsessile, pyriform to globular, tapering below to a stalk about as long as fig or sessile, variously coloured, glabrous, fleshy, usually sweet edible.

Type: Described from Mediterranean region. Herb. Linn. 1240/1 (LINN).

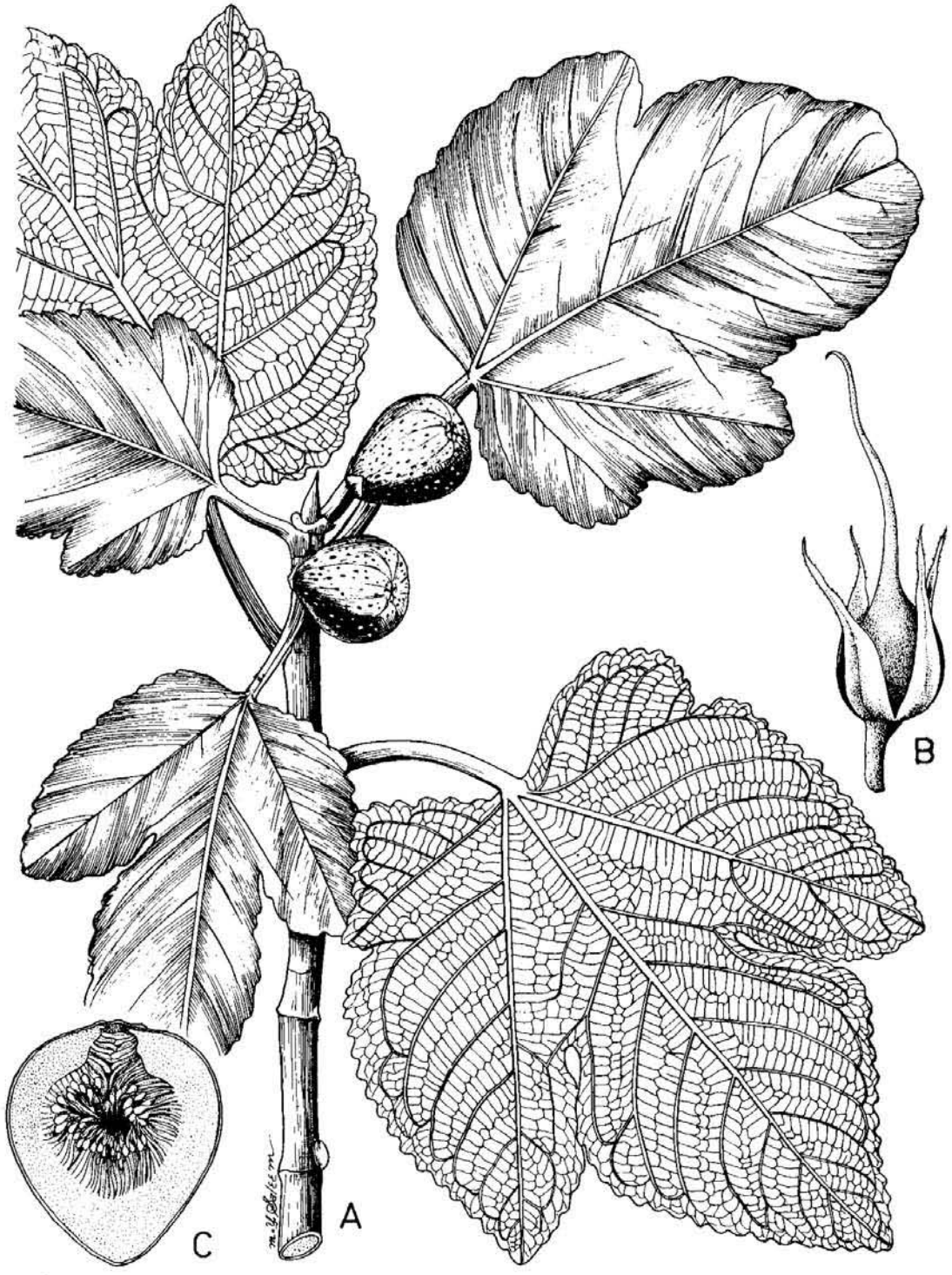


Fig. 3 **Ficus carica** A, fruiting branch x ½; B, a female flower x 15; C, section of young syconus x 1.

A-3 Godida c. 10 km from Tripoli, 10.5.1977, *F.B. Rateeb* 111 (ULT); El-Magharba 25.5.1978, *El-Hadi M. El-Meghrib* 39 (ULT); Garrahabouli, 29.4.1978, *N. Ben Yezza* 21 (ULT); **A-7** Gebel Akhdar, Shahat, on rocks, common, 28.10.1975, *S.M.H. Jafri* 6110 (ULT); id. 5.5.1978, *Salawi* 38 (ULT); Ain Mara, 6.5.1978, *Howaidy* 91 (ULT); **E-8** Kufra, 7.11.196 , *L. Boulos* 3193.

Distribution: Mediterranean region, Turkey, Iran, Afghanistan, Pakistan to India, Malaya & Australia.

Figs are eaten both fresh and dried, since ancient times, as food especially by the Mediterranean people. This is used medicinally in the east as a remedy against boils and other skin infections.

In cultivation the fig has no male flowers and the fruit ripens parthenogentically. However in certain parts of the Mediterranean the pollination is brought about by hanging branches of the wild fig, with 2-3 stamened male flowers borne near mouth of the receptacles by the agency of a pollinating insect called **Blastophaga grossorum**. It produces 2-3 crops during the year, the first of which matures between June and Sept. (vide Polunin & Huxley, Fls. Medit. 56. 1974).

Fl. May-June *Vern.* Karm, tin *Fr.* Karmus

3. ***Ficus salicifolia** Vahl, Symb. Bot. 1:82.1790; Andrews, Flow. Pl. Anglo-Egypt. Sudan, 2:265, tab. 93.1952; Tack. St. Fl. Egypt ed. 2:54, Fig. 6.1974. (Fig. 4)

Urostigma salicifolium (Vahl) Miq. in Hook. Lond. Journ. Bot. 6:556.1874.

Tree, stem and branches with pale-brown bark. Leaves glossy above, conspicuously reticulate-warty beneath, lanceolate or linear-lanceolate, 2.5-12 (-15) x 1-3 (-5) cm, subacuminate, rounded or subcordate at base, petiole 2-6 cm long. Syconus globose, c. 0.5 cm in diam.,usually in pairs, finely pubescent, pedunculate.

Type: (Uadi-Zebid et Uahfat in Arabia) Forskal.

Distribution: Algeria, S. Libya, S.E. Egypt, S. Sudan, Eritrea, Ethiopia, Somalia, Zaire Cameroun & Chad.

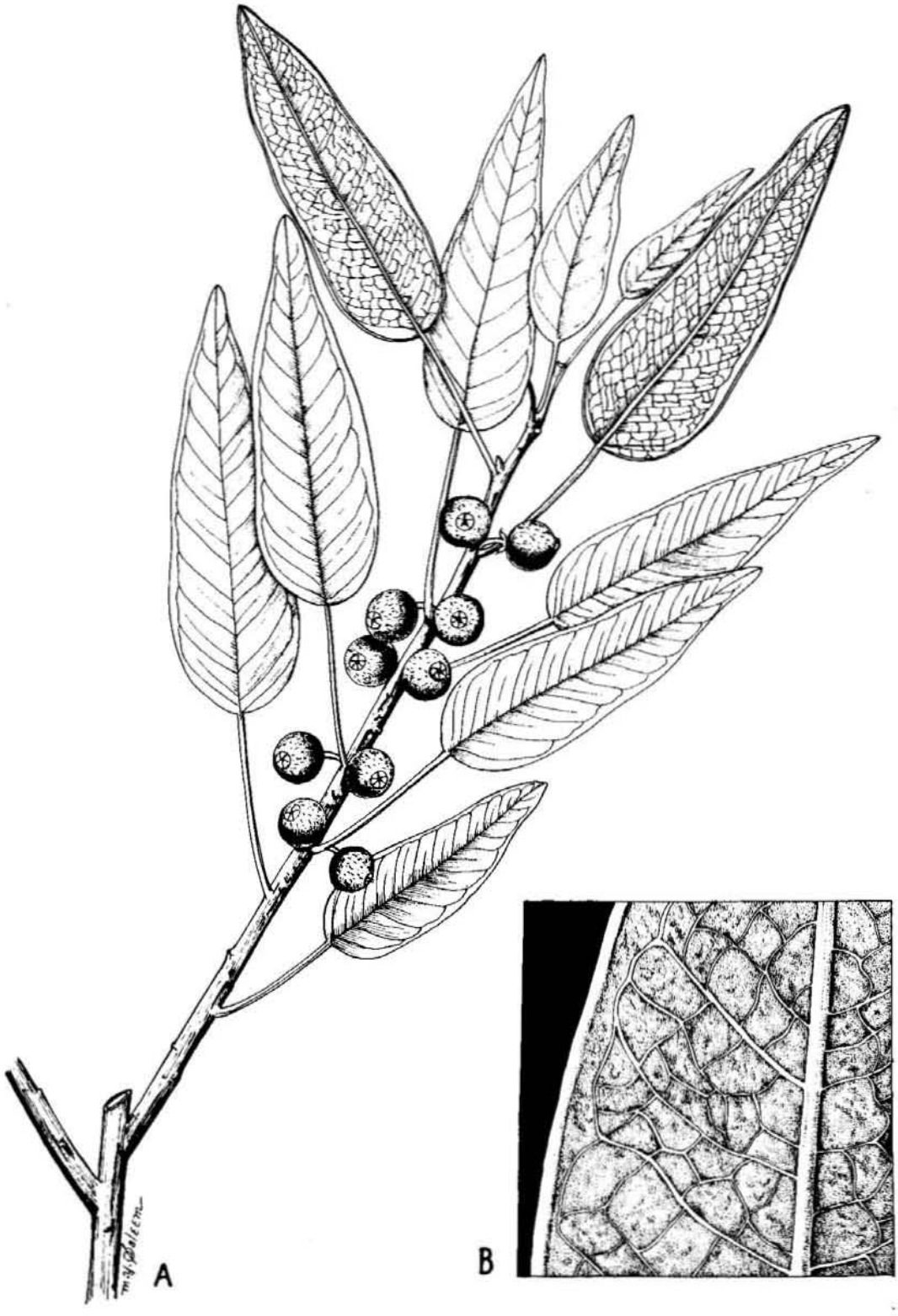


Fig. 4 **Ficus salicifolia**: A, fruiting branch x 1; B, portion of leaf (ventral view) showing venation in detail x 5.

A new record for Libya.

Vern. Tha'ab, teloukat.

The following taxa are also reported to be cultivated by Keith (l.c.) but of no significant value in our Flora:

1. **Ficus elastica** Roxb.
2. **F. macrophylla** Desf.
3. **F. pandurata** Hort. Sand.
4. **Maclura pomifera** Schseid.

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