

Fig. 95. Distribution of *Launaea pumila* (circles), and *L. quercifolia* (squares; empty squares: literature records, see text).

(11) *Launaea quercifolia*

Launaea quercifolia (Desf.) Pamp., Pl. Tripol.: 269. 1914 \equiv *Sonchus quercifolius* Desf., Fl. Atlant. 2: 255, fig. 213. 1799 \equiv *Zollikoferia quercifolia* (Desf.) Coss. & Kralik in Bull. Soc. Bot. France 4: 369. 1857 \equiv *Atalanthus quercifolius* (Desf.) Pomel in Bull. Soc. Climatol. Alger 11 [Nouv. Mat. Fl. Atl. 1]: 8. 1874 \equiv *Rhabdotheca quercifolia* (Desf.) Pomel in Bull. Soc. Climatol. Alger 13 [Nouv. Mat. Fl. Atl. 2]: 263. 1875. – Type: Tunisia, in montibus Cafsae [Gafsa], *Desfontaines* (P; isotypes: C!, G!).

Ic.: Fig. 96. – Desfontaines 1799: fig. 213 (habit); Trotter 1915: fig. 145 sub *Zollikoferia quercifolia* (photo of specimen); Ozenda 1958, 1977: fig. 176 \equiv Pottier-Alapetite 1981: p. 1111, fig. 1610 (habit); Alavi 1983: p. 389, fig. 195(A-C) (habit, details).

Description

Rosette shrublet with taproot, flowering 8-25(35) cm high, with a woody, erect caudex of several cm in length, carrying one or more terminal (prolonged) leaf rosettes; rosette shoots producing a basally branched, rather stout flowering stem, often basally leafy, or also higher up with leaves supporting the branches. *Rosette and basal leaves* 2.5-18 \times 0.8-6 cm, spatulate in outline, shallowly sinuate-dentate to pinnatifid with rather broad, conspicuously white-cartilagineously dentate and denticulate segments, lamina leathery, with obtuse to acute apex and attenuate into a semiamplexicaule base. *Cauline leaves* smaller than basal leaves, with entire, non-decurrent auricles, otherwise similar, passing over into broadly lanceolate to ovate-acute, \pm amplexicaule bracts, usually with white-scarious tip. *Synflorescence* rather sturdy, sometimes only with 2, and only in very vigorous plants with more than c. 10-15 capitula. *Peduncles* as the terminal segment of the flowering axes (3)4-8(11) cm long and rather robust, with the capitula nodding in bud and with a few to several \pm distant bracts passing over into the outer involucre bracts. *Capitula* with more than 100 flowers. *Receptacle* at fruiting time (5)7-10 mm in diameter. *Involucre* at anthesis 12-16(19) mm long, \pm campanulate, prolonged after anthesis, finally 14-21 mm long and \pm globose, involucre

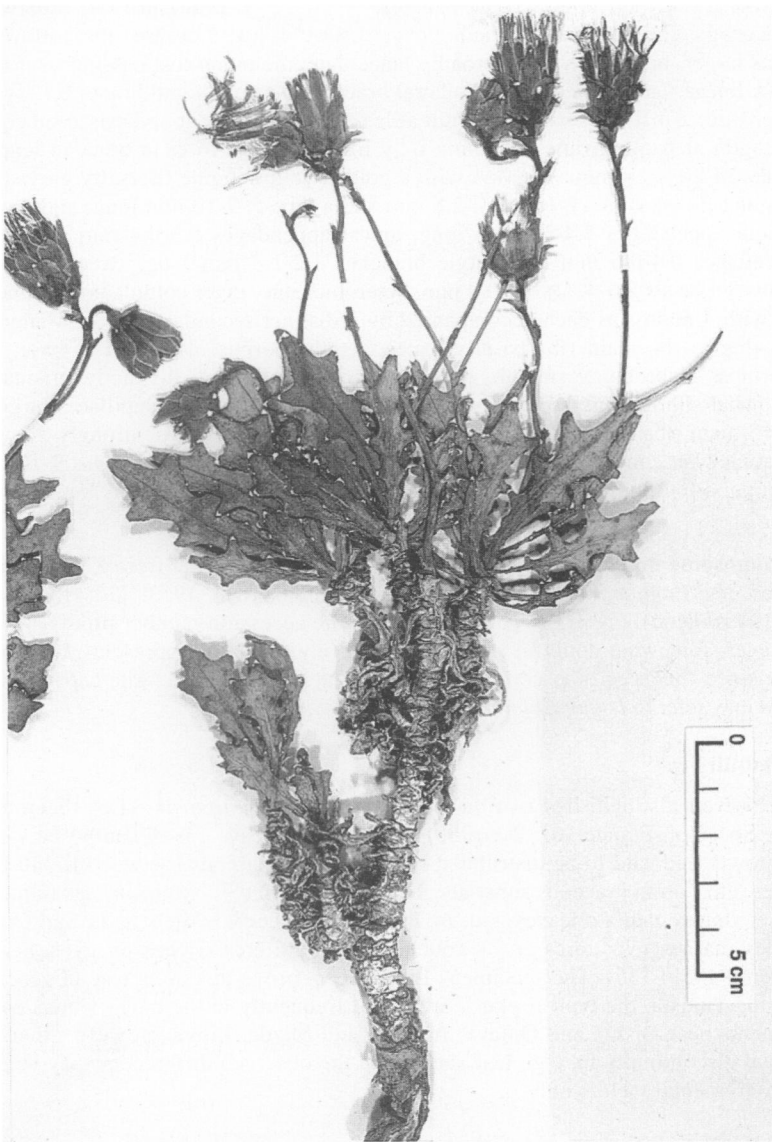


Fig. 96. *Launaea quercifolia* – plant with smaller, stronger divided leaves from Tunisia (Murbeck, 3.5.1896, S).

bracts white-tipped, at time of fruit dispersal spreading with their midrib in the very basal part swollen and hardened, finally reflexed; outer involucral bracts ±

15, imbricate, their apex \pm contracted into a white-scarious prickle, otherwise herbaceous, the outermost broadly ovate-acute, $4-7 \times 3-5$ mm, the following bracts larger, broadly ovate to broadly lanceolate, the innermost passing over into the (\pm linear)-lanceolate inner involucre bracts; inner involucre bracts ± 12 , with rather thin, \pm distinct scarious margin at least in basal half, at anthesis \pm subequal in length, at fruiting time becoming only little different to each other in length, finally $14-20 \times 2-4$ mm. *Flowers* with a golden yellow ligule (dorsally greyish in marginal flowers) of $11-16 \times 2.2-2.8$ mm and a tube c. 7-10 mm long; anther tube without appendages 2.4-3.5 mm long, apical appendages 0.3-0.4 mm and basal appendages 0.4-0.6 mm long; style branches 1.2-1.8 mm long, sweeping hairs yellow. *Achenes* $2.6-4.2 \times 0.3-0.8$ mm, heteromorphic, inner columnar to cylindrical, with 4 main ribs each accompanied by 2 distinct secondary ribs, ± 4 -angular and, due to the main ribs basally exceeding the corpus, 4 horned at base, the innermost glabrous, \pm smooth, pale brown; the following distinctly prismatic, somewhat shorter and stouter, \pm densely covered with hyaline papillae; marginal with 5 main ribs each accompanied by 2 distinct secondary ribs, strongly 5-angular, somewhat compressed, somewhat curved, otherwise similar. *Pappus* 9-10 mm long, persistent, dimorphic, of numerous cottony and some setaceous longer inner rays.

Chromosome number: A single count of $2n = 16$ on material from Libya, "Cyrenaica", leg. *Pampanini*, has been published (Stebbins & al. 1953: 426; [fig. 47 on p. 412 erroneously refers to *L. quercifolia* as the accession number proofs]). It is, however, somewhat doubtful if the specimen (n.v.) actually represents *L. quercifolia* since this species is not known to occur in the Cyrenaica. Alternatively, this count may refer to *L. angustifolia*.

Variability

Le Houérou distinguished two varieties. His var. *pinnatipartita* (Le Houérou in Bull. Soc. Bot. France 107: 29. 1960) has pinnatifid leaves, is of somewhat smaller growth and said to be distributed in the lowland habitats (between Kebili and Gabes, etc.) on gypsaceous substrate. The typical variety, in contrast, has (almost) entire, sinuate-dentate leaves and, in Tunisia, confined to "djbels du Sud-Ouest sur les marnes gypsifères et les couches phosphatifères (riches en gypse)" (Le Houérou 1959: 133). The specimens I have seen, prove this to be true in general. Outside Tunisia, the typical plants are found frequently in the mountainous environments near Biskra and Outaya, Algeria, and Mizda, Libya. However, there is no real discontinuity in, e.g., leaf shape, and the observed differences may be due to environmental factors only.

Distribution and ecology

Launaea quercifolia is endemic to the area ranging from Biskra, Algeria, in the west to Mizda, Libya, in the east (Fig. 95; for a previous map see Zaffran 1967: fig. 2(A)). It is found along the southern escarpments and foothills of the south-easternmost chains of the Atlas Mts as well as in the adjacent lowland, preferably in rocky habitats, and is more or less confined to gypsaceous substrates (collec-

tors in sched., Le Houérou 1959: 133, 1986: 141, Pottier-Alapetite 1981: 1113). The species flowers and fruits between February and May.

Specimens seen:

ALGERIA: Biskra, 20.5.????, A. Hénon (MPU); *ibid.*, [ex herb. Mussat] (LY); env. de Biskra, 3.1855, C. Schmitt 65 (LY); graviers de l'Oued-Biskra, à Biskra, 10.5.1853, Balansa 788 (B, BM, C, E, FI, FI-W, G, K, LIV, LY, MPU, W); in planiti El-Outaia circa Biskra, 4.1892, Chevallier (FI, LY, MPU); El-Outaya, in planiti. ad radices montis "Dschebel Melah", 4.1892, Chevallier 65 (FI, JE, LD, LY, WU); El Outaia, montagne, 30.3.1858, Cosson (JE, W).

TUNISIA: Metlauoi, 2.1902, Cuenod (G); 5 km N of Metlauoi, 350 m, vertical rock crevices, 7.5.1975, Davis & Lamond 57419 (BM, E, LD); Gafsa, 4.1909, Pitard (FR); E of Gafsa, between Bou Saada (Sakket) and Bir Saad, 400 m, on shady limestone cliffs, 3.4.1977, Davis 61211 (E); Westhang des Dj. Rekaiz E von Gafsa, 6.4.1932, Renz (M); Djerid, Djebel Mozza, 350 m, 3.4.1963, M. Couteaux 63T40 (BR); El Guettar, 4.1910, Pitard 2159 (G); c. 12 km N Maknassy, 290 m, 34°42.727'N, 9°34.732'E, 16.5.1994, Vogt 13313 & Oberprieler 6718 (B); Dj. Regouba pr. El Hamma, 3.5.1896, Murbeck (LD, S, WU); El Hamma de Gabes, 2.1908, Pitard 429 (G, L, LY, MA); Gabes, inter Bir Chenchou et El Hamma, 10.3.1886, Letourneux (C); Oudref, 3.1907, Pitard (BC, E, L), 3.1909, Pitard (G); Gabes (Menira), in pascuis desertis, Pitard 180 (BM, E, FI, G, L, LY); Gabes, 3-4 km SSE Teboulbou, 13.4.1963, G. Wängsjö 57 (LD); Djebel Keroua prope Gabes, in collibus lapidosis aridis, 28.4.1854, Kralik 266 (B, BM, CAL, FI, G, K, LY, S, UPS, W); El Hamdou de Gabes, 2.1913, Pitard (G); *ibid.*, 3.1910, Pitard 1883 (G); Gabes, Oued Tinn, 3.1910, Pitard (G); Gabes, Tamanon, 3.1910, Pitard 1882 (G); Djebel Assala prope Gabes, 3.2.1908, Murbeck (LD); Gabes, inter Oued Serad et Ketennah, 3.1910, Pitard 1885 (G); Gabes, Djebel Dissa, 3.1910, Pitard 1884 (G); Sebhat-*ez-Zerkiné* (env. de Gabes), 11.4.1909, Hibon (P); Cheviwi[?] - Gabes, Erosionseinschnitt Wadi-Rand, 17.3.1971, Röthlioberger (G); Djerba, 4.1956, Le Houérou (MPU); Manguet, Inighas, Battandier (MPU); Khangued Mides ad rupes, 6.5.1887, Letourneux (FI).

LIBYA: Cosmet Henseiz fra Ghadama e Tescia [N of Mizda], 23.5.1914, A. Trotter (FI); N of Mizda, 31°35'N, 13°05'E, slopes, on gypsum, 1966, Mitchell 155, 172 (K).