

gal [c. 11°20'N, 51°E], 21.3.1954, *Merla, Azzaroli & Fois* (FT); Bari Region, Cape Guardiafui, on limestone rocks, 11°50'N, 51°17'E, 200 m, 19.11.1986, *Thulin & Warfa* 5897 (UPS).

SOCOTRA ISLS: ABD AL KURI: S. loc., 1898-99, *Ogilvie-Grand-Forbes-Expd.* 30 (E). – SOCOTRA: Naulkod Plain, at 2500', 25.3.1953, *Popov So* 298 (BM); 10 km W of Ras Mumi, limestone slopes and coastal low sand on coastal plain dominated by woody-herb community, 200-300 m, 4.3.1989, *Miller & al.* 8619 (E).

YEMEN: Mukalla - Meifa [= Mayfa'ah], 100 m, Felshänge, 15.3.1964, *Rauh* 13237 (K); Hadramout, central plateau, 215 km S Sayun, along the road to Al-Mukalla, calcareous slopes, 1480 m, 16.6.1987, *Boulos & al.* 17079 (BM, E, K); Riyan, [E of Mucalla], by roadside, 1.8.1950, *M. Guichard KG/HAD/373* (BM).

OMAN: DHOFAR: Hayur, coastal headland between Raysut and Mughsayl, 16°53'N, 53°54'E, 140 m, short annual grassland on cliffs above sea, 21./28.9.1986, *Daloibard & Whitcomb* 31 (E); 43 km N of Salalah on the Thumrait (Midway) road, near the Aqabat al Hatab, at 17°19'N, 54°05'E, 600 m, sandy ground, 21.9.1977, *Radcliffe-Smith* 5136 (K); Jabal Qara, plateau in pre-desert zone, 3.10.1943, *Vesey Fitzgerald* 1246/7 (BM); Jabal Qara, watershed zone, amongst grasses, 2.10.1943, *Vesey Fitzgerald* 1246/15 (BM); Jebal Qara, Zik, *Euphorbia balsamifera* zone, 800 m, 26.9.1979, *A.G. Miller* 2268 (K); Ain Hamran, 17°06'N, 54°17'E, 100 m, mixed herbiage beside dry water course, 4.10.1984, *Ash* 121 (E); entrance to Wadi Darbat, 900', 17°04'N, 54°27'E, tree covered slope under monsoon conditions, 6.9.1984, *G. Jones* 3 (E); Jariz, 25.9.1943, *Vesey Fitzgerald* 1232/7 (BM); a few km NE of Diqal inland from Khabura, in bottom of muddy wadi, c. 150 m, 17.1.1980, *Whitcomb* 649 (E).

(5) *Launaea lackii*

Launaea lackii N. Kilian, **sp. nova** – Holotype: Somalia, Suria Malableh, 16 km SE of Berbera on tilted strata of gypseous hill separated by gully from tilted limestone hill, overgrazed and eroded, 22.1.1973, *Bally & Melville* 16097 (K!, isotype G!) – Fig. 87.

A habitu simili *Launaea crassifolia* involucro minore (6-7 versus 8-11 mm per anthesin et ± 8 versus usque ad 13-15 mm in statu fructifero longo), ligulis florum minoribus (5-6 versus 7-8 mm longis), rostro achaenii filiformi, pallido, 2.6-2.8 mm longo, longitudine corpus achaenii superanti (versus numquam filiformi, numquam corpus achaenii aequanti et plerumque valde minore) differt.

!c.: Figs 11h-j, 87.

Description

Annual, flowering up to c. 12 cm high, with slender taproot and a single erect, leafy stem. *Basal cauline leaves* 3-6 × 2-3 cm, obovate to broadly spatulate, tapering or rather suddenly contracted into a narrow, almost petiol-like and finally narrowly auriculate base, margin dentate and lamina shallowly pinnatifid with somewhat irregular, ± triangular segments, tips of the uppermost pair of segments almost parallel to and almost equalling the terminal segment; *upper cauline leaves* gradually smaller with gradually larger and dentate auricles, the lamina as well as their segments narrower and the uppermost lateral segments distinctly overtopped

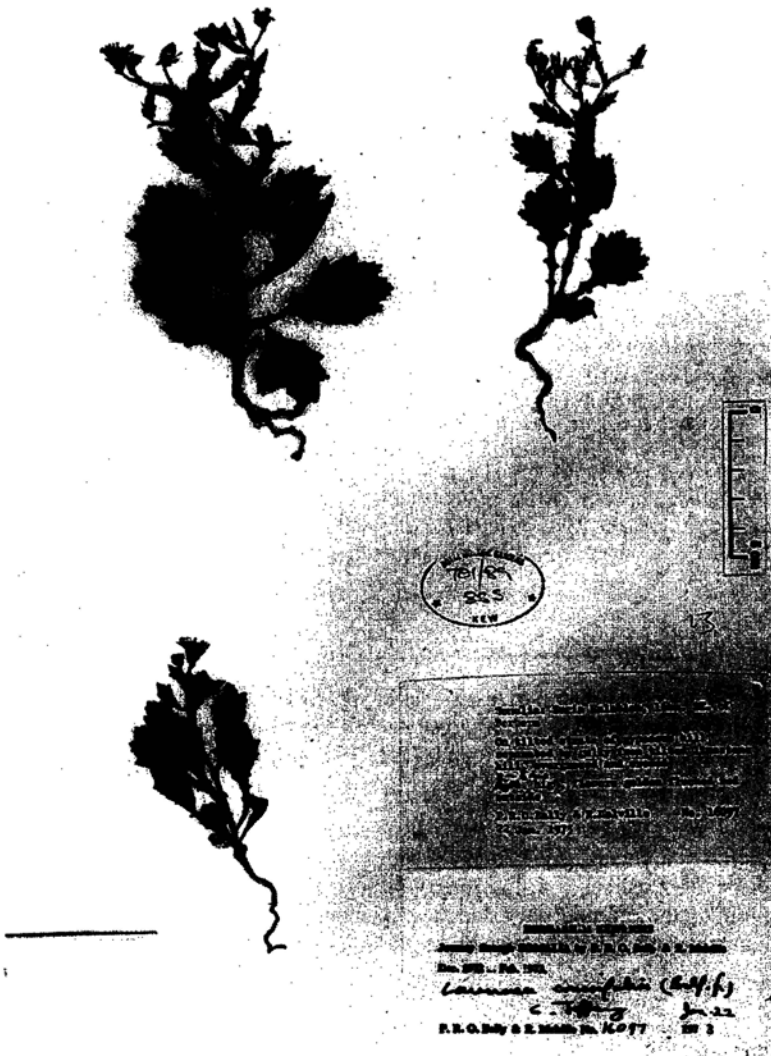


Fig. 87. *Launaea lackii* (holotype specimen, K).

by the terminal segment; leaves in the synflorescence region slowly reduced in size and bractlike only on the peduncles, there narrowly lanceolate and auriculate. *Synflorescence* corymbosely branched with few or little more than a dozen capitula; the main axis early terminated by a capitulum and overtopped by the lateral flowering branches. *Peduncles* as the terminal segment of the flowering

axes capillaceous, 0.5-1.0 cm long, often with a single bract similar to the outer involucre bracts just below the capitulum. *Capitula* with c. 35-45 flowers. *Receptacle* at fruiting time c. 1.5-2.0 mm in diameter. *Involucre* at anthesis somewhat clubshaped, 6-7 mm long, towards fruiting time narrowly cylindrical, somewhat prolonged after anthesis and finally \pm 8 mm long, at time of fruit dispersal involucre bracts spreading and basal part of their midrib swollen and hardened; outer involucre bracts 5-7, with somewhat sinuate, non-scarious margin, the outermost narrowly lanceolate, acute, 2.8-3.2 mm long, the following bracts gradually longer and \pm linear-lanceolate, the innermost almost equalling up the inner involucre bracts; inner involucre bracts \pm 8, in one row, linear-lanceolate, subequal, 6-8 \times 1.5-2.0 mm, with indistinct scarious margin. *Flowers* with a golden yellow ligule of 5-6 \times 1.5-1.8 mm and a tube 3-4 mm long; anther tube without appendages 1.6-1.9 mm long, apical appendages \pm 0.2 mm and basal appendages 0.2-0.3 mm long; style branches 0.8-1.2 mm long, sweeping hairs yellow(?). *Achenes* rather abruptly contracted into a long filiform beak, including the beak 3.9-4.5 \times 0.3-0.4 mm, beak 2.6-2.8 mm long, heteromorphic, inner 4-angular, subcolumnar to subfusiform with 4 main ribs each accompanied by 2 secondary ribs, \pm smooth, especially on the ribs with short, narrowly triangular, acute, hyaline papillae, corpus dark brown, beak pale and basally slightly papillose like the corpus; marginal 5-angular, subfusiform, slightly curved and compressed, with 5 main ribs each accompanied by 2 secondary ribs, otherwise like inner. *Pappus* c. 3.5 mm long, deciduous, homomorphic, of c. 40-50 setaceous rays.

The achenes of *Launaea lackii* have the ultimately pronounced and longest beak in the genus.

Distribution and ecology

Launaea lackii is only known from two collections, from Suria Malableh near Berbera, NW Somalia, where it grows on a gypsum hill. Both were made on the same day and comprise flowering as well as fruiting material.

Additional specimen seen:

SOMALIA: Suria Malableh, 16 km SE of Berbera, on gypsum hill, 22.1.1973, *Lavranos & Horwood 10413* (E).

(6) *Launaea almahrahensis*

Launaea almahrahensis N. Kilian, **sp. nova** – Holotype: Yemen, Hadramaut, Umgebung von Nitaua, einer Ortschaft bei Ras Fartak, 7./8.3.1899, *Paulay* (WU!) – Fig. 88.

A *Launaea omanensi* caulibus floriferis pluribus procumbentibus vel ascendentibus et plerumque gracilioribus usque ad 20 cm altis (versus saepe caule florifero solo uno, plerumque \pm erecto et usque ad > 50 cm alto, rariore pluribus ascendentibus), foliis apice rotundato et segmentis latoribus rotundatis (versus apice acuto et segmentis angustis acutis), caulibus floriferis aphyllis (versus foliaceis), antherarum tubo sine appendicibus 1.8-2.4 mm (versus 2.6-3.2 mm) longo, stylorum pilis nigris

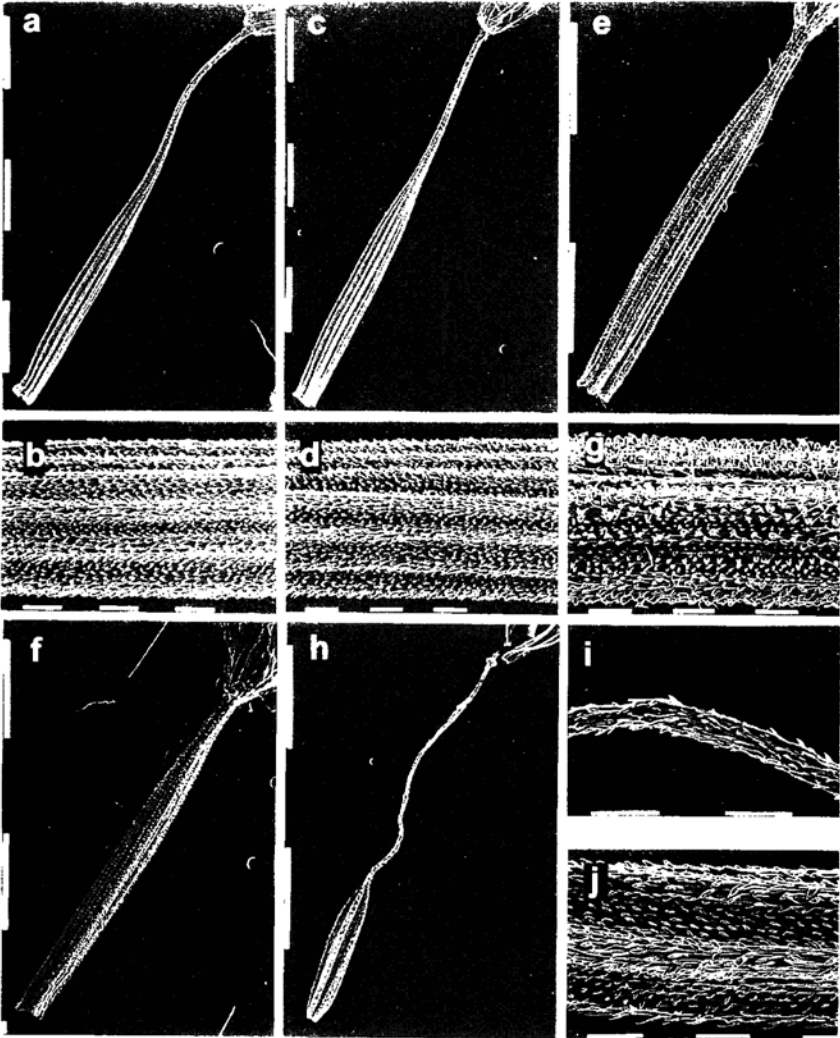


Fig. 11. SEM micrographs of *Launaea* achenes – a-g: *L. crassifolia*, inner (a-b), marginal (c-d) (Bally & Melville 15406, G), inner (e), marginal (f-g) (Miller & al. 8610, E); h-j: *L. lackii*, marginal, detail of beak (i) and corpus (j) (Bally & Melville 16097, K). – Scale: 1 mm (a, c, e, f-h) and 0.1 mm (b, d, g, i-j).

Flowering and fruiting plants were collected between (August) September and March.

Specimens seen:

SOMALIA: 8 km S of Las Anod, overgrazed and eroded gypseous hill, 30.12.1972, *Bally & Melville 15406* (G, K); hills SW of Las Anod, gypsum outcrops with bushes, 700 m, 5.2.1982, *Thulin 4204* (K, UPS); hills 1 mile N of Las Anod, 2400', 27.9.1956, *Bally 10863* (K); Burrdad, 10°14'N, 48°47'E, 3000ft, in dry streambed on rocky ground, 19.9.1929, *Collenette 70* (K); Nugal Region, 4 km SW of Halin along road to Garoe, c. 9°04'N, 48°37'E, gypsum hill in open bushland, c. 600 m, 21.11.1985, *Thulin & Warfa 5397* (K, UPS); Bosaso [= Bender Qaasim], open ground near resthouse on limestone gravel, 9.1.1973, *Bally & Melville 15693* (G, K); mouth of Nogal, Eil, 8.10.1959, *C.F. Hemming 1685* (K); Bari Region, 4 km SW of Gheesaley, 11°43'N, 50°29'E, 10 m, sandy plain, 15.11.1986, *Thulin & Warfa 5801* (K, UPS); Migiurtinia, altipiano Gumaio a NE di Bar-

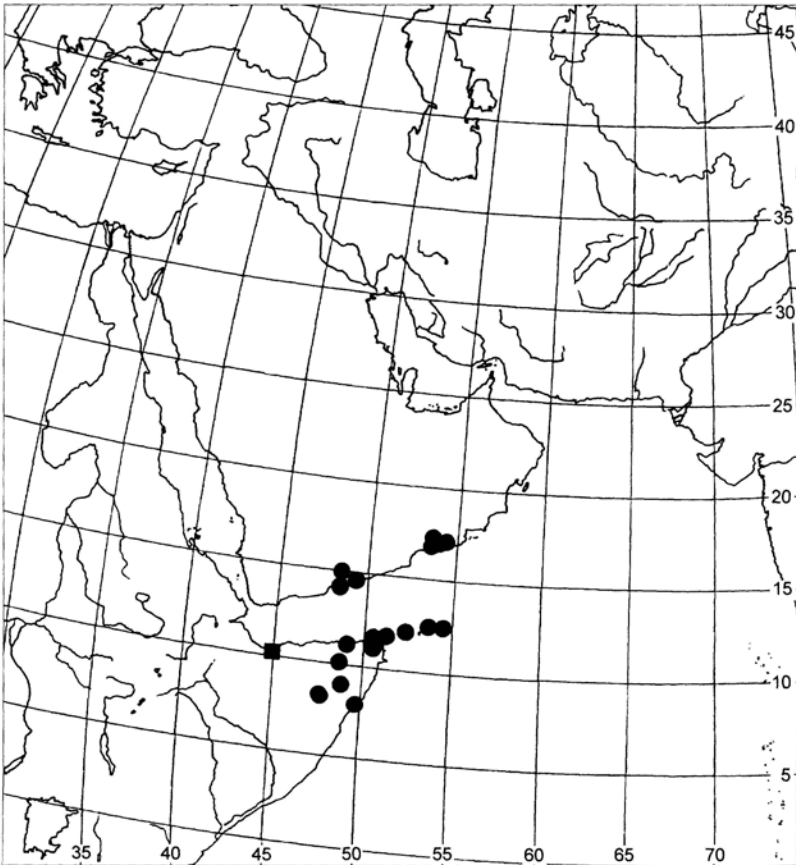


Fig. 86. Distribution of *Launaea crassifolia* (circles), and *L. lackii* (square).