

Fig. 92. Distribution of *Launaea amal-aminae*; encircled solid circles: collection without precise locality.

1800 m, Hang, S-Exposition, Schiefer, 23.3.1982, *Baierle, Frey & König 82-666* (BSB); *ibid.*, Schiefer, Hang, S-Exposition, 23.3.1982, *Baierle, Frey & König 82-664* (BSB); Harrat Khaybar, c. 12 km SSW of Jabal Abyad, 5.3.1986, *Collenette 5670* (K); 20 km NE Al Alayyah, [19°43'N, 41°55'E], 1750 m, 18.4.1982, *Baierle & König 82-1852* (BSB); Asir Prov., 25 km S Khamis Mushayt, E road to Habella village, rocky region, 2200 m, 11.11.1978, *Fagerström 3* (S); Najran: Jebel Manfah, 12.3.1980, *Lavranos & Collenette 18317* (E).

Y E M E N: Zona delo Campo Furlanis, 17°07'N, 43°34'E, graniti a W del Campo. oltre le montagne calcaree, 14./15.11.1979, *Steinberg 138, 200* (FT).

(9) *Launaea quettaënsis*

Launaea quettaënsis N. Kilian, **sp. nova** – Holotype: Pakistan, Quetta, Gumbaz, 30°02'N, 69°00'E, 16.5.1965, *Rechinger 29632* (W!), isotypes: B!, G!, M!). – Fig. 93. [= *Launaea cassiana* sensu Rech. f., *Fl. Iranica* 122: 158. 1977, p.p. [non (Jaub. & Spach) Kuntze]].

Herba perennis tenuis usque ad c. 20 cm alta, solum basaliter foliacea, caulibus floriferis ascendentibus divaricate ramosis et capitulis gracilibus habitu *Launaea amal-aminae* similis sed involucris majoribus (12-14 versus 8-11(-12) mm in statu fructifero longis), achaeniis longioribus (> 6 mm versus 2.5-5.1 mm longis),

et distributione geographica in regione pakistanica Quetta (versus in regione Saharae et in parte regionis Arabiae peninsulae occidentalis) differt. A *Launaea omanensi* et *L. almahrahensi* ex parte regionis Arabiae peninsulae australis distinguitur praecipue achaeniis \pm cuspidatis (versus distincte rostratis), marginalibus leviter papillois (versus dense papillois) et papillis typi majoris 0.04-0.08 mm (versus usque ad 0.12 et 0.2 mm) longis differt.

Ic.: Figs 12g-j, 93.

Description

Perennial herb, flowering c. 10-20 cm high, with shoot-bearing root system, with a basal leaf rosette on a short woody caudex and a few ascending, almost from base on divaricately branched, leafless flowering stems. *Rosette leaves* 2-7 \times 0.5-2 cm, narrowly spatulate in outline, with acute tip, deeply pinnatifid to bipinnatifid with narrow segments and cartilagineously denticulate margin. *Cauline leaves* reduced to ovate-acute or ovate-acuminate cordate bracts. *Synflorescence* of a divaricately branched flowering stem with several capitula single at the end of the axes; the terminal capitulum of the main axis overtopped by monochasial branches in the upper part and by branches repeating the structure of the flowering stem in the lower part of the main axis. *Peduncles* as the terminal segment of the synflorescence axes 0.5-3.0 cm long, with a few, rather distant bracts similar to or passing over into the outermost involucre bracts. *Capitula* with c. 25-30 flowers. *Receptacle* at fruiting time c. 2.0 mm in diameter. *Involucre* slender, greyish green, at anthesis 8-10 mm and at fruiting time 12-14 mm long, narrowly cylindrical; at time of fruit dispersal inner involucre bracts star-wise outspread and their midrib basally swollen and hardened; involucre bracts with \pm distinct, narrow scarious margin and \pm contracted into a white and, in case of the outer bracts, \pm cartilagineous tip; outer involucre bracts 5-7, the outermost ovate-acute, 1.5-2.5 mm long, the following bracts gradually longer and lanceolate, the innermost linear-lanceolate and $\geq 2/3$ as long as the inner involucre bracts at anthesis; inner involucre bracts 7-9, at flowering time \pm equal, linear-lanceolate, with the postfloral prolongation of the involucre becoming different in length, finally 12-14 \times 1.5-2.0 mm. *Flowers* with a yellow ligule of 7.5-8.0 \times 2.1-2.3 mm and a tube 4.3-5.0 mm long; anther tube without appendages 2.4-2.6 mm long, apical appendages 0.3-0.4 mm and basal appendages 0.3-0.4 mm long; style-arms 2.2-2.4 mm long, sweeping hairs yellow. *Achenes* 6.1-6.8 \times 0.3-0.5 mm, heteromorphic, inner \pm columnar with long cuspidate apex, slightly prismatic, with 4 main ribs each accompanied by 2 very distinct secondary ribs; the surface of the ribs slightly transversally wrinkled, almost glabrous to somewhat squamulose-papillose, brown; marginal 5-angular, somewhat compressed and somewhat shorter than inner, with 5 main ribs each accompanied by 2 very distinct secondary ribs, with both minute, dustgrainlike and larger, longish, squamulose papillae, otherwise like inner. *Pappus* 7-8 mm long, persistent, dimorphic, of c. 15 setaceous inner and a larger number of downy, somewhat shorter outer rays.

Chromosome number: Unknown.

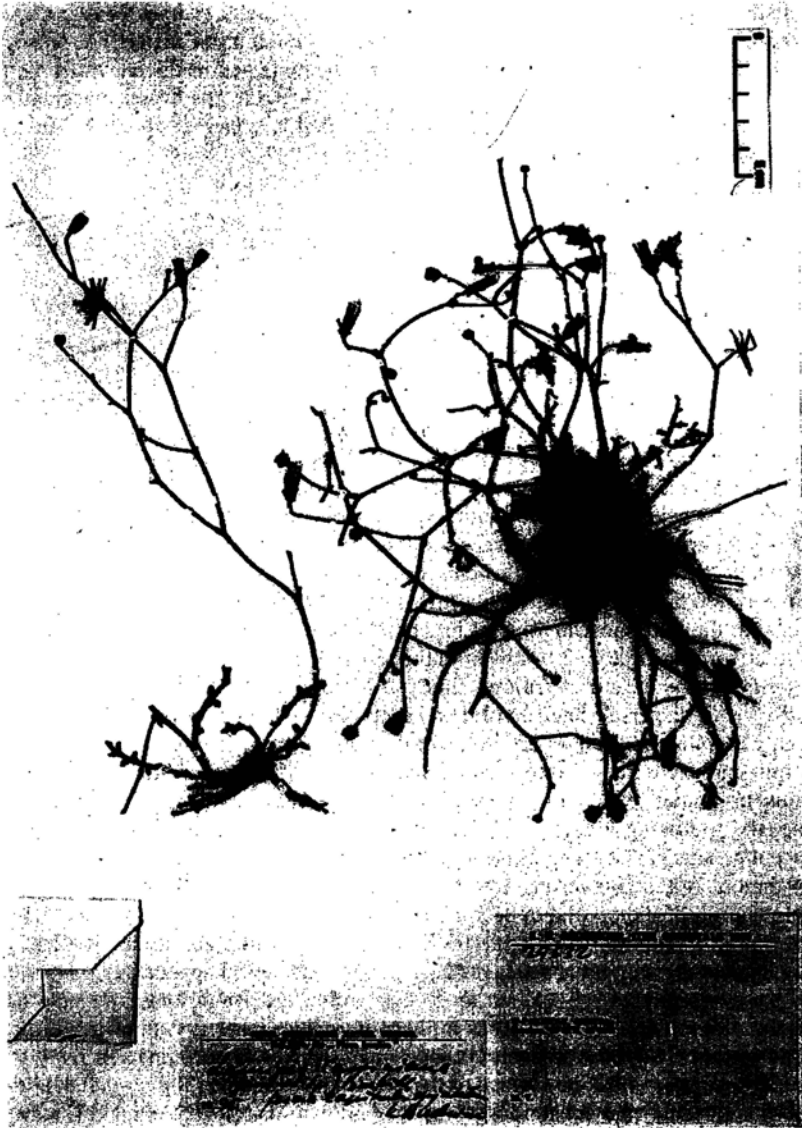


Fig. 93. *Launaea quettaënsis* (holotype specimen, W).

Distribution and ecology

The species is known from two gatherings only, both made in the district of Quetta, N Baluchistan, Pakistan (Fig. 89), at elevations of 500-1000 m.

The flowering and partly fruiting material has been collected in the first half of May.

Additional specimen seen:

PAKISTAN: QUETTA: Infra Mach, 29°52'N, 67°20'E, 600-800 m, 6.5.1965, *Re-chinger* 28756 (W).

(10) *Launaea pumila*

Launaea pumila (Cav.) Kuntze, Revis. Gen. Pl. 1: 351. 1891 ≡ *Scorzonera pumila* Cav., Icon. 2: 19, fig. 121(2). 1793 ≡ *Zollikoferia pumila* (Cav.) DC., Prodr. 7: 183. 1838 ≡ *Rhabdotheca pumila* (Cav.) Pomel in Bull. Soc. Climatol. Alger 13 [Nouv. Mat. Fl. Atl. 2]: 263. 1875 ≡ *Launaea fragilis* subsp. *pumila* (Cav.) O. Bolòs & J. Vigo in Folia Bot. Misc. 6: 86. 1989; [in O. Bolòs & al., Fl. Man. Catalans: 943. 1990]. – Lectotype (designated by Garilleti 1993: 228): the specimen with nine plants, labelled by Cavanilles “*Scorzonera pinnata-humilis pumilla* // Icones Tab. 121 // In maritimis Cullerae, et in / collibus Voveldae // Maio 1791”, [Cavanilles] (MA no. 467 254 [photo!]) – Fig. 94.

= *Sonchus scorzoniformis* Lag., Gen. Spec. Nov.: 24. 1816. – Type: Spain, zone de Valence, *Lagasca* (G!).

= *Zollikoferia anomala* Batt. in Bull. Soc. Bot. France 40: 190. 1893. – Holotype: Algeria, El Aricha dans les Hauts-Plateaux oranais, 6.1891, *Trabut* (MPU!; isotype P!).

=? *Launaea fragilis* var. *lucentica* O. Bolòs & J. Vigo in Folia Bot. Misc. 6: 86. 1989. – Holotype: Spain, Serra de Sant Julià, pr. Alacant, *Ferrándiz* (BC 80186); see also Bolòs & Vigo 1995: 991.

lc.: Fig. 94. – Cavanilles 1793: fig. 121(2) sub *Scorzonera pumila* (habit, details); Cadevall y Diars & Sallent y Gotés 1915: p. 463 sub *Z. pumila* (synflorescence, capitulum); Battandier & Trabut 1913: fig. 32 sub *Zollikoferia anomala* (n.v.); Sagredo 1987: p. 497 (habit); Mateu & Güemes 1995: fig. 1(4), 2(2) (achenes).

Description

Perennial herb with taproot and woody base when older, flowering 4-40 cm high, with basally ± rosulate leaves and, usually, several poorly branched or even scapelite flowering shoots ± leafy in lower part; root system shoot bearing. *Basal leaves* fairly variable, 3-16 × 1-4 cm, (narrowly) spatulate in outline, usually deeply pinnatifid to bipinnatifid with (almost) linear segments often only 1-2 mm wide, lamina with ± acute apex and attenuate into a narrow semiamplexicaule base, margin white-cartilagineously denticulate; *cauline leaves* with ± auriculate base, auricles small, otherwise largely similar than former, soon grading into lanceolate to ovate-acute bracts. *Synflorescence* of a single flowering stem poorly branched, few-capitulate or often mono-capitulate. *Peduncles* as the terminal segment of a flowering stem longer than 3 cm (mono-capitulate, scapelite stems reaching a length of 14 cm and more), variable in diameter but generally rather

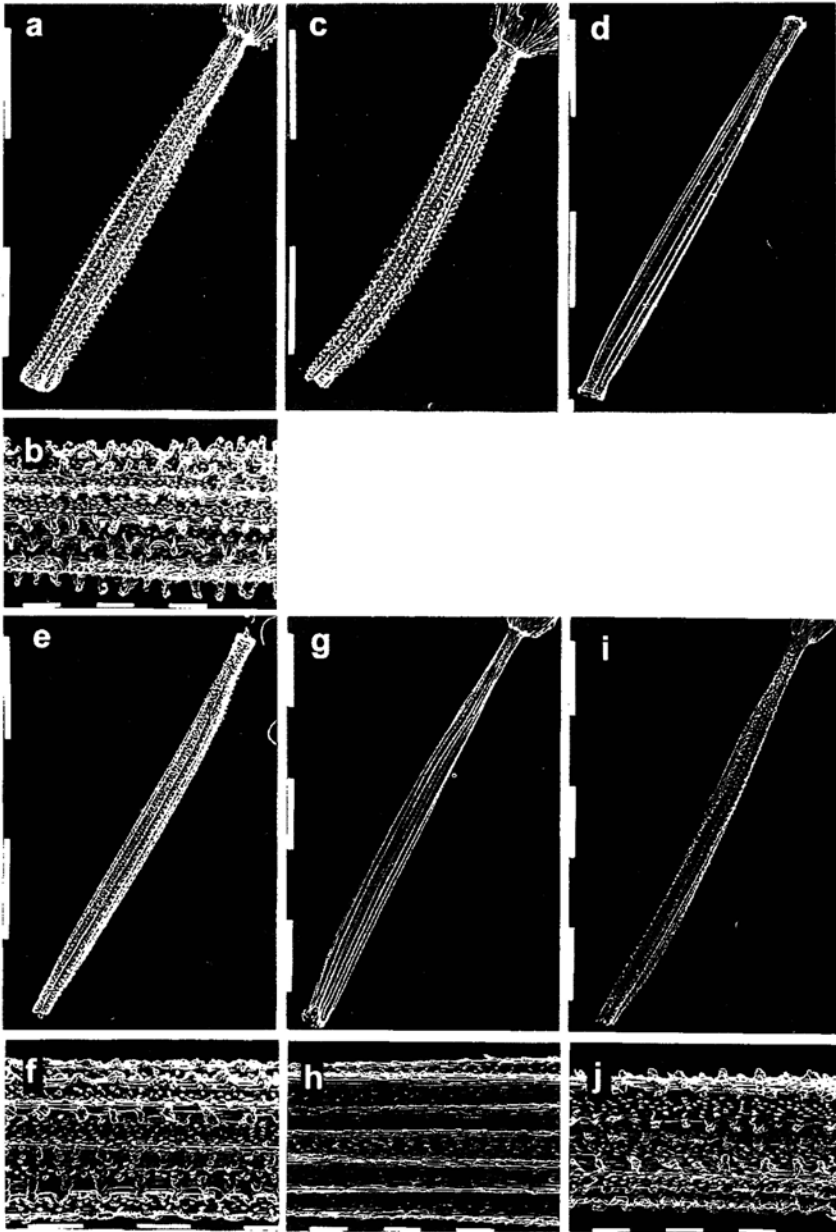


Fig. 12. SEM micrographs of *Launaea* achenes – a-f: *L. amal-aminae*, inner (a-b), marginal (c) (*Podlech* 33787, M), inner (d), marginal (e-f) (*Podlech* 33286, M); g-j: *L. quettaënsis*, inner (g-h), marginal (i-j) (*Rechinger* 29632, W). – Scale: 1 mm (a, c-e, g, i) and 0.1 mm (b, f, h, j).