

90. *T. aphylla* (L.) Karst., Deutsch. Fl., 641 (1882) [Plate XX]

*Thuja aphylla* L., Cent. I. Plant., 32 (1755), p.p. excl. syn. Shaw (Cat. Pl. Afr., 188 f. 180 [188] 1838).

*Tamarix orientalis* Forsk., Fl. Aegypt.-Arab., 206 (1775).

*T. articulata* Vahl, Symb. Bot., 2:48 (1791), nom. illegit.

*T. aphylla* (L.) Lanza, Boll. R. Orto Bot. Palermo, 8:82 (1909), comb. illegit.

*T. aphylla* (L.) Warb., Beitr. Kent. Sinai, 139 (1929), comb. illegit.

Type: EGYPT: *Linnean Herb.* No. 1136.3 (holotype LINN; isotypes S, UPS).

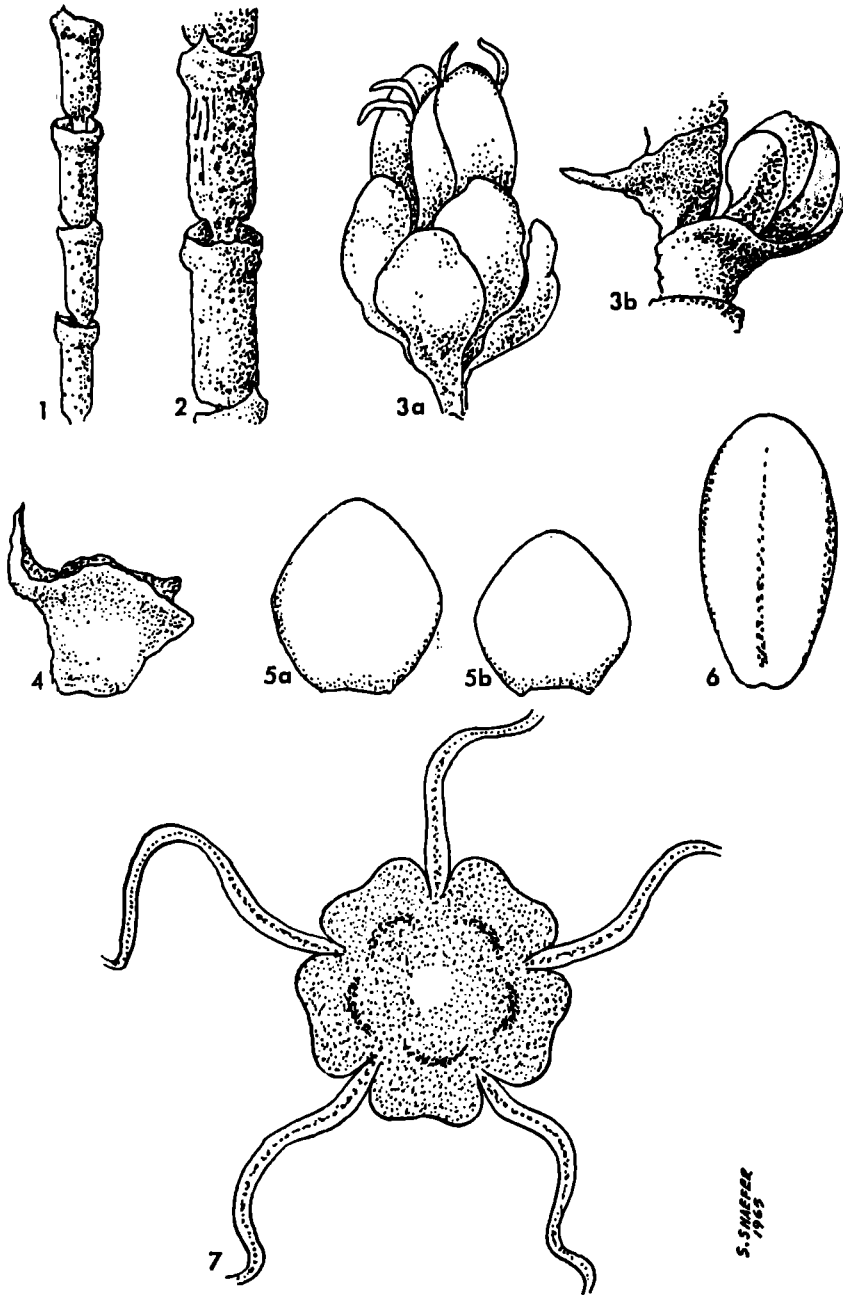
Tree or high shrub with reddish-brown to grey bark, younger parts entirely glabrous. Leaves vaginate, abruptly and shortly pointed, about 2 mm long. Vernal inflorescences simple, aestival ones compound and more common. Raceme 3–6 cm long, 4–5 mm broad, with subsessile flowers. Bracts triangular to broadly triangular, acuminate, somewhat clasping, longer than pedicels. Pedicel much shorter than calyx. Calyx pentamerous. Sepals c. 1.5 mm long, entire, obtuse, the 2 outer slightly smaller, broadly ovate to broadly elliptic, slightly keeled, the inner slightly larger, broadly elliptic to suborbicular. Corolla pentamerous, subpersistent to caducous. Petals 2–2.25 mm long, elliptic-oblong to ovate-elliptic. Androecium haplostemonous, of 5 antesealous stamens; insertion of filaments peridiscal; disk holophic.

Flowering: August to November.

Habitat: Sandy soil and dunes, canal and river banks, salty deserts, fields.

Distribution: Morocco, Algeria, Libya, Egypt, Senegal, Sudan, Abyssinia, Eritrea, Somalia, Kenya, Israel, Saudi Arabia, Yemen, Iraq, Kuwait, Iran, Pakistan, Afghanistan (see Map 20).

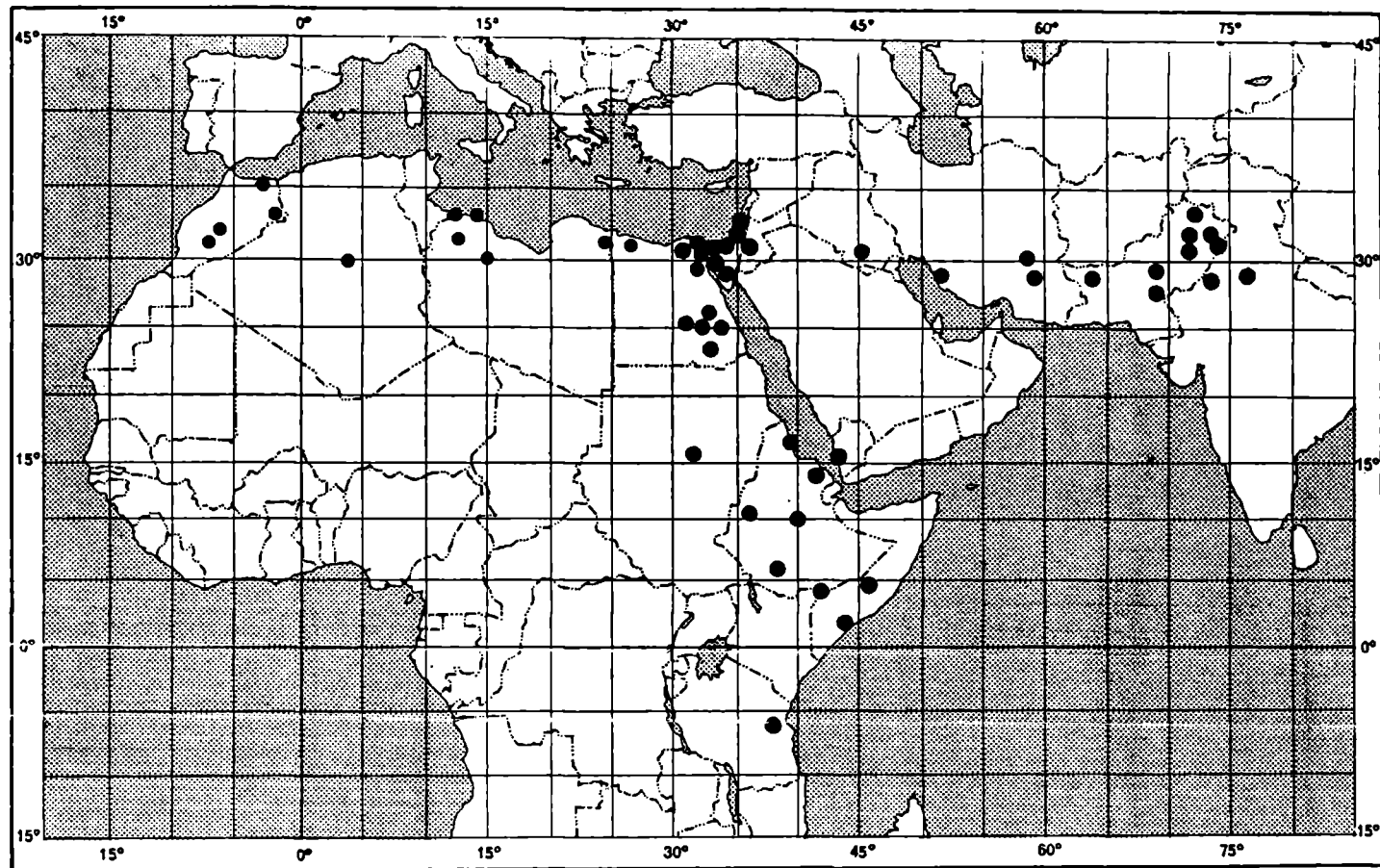
Selected specimens: MOROCCO: *Sauvage* 8579, Moyen Oum-er-Rebia Oued bou Khannoun entre Beni Mellal et Dar Ould Zidouk 2.1.1951 (RAB). ALGERIA: *Chevallier* 576, Sahara Infel in arenis 'Oued Mya' frequentiss. et in omnibus vail. australior. 25.2.1904 (B, F, K, PRC, US, WU); *Cosson* 39, in alveo exsiccato Oued en Nasr pr. Mguima, in parte australiore ditionis Mzab 19.5.1858 (G, P, S, US, W). LIBYA: *Bornmüller* 728, Tripolitania: Tripolis in palmetis prope Fadjura 18.4.1933 (B, S); *Keth*, 254 Giorgimpoli 5.8.1958 (L). EGYPT: *Letourneux* 32, ad fossas Ramie 25.8.1877 (B, E, FI, G, K, P, S, W); *Täckholm*, Kassas, Samy, Girgis, Zahran, Wadi Ghuwebba of Red Sea coast 9.6.1960 (CAI); *Täckholm* 264, Wadi Hammamet Faraon, Sinai 15.5.1956 (CAI); *Forskhd* ex oriente (isotype of *T. orientalis* Forsk., S, BM). SENEGAL: *Adam* 194, environs de Dakar 26.8.1948 (P). SUDAN: *Ouren* 20010, Khartoum prov. Khartoum Blue Nile bank below university (near the bridge) 18.7.1961 (BG). ABYSSINIA: *Ouren* 20268, Arussi prov. near warm spring by Awash river about 5 km from Koka 2.8.1961 (BG); *West* 5400, Belet Hen, river banks 9.3.1941 (EA, PRE). ERITREA: *Pappi* 2601 & 224, Assaorta Lungo il Torrente 14–15.8.1902 (BM, EA, G, HBG, K, P, S, U). SOMALIA: *Keller* 51, Webi-Habir 1891 (K). KENYA: *Gillet* 13301, between Yabichu and Mandera banks of water-course 23.5.1952 (B, EA, K, S); *Adamson* 83, between Mandera and Remu 10.10.1955 (EA, PRE, K). ISRAEL: *Waisel* 553, Negev, Gevulot sandy soil 30.8.1954 (B, DEL, E, EA, G, K, L, OXF, S, U, UC, US); *Dinsmore* 1317, environs of Gilgal in campestre arbor 8 m—250 m, 6.8.1908 (E, L). SAUDI ARABIA: *Wissman* 1119, Gebirge des Hinterlandes von Aden



S. SMITHER  
1965

Plate XX *T. aphylla*

1. Young twig (x 5); 2. id (x 10); 3a. Flower (x 10); 3b. Flower bud (x 10);  
4. Bract (x 20); 5a. Inner sepal (x 20); 5b. Outer sepal (x 20);  
6. Petal (x 20); 7. Androecium (x 30).



Map 20: *T. aphylla*

Ka'taba (HBG). YEMEN: *Deflers* 132, Hodjeilah Wadi Chaba 2.5.1887 (B, P). IRAQ: *Kotschy*, arborea ad ascem Nebokadnezaris districtum urbis Babylon 6.10.1841 (G, P, S). KUWAIT: *Willeson* 315, Kuwait 10.10.1935 (K). IRAN: *Alexeenko* 937, in ditone Daschistan prope pag. Daleki in planitie. PAKISTAN: *Lace*, Baluchistan Sibi 2.1.1899 (E, K); *Ritchie* 37, upper Scinde Khudlya 3.1937 (E); *Stocks* 400, Scinde 1880 (G, K, P). AFGHANISTAN: *Aitchison* 31, Omar-Sha 31.10.1884 (cult. 1., K).

Observations: (a) Cultivated as an ornamental hedge and shade plant. (b) Introduced into the New World. (c) Typification of *T. aphylla*: *Thuja aphylla* was collected in Egypt by Hasselquist. In his herbarium, which is preserved in UPS, there is a nice specimen numbered 544. In S there is a herbarium sheet with mounted fragments of branchlets of the same species. This sheet bears the following label: (1) '*Thuja aphylla* Linn. Hasselquist'; (2) '*Tamarix articulata* Vahl'; (3) '*Thuja aphylla* Linn.'. The author could not identify the handwriting of No. 1; only 'Linn.' was written by Vahl. No. 2 was entirely written by Vahl, while No. 3 was written by Linnaeus himself and Vahl added to it only the author 'Linn.' On the back of this sheet, in Stockholm, there is a clear indication that it was collected by Hasselquist and might thus be a fragment taken from the original herbarium. In LINN the author was confronted with a specimen similar to that of Stockholm, but with a label marked by Linnaeus. W. T. Stearn suggests that one should regard this last specimen as the holotype of *Thuja aphylla* because of Linnaeus' signs, and to consider the others (S and UPS) as isotypes. (d) The author was not able to see the holotype of *T. orientalis* Forsk., which is in Copenhagen. However, with many students of this species (e.g., Christensen, 1922; Hunt, 1963), and according to his own observations on examining the isotypes in BM and S, the author concludes that this species is conspecific with *T. aphylla*.

21. *T. bengalensis* Baum (sp. nov., see Appendix) [Plate XXI]

Type: INDIA and EAST PAKISTAN: *Hook. f. & Thomson*, Bengal or. reg. temp. (holotype W; isotypes B, BM, CGE, G, K, OXF, P, S, U, W).

Monoecious tree, often shrubby, with the general appearance of *T. dioica*, with brown to grey bark, younger parts entirely glabrous. Leaves amplexicaul, pseudovaginate, without conspicuous salt glands, 1.5–2.25 mm long. Inflorescences simple or loosely composed of racemes 4–11 cm long, 4–5 mm broad. Bracts simple, triangular-acuminate (with a relatively long acumen), longer than pedicels, sometimes more or less equal in length with calyx. Pedicel shorter than calyx. Calyx pentamerous. Sepals orbicular to broadly obovate, with very finely and densely denticulate margins, 1.25–1.5 mm long, the outer 2 more orbicular, slightly shorter and keeled, the inner more obovate, sometimes faintly keeled. Corolla pentamerous, persistent. Petals obovate to broadly obovate, 2 mm long. Androeceium haplostemonous, of 5 antese-palous stamens; insertion of filaments hypo-peridiscal (i.e., 1–3 hypo- and 2–3 peri-); disk hololophic.

Flowering: Insufficient data.