

(12) *Launaea intybacea*

- Launaea intybacea* (Jacq.) Beauverd in Bull. Soc. Bot. Genève, ser. 2, 2: 114. 1910 ≡ *Lactuca intybacea* Jacq. [Ic. Pl. Rar. 1: t. 162. 1784, nom. nud.] in Murray, Syst. Veg. Ed. 14: 713. 1784, [Ic. Pl. Rar. 1: 16. 1787; Coll. 1: 53. 1787] ≡ *Cicerbita intybacea* (Jacq.) Wallr., Sched. Crit.: 434. 1822 ≡ *Phoenixopus intybaceus* (Jacq.) Less., Syn. Gen. Compos.: 137. 1832 ≡ *Brachyrhamphus intybaceus* (Jacq.) DC., Prodr. 7: 177. 1838. – Type: Cultivated in the Botanical Garden Vienna from achenes received from the Jardin du Roi, Paris, and originating from Central America. – Lectotype (designated here, see note 2, below): Specimen with label written by Jacquin “*Lactuca intybacea* Jacq./Cor. pallide flava/Fl. Jul. Aug./Hab. in America meridionali/Ex cult. mea 1782” (LE!) – Fig. 64.
- = *Scorzonera pinnatifida* Lour., Fl. Cochinch. 2: 479. 1790 ≡ *Scorzonera africana* Poir. in Lamarck, Encycl. Suppl. 5: 114. 1817, nom. illeg. (Art. 52.1 ICBN) ≡ *Lactuca pinnatifida* (Lour.) Merr., Comm. Lour. Fl. Cochinch.: 397. 1935. – Holotype: Mozambique, *Loureiro* (not traced).
- = *Sonchus goraeensis* Lam., Encycl. 3: 397. 1792 ≡ *Brachyrhamphus goraeensis* (Lam.) DC., Prodr. 7: 177. 1838 ≡ *Lactuca goraeensis* (Lam.) Sch. Bip. in Flora 25: 422. 1842 ≡ *Launaea goraeensis* (Lam.) O. Hoffm. in Engler & Prantl, Nat. Pflanzenfam. 4(5): 370. 1893. – Lectotype (designated by Kilian 1988: 143): Cultivated in the Jardin du Roi, Paris, from achenes collected by *Sparrmann* on the island of Gorée, Senegal (P, IDC mf. 6207: 393, middle row, second specimen from the left!).
- = *Prenanthes sonchifolia* Willd., Sp. Pl. 3: 1541. 1803 ≡ *Chondrilla sonchifolia* (Willd.) Poir. in Lamarck, Encycl. Suppl. 2: 330. 1811 ≡ *Lactuca runcinata* DC. in Wight, Contr. Bot. India: 26. 1834 ≡ *Lactuca heyneana* DC., Prodr. 7: 140. 1838, nom. illeg. ≡ *Brachyrhamphus heyneanus* Wight, Icon. Pl. Ind. Orient. 3: ad fig. 1146. 1844-46. – Syntypes: India, 4.1795, *Klein 541* (B-W 14598/1!); *ibid.*, *Klein 831* (B-W 14598/2-3!).
- = *Lactuca remotiflora* DC. in Wight, Contr. Bot. India: 26. 1834 ≡ *Brachyrhamphus sonchifolius* DC., Prodr. 7: 177. 1838, nom. illeg. ≡ *Launaea remotiflora* (DC.) Amin ex Rech. f., Fl. Iranica 122: 148. 1977. – Holotype: India, Madras, *Wight 1501* (K!).
- = *Brachyrhamphus caribaeus* DC., Prodr. 7: 177. 1838 ≡ *Lactuca caribaea* (DC.) Sch. Bip. in Flora 25: 423. 1842. – Syntypes: “Guadaloupe, 1820, *Bertero*” (G-DC

- [Prodr. herb.] IDC mf.); “Portorico, 1827, Wydler 231” (G-DC [Prodr. herb.] IDC mf., FI-W!).
- = *Brachyrhynchus taraxacoides* DC., Prodr. 7: 177. 1838 ≡ *Lactuca taraxacoides* (DC.) Sch. Bip. in Flora 25: 423. 1842. – Syntypes: India orientalis, *P. Russel* (G-DC [Prodr. herb.] IDC mf.); *Wallich Cat. Comp. no. 389* (n.v.).
- = *Lactuca schimperi* Jaub. & Spach, Ill. Pl. Orient. 3: 114, fig. 281. 1850. – Holotype: Arabia, prope Meccam, 1837, *Schimper 856* [erroneously quoted as “156” in the protologue] (P, not found; isotypes: BM!, E!, FI!, FI-W!, G!, GH!, JE!, KIEL!, L!, LE!, M!, OXF!, P!, W!).
- = *Lactuca nudicaulis* var. *major* Bolle in Bonplandia 8: 136. 1860. – Syntypi: Cape Verde Islands, S. Nicolau, Rib. de Preguiça, *Bolle* (B, destroyed); *ibid.*, S. Vicente, Mte. Verde, *Bolle* (B, destroyed).
- = *Zollikoferia stocksiana* Boiss., Fl. Orient. 3: 825. 1875 ≡ *Launaea stocksiana* (Boiss.) Kuntze, Revis. Gen. Pl. 1: 351. 1891. – Holotype: Pakistan, Scinde, Jemidar Ka Landa, near Kurrachee, 1851, *Stocks 1190* (G!; isotype K!).
- = *Lactuca goraeensis* var. *glomerata* Terraciano in Annuario Reale Ist. Bot. Roma 5: 106. 1894. – Holotype: Eritrea, Baia d’Anfilha, vulcani Haressan, 24.3.1892, *Terraciano 1179* (FT!).
- = *Lactuca goraeensis* var. *effusa* Chiov. in Annuario Reale Ist. Bot. Roma 8 [Pirrotta, Fl. Eritrea]: 197. 1904. – Syntypes: Eritrea, insula Dahalak, Chebir, 27.-28.3.1892, *Terraciano 596* [quoted as “576” in the protologue] (FT!); *ibid.*, Assaorta, Laghetto di Mainat, c. 1500 m, 21.3.1893, *Pappi 3285* (FT!).

Notes: (1) In a previous paper (Kilian 1988: 143) I designated Jacquin’s plate in Ic. Pl. Rar. 1: fig. 162 as the lectotype of the name *Lactuca intybacea* Jacq., because I had failed to trace any original herbarium material related to this name. In the meantime, however, I found an excellent original specimen among the material from LE (see Fig. 64). As this takes precedence over the illustration selected earlier, the lectotype designation is altered here correspondingly.

(2) In the same previous paper (Kilian 1988: 143) I listed also *Lactuca petitiiana* A. Rich. and *Lactuca arabica* Jaub. & Spach in the synonymy of *L. intybacea*. This, however, turned out to be incorrect after further investigations because both names represent a different species, treated here as *Launaea petitiiana* (see also note under Specimens seen, below).

(3) The identity of *Lactuca flava* Forssk. (1775) [≡ *Scorzonera dichotoma* Vahl, Symb. Bot. 2: 89. 1791, nom. illeg. (Art. 52.1 ICBN) ≡ *Sonchus dichotomus* Willd., Sp. Pl. 3: 1517. 1803], representing either *Launaea massauensis* or *L. intybacea*, could not be cleared since apparently no herbarium material is extant. The quotation of a type specimen at LD in Hepper & Friis (1993: 126) is erroneous (Hepper, pers comm. 12.7.1994). Forsskål’s name has never been in use, but, being older than the basionyms of both *L. intybacea* and *L. massauensis*, it would inevitably have to replace the one or the other of these well established names. To eliminate this threat against the established nomenclature I have proposed rejection of the name *Lactuca flava* Forssk. (Kilian 1994c), which has unanimously been recommended by the Nomenclatural Committee (Brummitt 1996: 676).

(4) *Microrhynchus surinamensis* Miq. in Het Instituut [2] 1842: 204. 1843 ≡ *Amoseris surinamensis* (Miq.) D. Dietr., Syn. Pl. 4: 1319. 1847. – Holotype: Surinam, Paramaribo, *H.C. Focke* (U, not found), might be referable, if to any *Launaea* species at all (see Amin 1978: 117, combination in *Launaea* invalidly formed), to *L. intybacea*. In case it would represent *L. intybacea*, the species apparently was only an ephemeral introduction to Paramaribo. Due to its ecological range it were hardly able to become established there, and in fact, besides this questionable one, no other record of *L. intybacea* from Surinam or the Guianas is known.

(5) Bennet (1987: 317) attributes the combination *Launaea remotiflora* to G.L. Stebbins (1939), who, however, did not form this combination in *Launaea*, he only excluded this species from *Lactuca* and expressed the view that it might be referable to a *Launaea* or *Sonchus* species.

lc.: Figs 16d, 17a, 64. – Wight 1844-46: fig. 1146 sub *Brachyrhampus heyneanus* (habit); Jaubert & Spach 1847-50: fig. 281 sub *Lactuca schimperi* (habit, details); Berhaut 1974: p. 549 ≡ Barry & Celles 1992: p. 65, fig. 11 sub *Lactuca intybacea* (habit); Rechinger 1977: fig. 105 sub *L. remotiflora* (specimens, achenes); Adjanohoun & al. 1985: p. 84, fig. 51 (habit); Colletette 1985: p. 161 (synflorescence, detail), p. 162 sub *L. procumbens* (habit, = *Colletette 4835!*); Kilian 1988: fig. 12 (capitulum), 13(A-B), 17 (achenes), 16 (synflorescence); Ahmed & Qaiser 1989: fig. 2(i-j) sub *Lactuca remotiflora* (achene); Howard 1989: p. 518, fig. 228(h) (achene), p. 570, fig. 257 (leaf, synflorescence); Migahid 1989: fig. 203 sub *L. remotiflora* (habit), [fig. 206 sub *L. goraeensis* does not show this species but possibly *L. mucronata*]; Pope 1992: fig. 40(F) (achenes); Basahy & Monawar 1994: p. 494, fig. 6 (habit); Friedman 1994: fig. 208 (habit, details); Nellis 1994: p. 152 sub *Lactuca intybacea* (habit). – Further references are quoted by Kilian (1988: 145ff; the reference to Jaubert & Spach 1847-50: fig. 282, however, is to be excluded as the species illustrated actually represents *Launaea petitiiana*).

Description (v.v.)

Polymorphic annual with slender taproot, at anthesis 15-150 cm high, with an erect stem or, in case of basal branchment, with a few stems, with ± virgate axes; either with basal leaf rosette and stem ± leafless, or stem basally crowded leafy, or leafy throughout. *Basal leaves* (1.5)3-37 × (0.5)1-14 cm, either obovate and apically rounded (the early leaves) or spatulate with acute apex (the later leaves) and attenuate into a narrow base, ± entire, sinuate-dentate to runcinate; margin white-cartilagineously denticulate, lamina usually thin; *cauline leaves* irregularly pinnatifid, more rarely undivided, ± sagittately auriculate, smaller than basal leaves, otherwise similar; leaves in the synflorescence region reduced to inconspicuous ovate-acute to ovate-acuminate bracts. *Synflorescence* with a few to many virgate, spreading-erect, up to 40-50 cm long, monochasial branches with the capitula single or due to the development of accessory buds fasciculate; in vigorous plants with secondary synflorescences below the main one. *Peduncles* c. 1-20(40) mm long, wiry, with a few bracts passing over into the outer involucrel bracts. *Capitula* with (12)18-35 flowers. *Receptacle* at fruiting time 1.5-2.5(3)

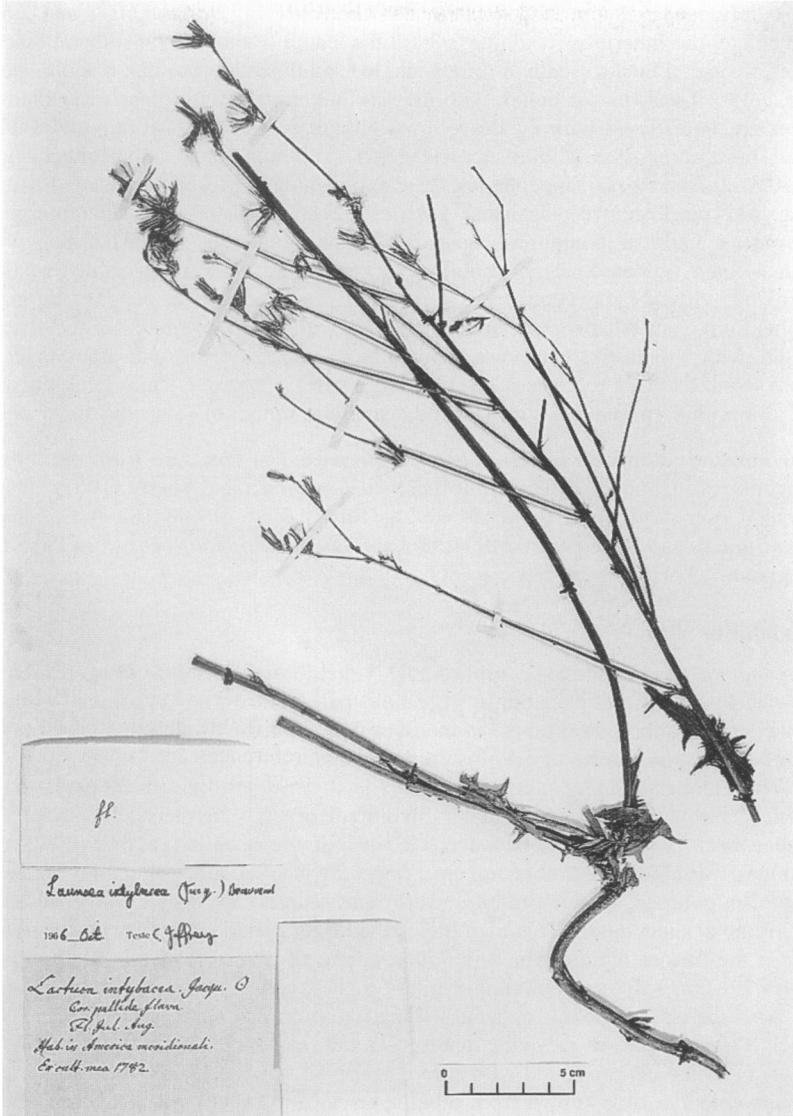


Fig. 64. *Launaea intybacea* (lectotype of the basionym *Lactuca intybacea* Jacq., LE).

mm in diameter. *Involucre* (9)10-13 mm long, before anthesis narrowly cylindrical, at anthesis somewhat clubshaped, later conical, at time of fruit dispersal involucre bracts star-wise outspread and their midrib in lower part swollen and hardened; outer involucre bracts c. 10-12, \pm imbricate, with broad scarious margin, acute,

the outermost 1.5-2 mm long, ovate-acute, the following bracts longer and more lanceolate, the innermost reaching 1/3-1/2 the length of the inner involucre bracts; inner involucre bracts usually 8 (rarely single capitula with up to 12), linear-lanceolate, 9-13 × 1-2(3) mm, ± equal, with the scarious margin a little narrower than in outer bracts. *Flowers* with a pale yellow ligule of 5.5-6 × 1.1-1.3 mm and a tube 5-6.5 mm; anther tube without appendages 1.1-1.3 mm long, apical appendages 0.2-0.3 mm and basal appendages 0.3-0.5 mm long; style branches 1.0-1.5 mm long, with blackish sweeping hairs. *Achenes* 3.2-4.5 × 0.7-0.9 mm, heteromorphic, the inner cylindrical to columnar, cuspidate to shortly rostrate, somewhat 4-angular, with 4 main ribs each accompanied by 2 secondary ribs, transversally weakly wrinkled, greyish; the central often persisting and losing its pappus; marginal subfusiform, somewhat compressed and curved, with a beak c. 1/8-1/4 of the achene length, with 5 main ribs each accompanied by 2 secondary ribs, with transversal, ± sharp wrinkles, black (occasionally all achenes pale). *Pappus* 7-8 mm long, persistent, dimorphic, of numerous downy and a smaller number of setaceous inner rays.

Chromosome number: Several counts are reported in literature from the Indian subcontinent: Chopde (1965: 30 sub *Lactuca runcinata*) and Shetty (1961: 30 sub *Lactuca runcinata*) from India, as well as Razaq & al. (1988: 182 sub *Lactuca remotiflora*), and Razaq & al. (1994: 803 sub *Launaea remotiflora*) from Pakistan all give $n = 9$ and $2n = 18$ respectively.

Variability

Launaea intybacea shows a remarkable vegetative plasticity. The species is nevertheless well recognizable by its small, pale yellow (never golden yellow!) flowers (with short anther tubes) in medium size capitula, which have wiry (never capillaceous!) peduncles or are clustered and sessile.

The number of inner involucre bracts is 8, only here and there plants have single capitula with up to 12 inner involucre bracts occur. The length of the achene beak, which varies between 1/10-1/4 of the achene length exhibits the strongest variability in Arabia and easternmost Africa. Outside this region the beak length, in contrast, is much more uniform and scarcely exceeds a range of 1/10-1/7 of the achene length. This may indicate a larger genetic diversity of *L. intybacea* in the former region, which is both a centre of diversity of this section and, with some certainty, the region of origin of this species.

Also the achene colour underlies some variation. Commonly the achenes are black (the marginal) to grey (the innermost), but in Arabia and easternmost Africa plants occasionally are found with completely pale achenes. The same variation in achene colour is also known from other species of the section and taxonomically insignificant. This is further supported by the fact that the rare individuals with pale achenes among the plants cultivated in the Botanic Garden Berlin-Dahlem all were raised from achenes having the common greyish to black colour.

Distribution and ecology

Apparently due to its annual life form, its vegetative plasticity and its ability to succeed on ruderal and disturbed sites, *Launaea intybacea* has become the most

widespread species of the genus and the only one introduced to America. An amended distribution map is given in Fig. 65 (literature records: Mexico (McVaugh 1984: 548; Valdés & Cano 1987: 27; Villaseñor 1989: 68), Navassa Island (Ekman 1929: 12), Bahamas (Correll & Correll 1982: 1508, 1563), Lesser Antilles (Howard 1989: 518), Burkina Faso (Lebrun & al. 1991: 189), Chad (Carvalho & Gillet 1960: 86), Djibouti (Lebrun & al. 1989: 185); Madagascar (Humbert 1963: 879), Sudan, Gebel Elba (Täckholm 1974: 603), Pakistan (Ahmed & Qaiser 1989: 228; Jafri 1966: 346), India (Bhandari 1990: 182; Bole & Pathak 1988: 24; Kamble & Pradhan 1988: 120; Rao & Screeramulu 1986: 231; Singh 1987: 423; Shukla 1986: 403); Sri Lanka (Grierson 1980: 277; Stoddart & Fosberg 1972: 14)).

In the Carribean, the species is widespread and fully naturalized as a pioneer plant on disturbed sites (see, e.g., Nellis 1994: 152). On the continent north of Mexico, the species is known only from the Florida Keys (further specimens quoted in Radloff 1961: 61), and along the edge of its distribution area in America, its occurrence may remain ephemeral: on the Peninsula of Lower California, Mexico, e.g., the species was collected only once, in 1889 (v.s.), and has obviously not become established there (see also Shreve & Wiggins 1951: 1668).

In the Old World, the species is likely introduced by human activities (and naturalized) also on the Indian Subcontinent and Sri Lanka, as well as, at least, in the southern (but possibly also in the western) part of Africa, on Madagascar and other islands in the Indian Ocean.

L. intybacea is mainly a lowland species and grows preferably at locations with a higher water capacity of the substrate in semidesert and savannah regions; mostly, however, it is found on ruderal sites, in gardens and fields. As a weed it is, in contrast to e.g., *L. petitiana* or *L. cornuta* quite harmless, never causing serious infestations.

Under favourable conditions, flowering and fruiting plants can be found almost all year round. Otherwise, the annual germinates after a rain period and reaches anthesis within a few to several weeks' time. For additional notes on the biology and ecology of *L. intybacea* see Kilian (1988: 155-158).

Specimens seen:

Note: A first list of specimens covering the whole range of distribution (Kilian 1988: 150ff) also includes a few specimens actually referable to *L. petitiana*: sub Ethiopia: *Papapi* 123, 6552, *Schweinfurth* & *Riva* 1023, *Fiori s.n.*, *Schimper* 370, *Burger* 2209 p.p., and sub Somalia: *Gillet* 3966.

A M E R I C A:

U S A: F L O R I D A: [Florida Keys], Hammock, Upper Matecumbe Key, Monroe County, 12.12.1919, *Small & Britton* 9320 (GH); *ibid.*, 12.3.1930, *H.N. Moldenke* 762 (S). – B A H A M A S: Cat Isl., Wilson Bay, in garden, 16.5.1968, *R. Byrne* 484 (A); Long Island, vicinity of Clarence Town, roadsides field in village, 22.3.1976, *W.T. Gillis* 13255 (A); Crooked Island, edge of road over hill from Mosswell Bluff, 26.4.1971, *W.T. Gillis* 10737 (A); Inagua, common herb in saline areas, 7.3.1962, *Dunbar* 111 (A); West Caicos Isl., along airstrip, 3.4.1975, *W.T. Gillis* 12419 (A).

M E X I C O: L O W E R C A L I F O R N I A: "San Jorge" [La Purísima, San Gregorio, c. 26°N], 18.3.1889, *Brandege* (PH). – V E R A C R U Z: Mata Zarza, 3.1923, *Purpus* 8889 (GH). – Y U C A T A N: Kancabconot, common on cultivated fields, 1.1917, *Gaumer* &

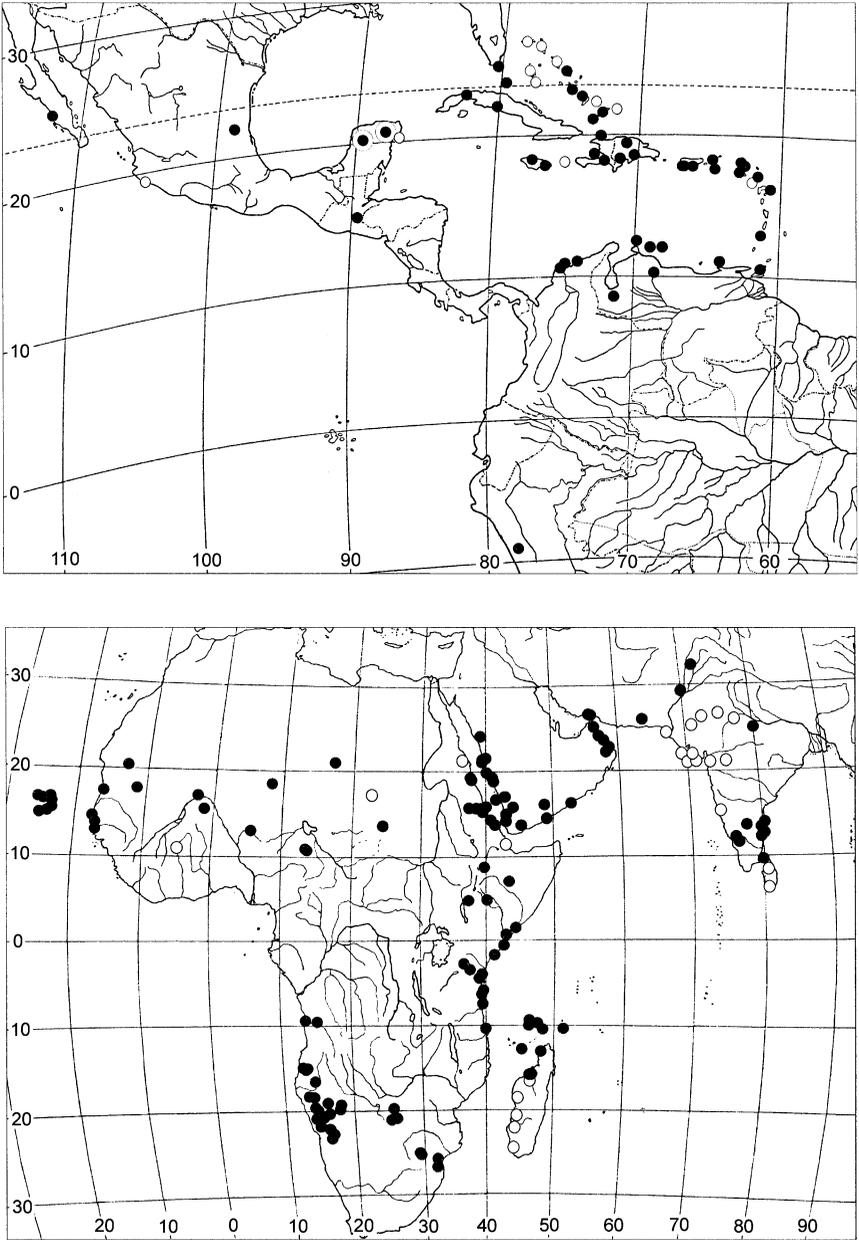


Fig. 65. Distribution of *Launaea intybacea* – upper map: New World distribution (anthrochorous); lower map: Old World distribution; empty circles: literature records; see text.

sons 23555 (GH); Sayi, auf Äckern, 4.3.1903, *Millspaugh 3897* (GH); Igamal, 1895, *G.F. Gaumer 877* (GH, S).

GUATEMALA: Dept. Chiquimula, base of Cerro Colorado, Río Jocotán, near Jocotán, 400 m, 9.11.1939, *J.A. Steyermark 31532* (GH).

CUBA: Prov. Habana, Principe, on roadsides, 13.9.1921, *Ekman 13180* (G); Prov. Santa Clara, mts. slopes rising to the S of Naranjal, Trinidad Mts., 28.7.1936, *L.B. Smith, Hodgson & Gonzales 3239* (GH).

JAMAICA: Prope Falmouth in litore, 18.2.1898, *W. Harris 7234* (Z); St. Andrew, Palisadoes, 20', 5.1.1961, *C.D. Adams 8700* (BM); between Kingston and Morant Bay, 28.1.1902, *Fawcett 8250* (BM).

HAITI: Miragoane and vicinity, 7.9.1927, *W.J. Eyerdam 482* (GH); vicinity of Etang, Etang Saumatre, 4.-12.4.1920, *E.C. Leonard 3591* (GH); Gonave Isl., vicinity of Pikmi, cultivated places, 5.-9.7.1920, *E.C. Leonard 5174* (GH); Tortue Isl., vicinity of Basse Terre, 21.-29.3.1929, *E.C. & G.M. Leonard 13911* (GH).

DOMINICAN REP.: Prov. Azua, weed on banks of irrigation drainage ditches in Valley of Neiba, 15.8.1946, *R.A. & E.S. Howard 8352* (GH); Jaiquí Picado, c. 20 miles W of Santiago, 300-400 m, common in cultivated fields, 19.5.1969, *Liogier 4* (GH).

PUERTO RICO: Salinas de Cabo Rojo ad 'Los Morrillos', 14.2.1885, *Sintenis 540* (GH, E, L, LY); Guanica, 24.10.1968, *R.J. Wagner 1706* (U); Coamo, circa los Baños, 23.12.1885, *Sintenis 3244* (E); inter Aibonito et Coamo ad viam, 4.11.1884, *Sintenis 2120* (BM, BR, C, G, M, E, L, LY, PH, U, W).

LEEWARD ISLANDS: ST. THOMAS: 1871, *Krebs* (C); 1867[?], *coll. illegible 212* (K); *Ørsted* (C); *coll. ignotus* (KIEL). – ST. JOHN: ["St. Jan"], ad Mako Bay, 24.12.1887, *Eggers 3046* (C); ["St. Jan"], Coral Bay, 25.3.1906, *Raunkier* (C); ["St. Jan"], Vest, 12.2.1906, *Raunkier* (BR, C). – ST. CROIX: 9.1848, *Krebs* (C); Amaz Hope, 8.12.1925, *J.B. Thompson 1974* (GH); N-side strand, 2.2.1906, *F. Børgesen* (C); on road cut behind Grape-tree Bay Hotel, 20.7.1970, *D'Arcy 4708* (BM, C); roadsides, 19.1.1896, *Ricksecker 231* (E, GH). – ST. MARTIN/SINT MAARTEN: Langs wegen in Philipsburg, 4.3.1953, *Stoffers 2317* (U). – SINT EUSTATIUS: 9.4.1885, *W.F.R. Suringar* (L); near White Wall, 17.8.1953, *Stoffers & Helsper 4744* (U); strand westzijde, 10.4.1885, *W.F.R. Suringar* (L). – ANGUILLA: Nr. the factory, weed in fields, 15.1.1959, *R.A. Howard 18787* (A); weed near salt pond, 7.2.1985, *R.A. Howard & Kellogg 19074* (A).

WINDWARD ISLANDS: ST. VINCENT: 1854, *coll. illegible 6161* (LE); 1853, *coll. illegible 7754* (LE).

CURAÇAO GROUP: ARUBA: 1909/10, *I. Boldingh 6238, 6559* (U); in omgeving Oranjestad, 3.2.1953, *Stoffers 2067* (U); along roadsides in Oranjestad, 6.2.1953, *A.L. Stoffers 2143* (U); Savaneta, 22.1.1953, *A.L. Stoffers 1752* (A, U); Rooi Faki, 23.12.1946, *Arnoldo 262* (U); W of Kivarko, 28.1.1953, *Stoffers 1980* (U); plantage bij Washington, 17.1.1953, *Stoffers 1513, 1528* (U). – CURAÇAO: 5.4.1952, *M. Arnoldo* (A); 12.1.1885, *W.F.R. Suringar* (L); 1909/1910, *I. Boldingh 4981* (U); Fort Nassau, 10.1.1885, *W.F.R. Suringar* (L); Hofje Abaw, 27.2.1917, *Curran & Haman 191* (GH); Museumtuin, 25.9.1949, 5.4.1952, *M. Arnoldo 1176, 2022* (U); Brakkeput, 14.1.1885, *W.F.R. Suringar* (L); Soto, 10.1968, *Arnoldo-Broeders* (A); Veeris, 17.1.1885, *W.F.R. Suringar* (L); Wegkant nabij Carmabi, 10.1.1961, *P.A.W.J. de Wilde 139a* (L, U); lagoen Labadera, 7.3.1885, *W.F.R. Suringar* (L); Savonet 22.1.1885, *W.F.R. Suringar* (L); Sik, 1909/1910, *I. Boldingh 5186* (U); near Willemstad, 19.2.1917, *Curran & Haman 77* (GH, PH). – BONAIRE: 1909/1910, *I. Boldingh 7378* (U).

COLOMBIA: Dept. Bolivar, Torrecilla nr. Turbaco, 150-300 m, egde of woods, 7.-19.11.1926, *Killip & A.C. Smith 14646* (GH); Puerto Colombia, 12.1933, *B. Elias 1120* (GH); vicinity of Cristobal Colon, near the sea, 5.1.-22.2.1923, *W.E. Broadway 59* (GH).

PERU: Prov. Huaylas, Cañon de Pato (Caraz - Huallanca), borde de carretera, 1650 m, 18.5.1976, *Lopez, Veneros & Aldave 8318a* (G).

VENEZUELA: Anden, Estado Merida, Straße Merida - Tovar, zw. Ejido und Lagunillas, 1100-900 m, 28.12.1968, *B. & F. Oberwinkler 14118* (M); Tovor, Richtung See [= Laco de Maracaibo], 23.12.1972, *W. Schwabe* (B); State of Lara, vicinity of Duaca, 725 m, dry places along road, 23.9.1923, *H. Pittier 11205* (GH); Aragua, Choroni, 1-1000 m, 1938, *C. Vogl 1* (M); between Antimano et Las Adjuntas, along road, 1926/27, *H. Pittier 12262* (G, M).

TRINIDAD & TOBAGO: TRINIDAD: Chacachacare, on cliffs near the sea, 10.1864, *coll. ignotus 2581* (K).

AFRICA:

CAPE VERDE ISLANDS: STO. ANTÃO: Tarrafal, 16°58'N, 25°20'W, in the village, 16.6.1982, *CANCAP Ph 106* (L); above Tarrafal do Mte. Trigo, NE facing gravel slopes below the cliffs, 27.12.1993, *Kilian 2931 & Leyens* (B, etc.); between Tarrafal do Mte. Trigo and Pta. do Mezinha, bare, gravelly and rocky slopes with scarce, contracted vegetation, 27.12.1993, *Kilian 2946 & Leyens* (B, etc.); between c. 1 km E of Cruzinha and Lacação (c. 5 km E Cruzinhas), sandy slope, 24.12.1993, *Kilian 2909 & Leyens* (B, etc.); Ribeira das Pombas, dry stream bed and bottom of the ribeira, 21.12.1993, *Kilian 2814 & Leyens* (B, etc.). – SANTIAGO: Praia de S. Francisco at the mouth of Rib. S. Francisco, sand beach, 12.12.1993, *Kilian 2676 & Leyens* (B, etc.). – MAIO: Mte Batalha, gravelly to rocky, extremely degraded slopes, 3.1.1994, *Kilian 2997 & Leyens* (B, etc.); Terras Salgadas Salinas and dune belt N of Morrinho, on slightly raised places between *Sueda* and *Zygophyllum*, 4.1.1994, *Kilian 3008 & Leyens* (B,). – SAL: W-Teil, zw. Baia de Fontana and Vila da Preguiça, 1.1.1979, *Lobin CV-289* (FR).

SENEGAL: Ilot de Popenguine, au S de Dakar, 16.10.1954, *G. Roberty 15108, 15119* (G); Bargny, 1.1952, *Berhaut 493* (BR); N of Palmarin, 14°05,195'N, 16°46,624'W, 4.3.1996, *Kilian 4377* (B, etc).

GAMBIA: Cape St. Mary, 8.4.1976, *C.-J. Clemedson* (S).

MAURITANIA: Nouakchott, 10.2.1908, *Chudeau* (P); Atar, cultieres, 15.5.1911, *Chudeau* (P); Oued Djonah, *Chudeau* (P); Tidjikdia [18°29'N, 11°31'W], 15.6.1911, *Chudeau* (P).

NIGER: [Air], Temagayen, 800 m, 18°40'N, 8°44'E, 2.4.1979, *Newby ZP134* (K).

SUDAN: Near Port Sudan, 21.1.1912, *MacDougal & Sykes 10* (BM); E of Port Sudan, salt land shores of Red Sea, 8.5.1928, *Khattab 6472* (K); Mersa Bela, 5.1.1951, *N.B. Marshall 13* (BM).

ERITREA: Barco Agordat [15°33'N, 37°53'E], c. 500 m, 1893, *Terraciano* (FT); Mensa Golfu od Colfu (Bogata), Adinatai, 1900 m, 10.2.1893, *Terraciano & Pappi 1138* (FT); Assaorta, Tata - Farras Kankisce, 200 m., 17.3.1893, *Pappi 2905* (FT); Amasen, Pianura Sabargama, 2.-10.3.1902, *Pappi 3918* (FT, G, S, W); Mahaba, 16.9.1916, *Baldrati 2218* (FT); letto del Gasc presso i pozzi di Anagallu, 6.2.1923, *Chiovena 5* (FT); Ocule Cusai, Jangus - Ambacocat [14°50'N, 39°50'E], c. 200 m, 12.4.1893, *Terraciano & Pappi 4017* (FT); Beni Amer, Carajai, 15.11.1905, *Pappi 6658* (FT); Otumlo, 16.3.1892, *Ragazzi & Pappi 1223* (FT); Ailet, eaue thermales, 18.2.1892, *Schweinfurth & Riva 469* (G); Habab, Aequé di Aide, 21.5.1892, *Terraciano & Pappi 1178* (FT); N of Ghedem, 8.1.1903, *Tellini* (FT); Samhar, Uakiro, 2 m, *Fiori*

1878 (FT); Mitsiwa (Massaua) town, Mitsiwa Isl., at the Marine Biological Research Station of Asmara Univ., near sea shore, 28.7.1988, *Ryding 1342* (UPS); Ingal - Ras Koral, 9.3.1892, *Terraciano* (FT); Ras Amasras - Tucul, 6.3.1892, *Terraciano* (FT); Ins. Dalac, Eilet, 1820-1826, *Ehrenberg* (BR, LE, S); Isole Sciumma, 18.-27.3.1892, *Terraciano 588(593)* (FT).

ETHIOPIA: Caschei [= 4°44'N, 36°23'E], 29.7.1939, *Corradi 2113* (FT); at the wells El Siro, 11 km from the turn off the road from the Neghelle-Filtu road, 85 km from Neghelle, 1000 m, 22.5.1982, *Friis, Tadesse & Vollesen 3190* (C, K); Vallata del Ueb Kazanle (Mil Mil - Imi), 9.1.1893, *Riva 920(302)* (FT).

SOMALIA: Chisimaio nelle dune, 1925, *Gorini 39* (FT); Middle Juba, District Gelib, c. 10 km S Kamsuuma, vor Moofa Maam, 0°10'N, 42°46'E, Buschreste zwischen Feldern, Alluvialboden, 2.8.1988, *Kilian 2129 & Lobin* (B, herb. Kilian, herb. Lobin, etc.); Mogadishu, spontan im Innenhof des Landwirtschaftsministeriums, 29.7.1988, *Kilian & Lobin 2048* (B, herb. Kilian, herb. Lobin, etc.); *ibid.*, spontan in Hausgarten, 28.2.1989, *Gabriel* (B).

KENYA: Coast Prov., Kilifi Distr., 18.10.1945, *G.W. Jefferey K358* (G); Lamu Distr., Takwa, SE side of Manda Island, 3.10.1957, *Greenway 9267* (K); Lorgasailie [= Olorgasailie], gorge, 3400', 5.8.1943, *Bally 2664* (K).

TANZANIA: Dar-es-Salaam, University college, 27.7.1968, *Harris 2077* (K); Zanzibar, 1847-52, *Boivin* (P); *ibid.*, Mangapirain Bay, sea level on rocks at high water mark, 14.7.1950, *R.O. Williams 47* (BR, K).

ANGOLA: Distr. Luanda, Sassa, na estrada Caxito-Mabubas, junto ao cruzamento para Ucuu, 29.9.1963, *F.J. Cardoso 198* (M); Moçamedes [= Namibe], Caracul, entre Cuto e Luso, 25.4.1970, *Menezes & Mendonça 3366* (K); Distr. Namibe, Brackpfanne im Granitbirge am Rio Cubal, c. 15°05'S, 13°02'W, 26.6.1954, *G. Boss* (M).

NAMIBIA: Kaokoveld, track Kaoko Otavi - Sanitatas 6 miles from Kaoko Otavi, 7.6.1963, *L.E. Kers 1241* (S); *ibid.*, N Otjitoko, 6.6.1963, *Giess & Leippert 7374* (M); Orowanjai fountain about 10 miles SW Kaoko Otavi, 1.5.1957, *de Winter & Leisner 5634* (M); Omaruru Distr., Brandberg, upper Tsisab Valley, 3./6.5.1963, *B. Nordenstam 2482, 2553* (M, S); Kamanjab, 4000', 23.4.1950, *E.C. Macdonald 609* (BM); *ibid.*, Farm Grootberg, 29.2.1964, *W. Giess 7762* (M); Namib desert, Spitzkopje, 3500', 3.4.1950, *E.C. Macdonald 559* (BM); Franzfontein, unterhalb Dolomitberg in Gesteinsspalten, 13.3.1974, *Merxmüller & Giess 30314* (M); Otjitambi, 7.1.1974, *O.H. Volk 721* (S); Distr. Karibib, Farm Anschluß, Granitfelsen, 15.3.1963, *S. Bleissner 14* (M); Karibib Distr., Sphinx Mt., near Farm Nordenberg, 5.3.1963, *L.E. Kers 1138* (S); W Karibib, 8.2.1974, *Giess 13285* (M); Distr. Outjo, Farm Dornfeld, 13.3.1974, *Merxmüller & Giess 30320* (M); *ibid.*, Farm Ryneveld, 13.3.1974, *Merxmüller & Giess 30294* (M); *ibid.*, 10 Meilen vor Outjo auf der Straße von Okaukuejo, 10.6.1967, *I. Urschler* (M, W); Komasa-Hochland, Farm Friache-nau, c. 2000 m, 29.4.1939, *G. Gassner 177* (M); Etosha Pan, N der Wasserstelle Nuamses, 8.3.1976, *Giess & Loutit 14180* (M); Rehoboth, Farm Bergland, 19.12.1957, *Merxmüller 822* (BM, M); road Otjivarongo - Otavi, 55 km from Otavi, 28.3.1968, *H. & H.E. Wann-torp 431* (S); 5 km N Windhuk, 21.12.1974, *H.C. Friedrich 604* (M); Okahandja Berge, Otjisazu, c. 1500 m, 17.5.1961, *R. Seydel 2889* (M); Okahandja Distr., 42 km NNE of Okah. Farm Hüttenhain, 27.3.1968, *L.E. Kers 2717* (S); bei Grootfontein, 8.3.1974, *Merxmüller & Giess 30158* (M); Distr. Grootfontein, Farm Guchab, 12.3.1974, *Merxmüller & Giess 30250* (M); Ombutozu, Farm Erichsfelde, 25.3.1956, *O.H. Volk 11951* (M); Otjimbingwe, 20.8.1892, *Rautanner 33* (Z); Grat Namaqualand, Buchholzbrunn, 3250', 16.2.1909, *Pearson 3670* (K); Rösningberge[?], 21.2.1957, *Merxmüller & Giess 1737* (M); Okosongomingo - Nord, 28.6.1939, *H.O. Volk 2340* (M); Okosongomingo, 15.12.1938, *O.H. Volk 398a* (M).

MOZAMBIQUE: Sul do Save, Magude, estrada entre Chinhanganine - Magude, c. 50 m, 5.7.1948, *M. Myre 20* (COI); Louranzo Marques [= Maputo], Matola, , 6.5.1974, *A. Marques 2443* (M).

LOCALITY NOT FOUND: Sambesi Mittellauf, Boruma, 4.1891, *Menyhart 1107* (C, UPS, Z);

SOUTH AFRICA: Transvaal, between Roedtan and Marble Hall, 1.2.1968, *O.M. Hilliard 4772* (E); Meluitsch, Khanb Rwir Gorge, 22.1.1907, *Galpin & Pearson 7664* (K); Haikamchab, 26.1.1907, *Galpin & Pearson 7532* (K).

COMORES: MAYOTTE: 1853, *Boivin* (G, FI-W, W).

SEYCHELLES: ASUMPTION ISL.: 25.4.1977, *Blackmore & Walker 11432* (K). – COSMOLEDO ISLS: Menai Island, N of settlement, 40 m, 15.9.1968, *Stoddart & Poore 1262* (K). – ASTOVE ATOLL: 5.3.1968, *Renvoize 1213* (K). – FARQUHAR ATOLL: North Island, 19.9.1968, *Stoddart & Poore 1325* (K).

MADAGASCAR: *R. Baron 6906* (K); Majunga [= Mahajanga], 7.4.1912, *K. Afzelius* (S); Ins. Nosibé, 1846-48, *Boivin* (W).

ASIA:

SAUDI ARABIA: *Fischer 38* (BR, G, M, W); Yanbu-al-Nakhil, 8.1983, *Chaudhary* (RIY); *ibid.*, 6.2.1944, *Khattab & Shabetai 1373* (CAIM, G); Jeddah, 8.1881, *Zohrab 240* (G, K); *ibid.*, on dry ground of a little garden, 27.1.1934, *G.L. Bates 2049* (BM); *ibid.*, 4.1872, *Hildebrandt 132* (LE, W); *ibid.*, *Kruijt 14,17,80* (L), *s.n.* (FI); BGRM compound 10 km E of Jiddah, 50', 27.1.1986, *Collenette 5572* (E); Buraima near Jeddah, spring 1950, *P. Kercher AL57* (BM); Wadi Fatma, 8./10.1.1945, *Khattab 65, 89* (CAIM); road to Madraka, 70 km NE Jeddah, 1500', 11.3.1940, *Trott 188* (K); mountains near Lith, 11.3.1969, *G. Popov 69/20* (BM); Qunfuda, 19°N, 2.1825, *Ehrenberg & Hemprich* (LE, S); Quunfudah Distr., stony slopes of Jebel Marshid, c. 200 m, 3.3.1980, *Lavranos & Colenette 18208* (E); 4 km E Jabal Shada (19°43'N, 41°26'E), 300 m, Wadi mit Feinmaterial, 26.3.1982, *Baierle & König 82-860* (BSB); Farasan Isl., gardens 10 km NW of village and widespread almost everywhere, (the only "wild" compositae), 30', 2.2.1985, *Collenette 4998* (E, K); Dumsuk Isl., in small field, 16.3.1984, *Collenette 4835* (E, K); Abu-Arish, 24.2.1979, *Chaudhary* (RIY).

YEMEN: S. loc., terres cultivés, *Bové* (P); near Bajil, 3.1977, *Chaudhary* (G); Prov. Hajjah, bei Zuhrah, auf Dünenkamm, 100 m, 19.3.1983, *Müller-Hohenstein & Deil 1456* (E); 31 km ENE Menacha, 1580 m, 5.10.1981, *Podlech 36432* (M); Aden, tanks above Crater, 27.3.1997, *Kilian 4705* (B, etc.); Wadi Sachra N of Khamis Bani Sadr (Menacha - Hodeida road), 8.4.1997, *Kilian 4825* (B, etc.); Lahij Govern., Wadi Hardaba, 65 km N Lahij town along the road to Dhala, 800 m, 9.6.1987, *Boulos & al.* (E, K); Oasis Lahaj Quaty, Aytelim, cultures, 29.3.1885, *Deflers* (MPU); Hadramaut, Sayun, weeds in fields and roadsides, 630 m, 16.6.1987, *Boulos & al. 17023* (BM, K); Thila near Mukalla, 2.7.1950, *Guichard KG/HAD/329* (BM); Usil, wadi Hidjan, 1000', 6.5.1887, *Deflers 255* (P).

OMAN: Dhofar mountains, coast, 1895, *Bent 235* (K); Shinas, 20 m, 20.2.1973, *C. Parker O.173* (BM); Batinah coast, Sib, in gardens, widespread weed, 30.1.1950, *Guichard KG/20/Oman* (BM); Wadi Qurayat 1500', on sandy track at Agricultural Station, 7.3.1976, *Radcliffe-Smith 3823* (E, K); W. Hajar Mts., Wadi Bani Kharus, 5 km N of Subaykhadm 250 m, 2.3.1980, *J.R. Edmondson 3217* (E); Shangiyal, Wadi Bani Khalid, 22°34'N, 59°06'E, 550 m, old cultivation, 14.4.1983, *Gallagher 6733/11* (E).

UNITED ARAB EMIRATES: Fujairah Emirate, Khor Fakkan, weed in garden, near sea shore, 4.3.1986, *Boulos & Al-Hasan 16012* (BM, E); Hatta, among cultivated flowers/bushes, 25.4.1984, *Western 635* (E).

IRAN: Hormoz Isls., Qeshm Isl., in garden, 2.4.1974, *Kunkel 16461* (G); *ibid.*, Larak Isl., N side, 10.4.1974, *Kunkel 16835* (G).

PAKISTAN: Sind, *Dalzell* (K); Dera Ghazi Khan, Montes Sulaiman, Fort Munro, 29°51'N, 70°E, 1600 m, 18.5.1965, *Rechinger 29726* (W); Punjab, ad scophulos c. 3000' in lat. jugi Sakesar (mt. Salin, dit. Shahpur), 10.9.1902, *J.R. Drummond 14559* (E, K); in rupestribus e 2000' ad latera Bor.Orient. mt. Sakesar in dit. Shahpur, 18.9.1910, *Kabir* (E, K).

INDIA: [Uttar Pradesh], Banda, *Edgeworth 5024* (K); Kallinjar [25°00'N, 80°29'E], *Edgeworth 5025* (K); Coimbatore, 1000', 5.4.1870, *C.B. Clarke 11517* (CAL); Coimbatore, Palimcottah, 4.1835, *Wight 1683* (C, K, L, LE, W); Coimbatore, Ihirmnarajapuram[?], 2300', 2.11.1906, *C.E.C. Fischer 1215* (CAL); Bangalore, 12.1889, *Lawson* (OXF); Pondichéry, 1863, *Exped. Contest Lacour* (P); Madras, *T. Thomson* (C, L, M, W); *ibid.*, 14.9.1894, *W.H. Campbell* (E); *ibid.*, *Wight 2098* (E); Tarangambadi ["Tranquebar"], 1778, *Soc. Unit. Frat.* (BM); *ibid.*, 1845-47, *Didrichsen 3872* (C).

SRI LANKA: *Thwaites 2827* (BR, LE, MPU, W); ante 1846, *Walker 186* (G); Jaffna Distr., Delft Island, 18.3.1969, *Grierson 1122* (BR, E).

Use

In various regions the leaves of *Launaea intybacea* are eaten as wild salad (collectors in sched., see also, e.g., Baquar 1989: 258 and Villaseñor 1989: 68).

The species is also used in folk medicine. After Bole & Pathak (1988: 24 sub *Lactuca runcinata* and *L. remotiflora*) the species "is reported to be used for chronic obstructions of liver and bowels, and as diuretic in calculous affections" in India; see also Dalgado (1898: 107 sub *Lactuca heyneana* & *remotiflora*). In Baluchistan, Pakistan, a decoction of the plant is applicated "to clear chest congestion, particulary when phlegm is mixed with blood" (Goodman & Ghafoor 1992: 48 sub *Launaea remotiflora*), see also Baquar (1989: 258 sub *Launaea heyneana*). Adjanohoun & al. (1985: 85) report for the Dominican Rep. that "les feuilles sont mangées en salade pour traite la dyspepsié".