

## THE COMPOSITAE OF NEW GUINEA V\*

JOSÉPHINE TH. KOSTER  
Rijksherbarium, Leiden, Netherlands

## Addition to part I

p. 562 line 14 add: — *Luteidiscus* St. John, Bot. Jahrb. 94 (1974) 549.

R e m a r k: St. John described the new genus *Luteidiscus*, which differs from *Tetramolopium* only by the colour of the corolla of the disc-flowers, being yellow in *Luteidiscus* and purplish in *Tetramolopium*. When considering the colour in the New Guinea species of *Tetramolopium* as given by the collectors we find for *T. macrum* (F. v. M.) Mattfeld var. *macrum* (dark-)yellow, (dark-)yellowish-brown, (pale-)purple, or purplish (Koster in Nova Guinea, Bot. 24, 1966: 571); for *T. macrum* var. *album* Koster purple, purplish, purple-brown, brown, (pale-)yellow with brown tips, dark- or yellowish-brown (l.c. 572); for *T. macrum* var. *glabrescens* Koster (light-)yellow, light brownish-purple, lobes with light purplish-red apices (l.c. 572); for *T. klossii* (S. Moore) Mattfeld f. *klossii* yellow-green or purple (l.c. 585); for *T. klossii* f. *lanceolatum* Koster yellowish or yellow-brown (l.c. 586). From this we may conclude, that it is not possible to make a distinction between *Tetramolopium* and *Luteidiscus*. Consequently, the eight new combinations in *Luteidiscus* by St. John, based on New Guinea species of *Tetramolopium* (l.c. 554) should be considered as synonyms of the species of *Tetramolopium* on which they are based.

It is not unusual in the *Compositae* that in the same genus species occur with yellow and others with purplish corolla of the disc-flowers. Hoffmann (in E. & P., Nat. Pfl. Fam. 4, 5, 1894: 296) reports in *Senecio* L. the corolla's to be yellow or sometimes purple, violet, orange, or white, sometimes of the marginal flowers purple or white and of the disc-flowers yellow. A good recent illustration can be found in D. and Z. I. Bramwell, Wild flowers of the Canary Islands. Thorner, London (1974) col. pl. 292—295, where three species of *Senecio* with all corolla's purple and one species with all corolla's yellow can be seen. Hoffmann (l.c. 295) mentions the corolla's (all tubular) in *Gynura* Cass. to be yellow, blue, or purplish, those of *Tragopogon* L. (all ligulate) to be purple, pink, violet, or mostly yellow (l.c. 365), those of *Lactuca* L. (all ligulate) to be yellow or blue, sometimes white or violet (l.c. 371), and those of *Scorzonera* L. (all ligulate) to be yellow, purple, or pink (l.c. 365).

## 9. CICHORIEAE

*Cichorieae* Hoffmann in E & P., Nat. Pfl. Fam. 4, 5 (1894) 350. — *Lactuceae* Cassini, J. Phys. Chim. Hist. Nat. 88 (1819) 151. — *Cichoriaceae* Benth. & Hook. f., Gen. Pl. 2 (1873) 168.

Herbs, rarely shrubs, very rarely trees, lactiferous. *Leaves* alternate or radical. *Heads* homogamous; involucre variously shaped; flowers bisexual; corolla ligulate, truncate and

\* I in Nova Guinea, Bot. 24 (1966) 497—614 (numbering of tribe in accordance with this paper); II in Blumea 18 (1970) 137—145; III in Blumea 20 (1972) 193—226; IV in Blumea 22 (1975) 207—217.

4- or 5-dentate at the apex, variously coloured; anthers 5, very shortly sagittate, sometimes with short hairs at the base, obtuse at the apex, style-arms thin; achene variously shaped, pappus setaceous, paleaceous, or wanting; receptacle naked or paleaceous.

#### KEY TO THE GENERA IN NEW GUINEA

- 1a. Leaves alternate; involucre campanulate or ovoid; phyllaries imbricate, many-seriate; achenes narrowly oblong or obovate, narrowed at both ends, laterally compressed, 10—20-ribbed; hairs of pappus more or less connate at the base. . . . . **1. Sonchus**
- b. Leaves radical, or radical and alternate; involucre cylindrical, phyllaries in few rows, imbricate or inner ones subequal and outer ones imbricate and much smaller, achenes oblong-fusiform, elliptic or linear and beaked, or oblong-lageniform and gradually attenuate at the apex, much compressed, 1—5 ribs on each side, hairs of pappus not connate at the base, inserted on a disc at the apex of the achene . . . . . **2**
- 2a. Achenes oblong-fusiform . . . . . **2. Youngia**
- b. Achenes elliptic or linear and beaked, or narrowly oblong-lageniform and gradually attenuate at the apex . . . . . **3. Lactuca**

#### 1. SONCHUS

*Sonchus* L. Sp. Pl. (1753) 973; Lessing, Syn. Gen. Comp. (1832) 140; Benth., Fl. Austr. 3 (1866) 679; Benth. & Hook. f., Gen. Pl. 2 (1873) 528; Boerl., Handl. 2 (1891) 231; Hoffmann in E. & P., Nat. Pfl. Fam. 4, 5 (1894) 371; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 434; Boulos, Bot. Notiser 125 (1973) 293.

Erect herbs with white milky juice, stem hollow. *Leaves* alternate, sessile, higher ones often amplexicaul and auriculate. *Heads* large or fairly large, in terminal corymbs or panicles, rarely solitary, pedunculate; involucre campanulate or ovoid, afterwards often thickened and dilate at the base, phyllaries imbricate, many-seriate, herbaceous with membranous margins, outer ones gradually shorter, corolla yellow, anthers with filiform auricles at the base, subobtusate at the apex, style-arms subobtusate; *achene* narrowly oblong or obovate, narrowed at both ends, laterally compressed, 10—20-ribbed, brown, glabrous, pappus-hairs numerous, fine, white, more or less connate at the base; receptacle flat, naked.

*Distribution*: about 140 species in Europe, Africa, the Canary Islands, Madeira, Asia, Australia, Tasmania, New Zealand, New Caledonia, Micronesia, Polynesia, and America.

#### KEY TO THE SPECIES IN NEW GUINEA

- 1a. Leaves sagittate at the base, auricles usually with a tooth obliquely directed downwards, teeth of the margin of the leaves soft, ripe achenes looking transversely rugose, minute tubercles occurring on the ribs; pappus 6—7 mm long. . . . . **1. S. oleraceus**
- b. Leaves cordate at the base, auricles usually rounded, teeth of the margin of the leaves pungent; achenes without tubercles on the ribs, pappus 8—9 mm long.
  - 2. S. asper f. hydrophilus**

#### 1. *Sonchus oleraceus* L.

*S. oleraceus* L., Sp. Pl. (1753) 794; Miq., Fl. Ind. Bat. 2 (1856) 112; Benth., Fl. Austr. 3 (1866) 679; Clarke, Comp. Ind. (1876) 275; Hook. f., Fl. Br. Ind. 3 (1881) 414; Boerl., Handl. 2 (1891) 245; Merr., Enum. Phil. 3 (1923) 621; Mattfeld, Bot. Jahrb. 62 (1929) 447; Robertson in Black, Fl. S. Austr. ed. 2 (1957) 942, fig. 1258; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 435; Beadle, Evans, Carolin & Tindale, Fl. Sydney Region (1972) 481.

Herb, 0.25—1.5 m tall, stem subterete, 6—10 mm thick, glabrous. *Leaves* lyrate, often with a deltoid upper part, in outline oblong or oblong-obovate, auriculate at the base, often very acute, rarely subobtusate and mucronulate at the apex, irregularly sharply dentate, chartaceous, glabrous, 5—26 cm long, 1.5—11 cm broad, upper ones often lanceolate-oblong, tapering at the apex. *Inflorescence* paniculate-corymbose, branches tapering to the apex, often bearing stalked glands in the upper part; heads on 0.5—6 cm long peduncles; involucre white-floccose at the base, 9—11 mm long, phyllaries lanceolate, acute, with a prominent midrib, glabrous, sometimes bearing sparse stalked glands; corolla 10—12 mm long, lower 2/3 part filiform, upper part ligulate; *achene* narrowly obovate, 3 mm long, transversely rugose, ribs with minute tubercles, pappus 6—7 mm long.

**Distribution:** Europe, introduced in temperate and tropical countries; Africa, Java, Japan, Sachalin, Formosa, Korea, the Ryukyus, New Caledonia, New Guinea, Australia, Cook Isl., the Carolines, Tonga, Loyalty Isl., N. and S. America.

**NEW GUINEA.** West. Merauke, 1907, *Versteeg 1860* (BO, L). — East. Morobe Dist.: Bulolo, 1950, *Fryar 3977* (LAE); id., Plantation area, 1957, *Wells NGF 7380* (BRI, CANB, L, LAE). — Eastern Highlands Dist.: Mt. Wilhelm, east slope, below Lake Aunde, 1956, *Hoogland & Pullen 5725* (A, BM, BO, BRI, CANB, L, LAE); id., occasional on open flood terraces of Pengagl Creek, 1959, *Brass 30509* (CANB, L); Chimbu Valley, Keglsugl Airstrip, 1971, *Wace ANU 13038* (L); Goroka subdist., Mt. Otto, west side, 1970, *Johns & Noble NGF 47046* (L). — Western Highlands Dist.: Laiagam subdist., Lagaip Valley, near Kepilam village, 1960, *Hoogland & Schodde 7338* (A, BM, CANB, L, LAE); Sirunki, Putidi Hill, northeast slopes, *Walker ANU 459* (CANB, LAE), *ANU 478* (CANB, LAE); Wabag, Kaipale, 1 mile southwest of Lake Iviva, frequent, 1965, *Flenley ANU 2508* (L).

**Collectors' annotations:** stem purple-green; leaves green above, green-blue below; flowers (pale)yellow.

**Ecological notes:** in (peaty) grasslands, along water race, clearing through rainforest, on edge of mossy forest, along track through secondary forest, fallow garden, ditches in Mission garden, *Pyrethrum* garden, *Miscanthus* hedge, on limestone. Altitude 900—3350 m.

## 2. *Sonchus asper* (L.) Hill

forma *hydrophilus* (Boulos) Koster, *nov. comb.*

*Sonchus hydrophilus* Boulos in Eichler, in Black, Fl. Austr. ed. 2, Suppl. (1965) 331.; Boulos, Bot. Notiser 126 (1974) 172.

Herb, 90—135 cm tall, stem subterete, striate, glabrous, 5—12 mm thick. *Leaves* ensiform or oblong-lanceolate, sometimes pinnatisect, cordate at the base, with rounded auricles, irregularly sharply dentate with pungent teeth, chartaceous, rigid, glabrous, 12—27 cm long, 2—4 cm broad, higher ones smaller. *Inflorescence* corymbose-paniculate, branches tapering to the apex, heads on 1.5—6 cm long peduncles; involucre 15 mm long, phyllaries ovate-lanceolate or lanceolate, subacute, glabrous, with a prominent midrib; corolla 10—12 mm long, lower 2/3 part filiform, upper part ligulate; *achene* narrowly oblong, 3 mm long, pappus 8—9 mm long.

**Distribution:** Australia, New Guinea, New Zealand (acc. to Boulos, l.c.), Java, Europe.

**NEW GUINEA.** East. Morobe Dist.: Huon Peninsula, Cromwell Mts., Manusat, 1961, *Hoogland 9504* (L). — Eastern Highlands Dist.: Kainantu subdist., Aiyura, 1971, *Henty NGF 49184* (L); Mt. Wilhelm,

Pengagl Creek, 1972, *Smith ANU 15369* (L). — Western Highlands Dist.: Sirunki, 1962, *Walker ANU 398* (CANB); Laiagam subdist., Yobobos grassland area (source of Lagaip R.), 1960, *Hoogland & Schodde 7581* (A, BM, BRI, CANB, L, LAE); Sirunki, Putidi Hill, northeast slopes, 1962, *Walker ANU 458* (CANB); Wabag subdist., Sugarloaf complex, northern slopes (along Wapu R.), 1960, *Hoogland & Schodde 7073* (A, BM, BO, BRI, CANB, L, LAE); Lake Iviva, Wabag-Laiagam Road, 1962, *Womersley NGF 15284* (L, LAE); on more or less flat ground at Lake Iviva, frequent, 1964, *Flenley ANU 2152* (L). — Southern Highlands Dist.: Tari subdist., pass between Mt. Ne and Mt. Kerewa, 1966, *Kalkman 4853* (L); Mendi subdist., Kagoba, Mendi-Tambul Road, 1973, *Womersley LAE 55333* (L).

**Collectors' annotations:** large herb, to 2 m, leaves pale green above, pale glaucous below; phyllaries purplish towards apex, flowers (bright) yellow.

**Ecological notes:** (along creek) in treefern grasslands on stony streambanks, in marshy grassland, in swamps, abandoned vegetable garden, fallow garden, on limestone. Altitude 1500—3000 m.

**Remarks:** Specimens from New Guinea identified by Dr. Boulos as *S. hydrophilus* appear to be hardly different from *S. asper* (L.) Hill. In his diagnosis Boulos mentions the base of *S. hydrophilus* to be sometimes ligneous. This was not the case in the specimens concerned. The shape of the leaves characteristic for *S. hydrophilus* was also found in some specimens of *S. asper* from Europe and Java, and they were not from wet localities. The shape of the leaves of *S. asper* is very variable. Boulos mentions the pollen grains of *S. asper* to be 34—42  $\mu\text{m}$  in diam., those of *S. hydrophilus* 45—49  $\mu\text{m}$  in diam. The pollen grains of a dried European specimen of *S. asper* appeared to be 30  $\mu\text{m}$  in diam., those of a dried specimen of *S. hydrophilus* from New Guinea 30—33  $\mu\text{m}$  in diam. It seems to be doubtful whether the size of the pollen grains may be considered as a good character to distinguish species in the genus *Sonchus*.

## 2. YOUNGIA

*Youngia* Cassini, *Ann. Sci. Nat.*, I, 23 (1831) 88; *Opusc.* 3 (1834) 86; Babcock & Stebbins, *Carn. Inst. Washington*, publ. 484 (1937) 5; Ohwi, *Fl. Japan* (1965) 930; Koster in Backer & Bakh. *f.*, *Fl. Java* 2 (1965) 437.

*Crepis* L. sect. *Youngia* (Cass.) Benth. & Hook. *f.*, *Gen. Pl.* 2 (1873) 514; Hoffmann in E. & P., *Nat. Pfl. Fam.* 4, 5 (1894) 374.

Erect herbs. *Leaves* alternate and radical, lyrate, pinnatifid, or pinnatipartite, or coarsely dentate, membranous. Inflorescences paniculate or corymbose. *Heads* small, involucre cylindrical, inner phyllaries 6—12, outer ones few, much shorter; flowers 8—20, corolla yellow, tube pilose at the upper part, ligule truncate, 4- or 5-dentate, anthers with linear acute basal auricles, style-arms obtuse; *achenes* small, oblong, subterete or angular, attenuate at both ends, ribbed, with a disc at the apex, pappus setaceous, hairs numerous, uniseriate, filiform, soft, white; receptacle flat, naked.

**Distribution:** about 50 species (acc. to Ohwi, l.c.) in Asia and Australia; see further distribution of *Y. japonica*.

### *Youngia japonica* (L.) DC.

*Prenanthes japonica* L., *Mantiss.* (1771) 107. — *Y. japonica* DC., *Prodr.* 7 (1838) 194; Babcock & Stebbins, *Carn. Inst. Washington*, publ. 484 (1937) 94; Koster in Backer & Bakh. *f.*, *Fl. Java* 2 (1965) 437; Ohwi, *Fl. Japan* (1965) 930. — *Crepis japonica* Benth., *Fl. Hongkong* (1861) 194; *Fl. Austr.* 3 (1866) 679; Hook. *f.*, *Fl. Br. Ind.* 3 (1881) 395; Boerl., *Handl.* 2 (1891) 245; Warburg, *Bot. Jahrb.* 13 (1891) 447; id. 16 (1892) 16; Schumann & Lauterbach, *Fl. Deutsch. Schutzgeb. Südsee* (1901) 603; Gagnepain in Lec., *Fl. Gén. I.-C.* 3 (1924) 522; Mattfeld, *Bot. Jahrb.* 62 (1929) 450.

Herb, 6—110 cm tall, stems one or more, ribbed, fistular, glabrous, 0.5—5 mm thick. Radical leaves rosulate, petiolate, oblong or ovate-oblong, varying from nearly entire to lyrate-pinnatifid, finely dentate, glabrous, 1.5—14 cm long (without petiole), 0.5—5.5 cm broad, terminal lobe much larger than lateral ones, elliptic or obovate, acute or rounded and mucronate, lobed or crenate, submembranaceous, petiole 0.5—8 cm long, sometimes narrowly winged, higher leaves 0—5, sessile, often much smaller. Heads numerous, in a terminal, thin, leafless panicle, pedunculate, peduncles filiform, 2—10 mm long; involucre 4—5 mm long, phyllaries glabrous, outer ones 5, minute, ovate, acute, green, often tinged with purple, inner ones 8, lanceolate, acute or obtuse, with membranaceous margins; corolla 4.5—6 mm long; achenes oblong-fusiform, brown, subglabrous, 1.5—2 mm long, pappus 3 mm long.

**Distribution:** Mauritius, the Seychelles, India, Thailand, Tonkin, China, Korea, Formosa, Japan, Indonesia, the Malay Peninsula, the Philippine Isl., New Guinea, Australia, New Caledonia, Polynesia, the Hawaiian Isl.

**NEW GUINEA.** West. Biak Isl., 10 miles southwest of Soredo, occasional, 1945, *Britton 49* (A, L); Geelvink Bay, Jabi Mts. (Wappe), 1913, *Janowsky 393* (BO); Wissel Lakes, surroundings of Post, Mt. Bobeiro, foot, 1939, *Eyma 4910* (BO, L); Nassau Range, 1926, *Docters van Leeuwen 10497* (BO, L); Carstensz Mts., 1913, *Kloss s.n.* (K); Manokwari, Minjambau, 1962, *Versteegh BW 12739* (L); Vogelkop, Arfak, Angi Gita Lake, 1948, *Kostermans 2052* (BO, L). — East. Milne Bay Dist.: Fergusson Isl., Deidei, Gomwa Bay, common, 1956, *Brass 27324* (L, LAE); Sudest Isl., Joe Landing, 1956, *Brass 27758* (L, LAE); Goodenough Isl., east slopes, locally common, 1953, *Brass 24664* (L, LAE); Bonenau village, Baniara subdist., 1969, *Pullen 8072* (L); Mt. Dayman, north slopes, Maneau Range, 1953, *Brass 23342* (L); Raba Raba subdist., Mayu R., 1972, *Stevens & Veldkamp LAE 54093* (L). — Central Dist.: Mt. Tafa, few, 1933, *Brass 4926* (BO, BRI); Bella Vista, 1918, *C.T. White 444* (BRI); Mafulu, common, 1933, *Brass 5516* (A, BO, BRI, L); Soridi, 1935, *Carr 13127* (BM, L). — Northern Dist.: Kokoda, *Cheerman 66* (K); Hydrographers Range, southern slopes near Numba village, 1964, *Pullen 5616* (L). — Morobe Dist.: Wau, Edie Creek Road, 1954, *van Royen 4383* (L); Bulolo, 1950, *Fryar NGF 3978* (CANB, LAE); id., 1954, *van Royen 4286* (L, LAE); Bulolo, Inakanda Creek, Wau subdist., 1968, *Kairo & Encos NGF 35789* (L); Zatari, from southeast Boana, 1963, *van Royen & Millar NGF 17508* (BRI, CANB, L); vicinity of Kajabit mission, 1939, *Clemens 40737* (A). — Eastern Highlands Dist.: Komanemambuno, 1966, *Borgmann 226* (L); Daulo-Chuave Road, few, 1954, *Mc Kee 1309* (L, LAE). — Western Highlands Dist.: Upper Wahgi Valley, among Komun R., east of Korn, 1956, *Hoogland & Pullen 6246* (L); Kubor Range, Uimba, Nona-Minj Divide, rather common, 1963, *Vink 16326 A* (L). — Madang Dist.: Ibo Mts., 1908, *Schlechter 18972* (K); Finisterre Range, southern side, Upper Guspap (Naho) R. Valley near Moro village, 1964, *Pullen 6158* (L). — Sepik Dist.: Sepik R., Telefomin, 1965, *Henty NGF 20631* (L); Torricelli Mts., near Miwaute village, 1961, *Darbyshire 306* (L). — Western Dist.: Fly R., 1885, *Bauerlen s.n.* (MEL). — South-East New Guinea, 1877—1878, *Chalmers s.n.* (MEL).

**Collectors' annotations:** milky juice; leaves dark or rather pale green above, light green or reddish below; corolla orange-yellow to bright yellow.

**Ecological notes:** roadsides, trackside, on recently burned grassy spur, in clearings, in grasslands, on open plain under grasses, ladang, native gardens, garden re-growth, steep wet bank beside river, on dry grassy slope, along creek in forest, on sandy river bank, dry ledges on rock-wall, on damp rocks near creek, along water race, on clay banks, on open limestone, on sandy soil. Altitude 60—2900 m.

### 3. LACTUCA

*Lactuca* L., *Spec. Pl.* (1753) 795; Benth. & Hook. f., *Gen. Pl.* 2 (1873) 524; Hook. f., *Fl. Br. Ind.* 3 (1881) 402; Boerl., *Handl.* 2 (1891) 229; Hoffmann in E. & P., *Nat. Pfl. Fam.* 4, 5 (1894) 371; Gagnepain in Lec., *Fl. Gén I.-C.* 3 (1924) 651; Stebbins, *J. Bot.* 75 (1937) 12; Aristeguieta in Lasser, *Fl. Venezuela* 10 (1964) 934; Koster in Backer & Bakh. f., *Fl. Java* 2 (1965) 436.

Erect herbs. Leaves radical or radical and alternate, entire, dentate or pinnatifid. Inflorescence panicleate or corymbose. Heads sessile or pedunculate, few- or many-

flowered; involucre cylindrical, narrow, phyllaries in few rows, membranous or herbaceous, with scarious margins, often glabrous; corolla 5-dentate at the apex, yellow, violet, or blue; anthers sagittate at the base with acute or shortly acuminate auricles; *achenes* oblong, more or less compressed with two strong lateral ribs or wings and a number of more feeble ribs on each face, shortly contracted at the base, beaked at the apex, beak filiform, short or long, broadened into a small disc on which the pappus is inserted, hairs of pappus numerous, many-seriate, very thin; receptacle flat, naked.

**Distribution:** about 300 species in Europe, Africa, Asia, North and Central America, introduced into South America.

#### KEY TO THE SPECIES IN NEW GUINEA

- 1a. Leaves sessile, auriculate; heads in long rigid panicles, involucre imbricate, outer phyllaries gradually shorter. . . . . **1. *L. indica***
- b. Leaves gradually attenuate into a petiole, subsessile or sessile; heads in loose corymbs or few or solitary, inner phyllaries subequal, outer ones imbricate, much shorter. 2
- 2a. Herbs 1—85 cm tall; basal leaves rosulate, attenuate into a petiole or subsessile, cauline leaves few or wanting; inflorescence composed of few to many heads (1—85), stalk short or long. . . . . **2. *L. laevigata***
- b. Herbs 1—2.5 cm tall; leaves rosulate, dense, sessile; head solitary, subcaulous **3. *L. subcaulis***

#### Sect. *Lactuca*

sect. *Scariola* DC., Prodr. 7 (1838) 133; Benth. & Hook. f., Gen. Pl. 2 (1873) 525; Clarke, Comp. Ind. (1876) 259; Hoffmann in E. & P., Nat. Pfl. Fam. 4, 5 (1894) 371.

*Heads* in often rigid narrow panicles or in corymbs with often amplexicaul bracts, involucre imbricate, outer phyllaries gradually shorter.

#### 1. *Lactuca indica* L.

*L. indica* L., Man. Pl. 2 (1771) 278; Bl., Bijdr. (1826) 887; DC., Prodr. 7 (1838) 136; Boerl., Handl. Fl. Ned. Ind. 2 (1891) 245; Merr., Enum. Phil. 3 (1923) 621; id., Bot. Mag. Tokyo 51 (1937) 192, t. 5; Gagnepain in Lec., Fl. Gén. I.-C. 3 (1924) 654, fig. 71: 5 & 6; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 436.

Herb, rigid, 1.20—1.30 m tall, stem branched, finely ribbed, glabrous, 4—8 mm thick; roots swollen, often tuberous. *Leaves* sessile, lanceolate, acute, herbaceous, glabrous on both sides, more or less clearly auriculate at the base, auricles acute, upper leaves linear-lanceolate, entire, lowest ones sometimes repandate-dentate with lanceolate teeth, leaves 10—28 cm long, 4—55 mm broad. *Heads* many, in long, rigid, often narrow, sometimes broad panicles, branches and peduncles with linear bracts at the base, 20—25-flowered, peduncles filiform, rigid, 1—2 cm long, provided with many ovate-lanceolate minute bracts; involucre 13—16 mm long, glabrous, phyllaries subobovate, finely glandular, purplish, inner ones oblong-lanceolate, outer ones ovate; corolla 13—15 mm long, tube thin, in the upper part with dense white hairs, slightly shorter than the ligule; *achenes* elliptic, much compressed, broadly margined, beaked, with one prominent rib at each side, glabrous, dark brown, without beak 3.5—4.5 mm long, beak 1—1.5 mm long, pappus white, 7—8 mm long.

**Distribution:** India, the Malay Peninsula, Indo-China, Formosa, China, the Ryukyu Isl., Japan, the Philippines, Sumatra, Java, New Guinea.

NEW GUINEA. West. Balim R., occasional, 1938, *Brass* 11811 (A, L). — East. Morobe Dist.: Boana, 1940, *Clemens* 41504 (A), 41623 (A); Sarawaket, 1937, *Clemens* 5906 (A); Wau subdist., Andarora, Slate R., Upper Watut, 1970, *Streimann & Kairo NGF* 44555 (L). — Eastern Highlands Dist.: Goroka, 1954, *Mc Kee* 1297 (L); Kainantu subdist., Nora-Kora swamp, 1966, *Wheeler ANU* 5823 (L). — Western Highlands Dist.: Wabag Subdist., lower Tale valley, near Yogas village, 1960, *Hoogland & Schodde* 6678 (CANB); Goroka subdist., Upper Asaro valley, c. 1 mile north of Miruma Resthouse, 1957, *Pullen* 5—9 (CANB). — Southern Highlands Dist.: Upper Kaugel valley, Kumbupug'u, Kotlye, Kebaka 1962, *Bowers* 118 (L).

**Collectors' annotations:** 1.50 m tall, white latex, stem reddish, leaves dull dark green above, flowers (pale) yellow, cream-coloured.

**Ecological notes:** in river marsh, garden regrowth, in tall grasslands on dry grassy ridge, on grassy hills, on peaty drained soil. Altitude 1170—1950 m.

### Sect. *Ixeris*

*Taraxacum* subgen. *Ixeris* Cassini, Bull. Sci. Soc. Philom. Paris III (1821) 173. — *Ixeris* Cassini, Dict. Sci. Nat. 24 (1822) 49; Lessing, Syn. Gen. Comb. (1832) 136, DC., Prodr. 7 (1838) 151; Kitamura, Mem. Coll. Sci. Kyoto ser. B 23, 1 (1956) 105; Ohwi, Fl. Japan (1965) 926. — *Lactuca* sect. *Ixeris* Benth. & Hook. f., Gen. Pl. 2 (1873) 526; Clarke, Comp. Ind. (1876) 260; Hoffmann in E. & P., Nat. Pfl. Fam. 4, 5 (1894) 372.

**Heads** in loose panicles or corymbs, or solitary, bracts of inflorescence very small or wanting, inner phyllaries linear, herbaceous, subequal, 5—8, outer ones very short, imbricate.

**Distribution:** about 20 species in SE. Asia.

### 2. *Lactuca laevigata* (Bl.) DC.

*Prenanthes laevigata* Blume, Bijdr. (1826) 886. — *Lactuca laevigata* DC., Prodr. 7 (1838) 140; Boerl., Handl. 2 (1891) 245; Gagnepain in Lec., Fl. Gén. I.-C. 3 (1924) 655; Mattfeld, Bot. Jahrb. 62 (1929) 448; Merr., Sunyatsenia 1 (1930) 46; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 437. — *Aracium laevigatum* Miq., Fl. Ind. Bat. 2 (1856) 111. — *Ixeris laevigata* Schultz-Bip. ex Engler & Maximowicz, Bot. Jahrb. 6 (1884) 69; Stebbins, J. Bot. 75 (1937) 50; Kitamura, Mem. Coll. Sci. Kyoto ser. B 23, 1 (1956) 110.

Herbs 1—85 cm tall, rhizome with numerous roots, stem terete, ribbed, subglabrous, 1—3 mm thick. *Leaves* glabrous, lanceolate, or linear- or spatulate- or oblong-lanceolate, or spatulate, gradually attenuate into a petiole or sessile, acuminate and acute at the apex, entire, undulate, undulate-denticulate or dentate, teeth with a fine, 0.5—2 mm long, often retrorse mucro, distance between teeth 2—10 mm, basal leaves rosulate (petiole included) 2.5—55 cm long, 2—28 mm broad, petiole 0.5—6 cm long, cauline leaves wanting or 1(—3), lanceolate-linear or linear, smaller. *Inflorescence* fairly thin, composed of 1—85 heads, branches and peduncles with a minute linear bract at the base, peduncles filiform, sparsely shortly pilose, 2—15 mm long, heads composed of 8—12 flowers; involucre 5—11 mm long, phyllaries subacute, minutely glandular, inner ones 7 or 8, linear, fimbriate on the top, outer ones 6, lanceolate-ovate, much smaller, 1.5 mm long, sometimes somewhat remote; corolla 6—8 mm long, tube shorter than ligule; *achene* linear, compressed, having 5 prominent ribs on both sides, glabrous, pale brown, 5—6 mm long (the 1.5—2 mm long beak included), pappus 4—5 mm long, dirty white.

**Remarks:** This species is very variable in shape and toothing of the leaves, distance between the teeth and length of the mucro of the teeth, length of petiole, number of heads and length of involucre. Mattfeld *l.c.* has already pointed out the difference between

*L. laevigata* and *L. dentata* (Thunb.) C. B. Robinson (Phil. J. Sci. 3 C Bot. 1908: 218). Robinson made the combination before Makino, Bot. Mag. Tokyo 24 (1910) 75. *L. dentata* has amplexicaul, sessile cauline leaves. It occurs in Formosa, China, Japan. Koster (Fedde Repert. 34 1933: 28) and Van Steenis (Bull. Jard. Bot. Btz. ser. 3, 13, 1934: 188) were incorrect, when considering *L. laevigata* (Bl.) DC. a synonym of *L. dentata* (Thunb.) C. B. Robinson.

**D i s t r i b u t i o n:** Indonesia, Philippines, Formosa, Japan, southern China (acc. to Ohwi, l.c. 928), Indo-China, New Guinea.

### a. var. *laevigata*

*Lactuca prolixa* S. Moore in Gibbs, Contrib. Phytogeogr. Fl. Arfak Mts., London (1917) 184; Mattfeld, Bot. Jahrb. 62 (1929) 449. — *Ixeris prolixa* Stebbins, J. Bot. 75 (1937) 50; Kitamura, Bot. Mag. Tokyo 55 (1941) 348.

Herbs 8—85 cm tall. Basal *leaves* lanceolate, spatulate, spatulate- or oblong-lanceolate, 3—55 cm long (petiole included), 2—28 mm broad, petiole 0.5—43 cm long, cauline leaves 1(—3), linear-lanceolate or linear. *Inflorescence* composed of 3—85 heads, involucre 5—10 mm long.

**D i s t r i b u t i o n:** the same as that of the species.

**R e m a r k:** Many of the specimens studied agree very well with the type of the species (*Blume s.n.*, L), but intermediate forms between var. *laevigata* and var. *pygmaea* with minute cauline leaves and depauperated inflorescences are not rare.

NEW GUINEA. West. 1907, *Versteeg 1459* (L); 18 km NE. of Lake Habbema, Bele R., 1938, *Brass 11365* (A, L); near Alkmaar, 1907, *Versteeg 1558* (BO, L, U); Southwest, Kuskus hill, 1909, *von Römer 625* (L); Balim R., common, 1938, *Brass 11630* (A, L); Siriwo R., 1912, *Janowski 175* (BO, L); Rouffaer R., common, 1926, *Docters van Leeuwen 10025* (BO, L), *10203* (BO, L, U); Wissel Lake Region, south bank of Lake Paniai, 1939, *Eyma 4490, 4491* (BO); Sorong, Misool Fahal, bank of Kasim R., common, 1948, *Pleyte 860* (BO, L); Vogelkop, Arfak Mts., Lake Anggi Gita, 1948, *Kostermans 2363, 2054* (BO); Angi Lakes, 1912, *Gjellerup 1142* (BO, GH, L); 1913, *Gibbs 5921* (BM, type of *L. prolixa* S. Moore); Aifat R. valley, Surerem camp, 1961, *van Royen & Sleumer 6741* (L); Manokwari, Minjambau, 1962, *Versteeg BW 12688* (L); Panggima, 1973, *Sauveur & Sinke 2598* (L). — East. Milne Bay Dist.: Agupon, 1954, *Crutwell 430* (K); Maneau Range, Mt. Dayman, north slopes, 1953, *Brass 2365* (L, LAE), 3529 (L); frequent, 1953, *Brass 22906* (A, LAE) (this number contains several plants without, others with cauline leaves, inflorescence composed of 5—30 heads, involucre 8 mm long, here are intermediate forms between var. *laevigata* and var. *pygmaea*); summit, scattered, 1953, *Brass 22254* (A, L, LAE); NE outlying ridge of Mt. Suckling massif, 1969, *Pullen 7805* (L); Raba Raba subdist., Mt. Suckling complex, Mayu 2, 1972, *Stevens & Veldkamp LAE 54025* (L). — Northern Dist.: Mt. Aniata, 1959, *Crutwell 1052* (K); Pumani, 1950, *Crutwell 193* (K, L). — Central Dist.: Boridi, 1935, *Carr 13140* (BM, L). Subdist. Port Moresby, centre of Lake Myola no. 1, 1973, *Croff & Lelean LAE 60517* (L). — Morobe Dist.: Edie Creek, about 4 miles SW. of Wau, 1963, *Hartley TGH 11650* (L); Anamapi Creek, near Bulolo, 1956, *Womersley NGF 9009* (BRI, LAE); Wantaat, 1940, *Clemens 11189* F (Mich); Gaina Subdist., Waria R., 1966, *Millar NGF 22680* (L); Kudjera near Wau, 1952, *Hentley s.n.* (LAE). — Eastern Highlands Dist.: Mt. Wilhelm, 100 m east of Pindaunde F. Station, 1971, *Smith ANU 15074* (L); east slopes, common, 1959, *Brass 30773* (L); Goroka Subdist., near Miruma village, upper Asaro valley, 1956, *Hoogland & Schodde 5341* (CANB, L, LAE); Goroka Subdist., near Yontegi village, between Dunantina R. and Karmanantina R., fairly common, 1956, *Hoogland & Pullen 5313* (CANB, L); south slope of Pinde-Aunde valley, about ¼ mile below lower lake, 1965, *Walker ANU 5061* (L); Goroka town area, 1954, *Womersley, Floyd & Mc Kee 6175* (A, BRI, LAE). — Western Highlands Dist.: Birip, at top of crater wall, abundant, 1964, *Flenley ANU 2126* (L); Wabag Subdist., near Yogos village, lower Tale valley, 1960, *Hoogland & Schodde 6665* (L); Wabag, one mile west of Lake Iviva, abundant, 1965, *Flenley ANU 2501* (L); Mt. Kuni, near Mt. Hagan, 1957, *Womersley NGF 9486* (BO, BRI, CANB, LAE); Wabag Subdist., Sugarloaf complex, northern slopes, fairly common, 1960, *Hoogland & Schodde 7044* (L); Baiyer-Jimi divide, 1968, *Henty & Streimann NGF 38946* (L); Kebaka, upper Kaugel R. valley, 1963, *Bowers 179* (CANB); c. ¼ mile southeast of Tomba, 1957, *Saunders 635* (L, LAE); Alipe Creek, Kebaka, upper Kaugel valley, 1962, *Bowers 144* (CANB); Komun valley, c. 12 miles east of Hagen station, village of Kiliga, 1957,



*Pullen* 170 (L, LAE); Laiagam Subdist., Yobobos grassland areas (source of Lagain R.), 1960, *Hoogland & Schodde* 7459 (L); Sirunki, 1962, *Walker ANU* 387 (CANB), 553 (L). — Southern Highlands Dist.: near Kuareloombo resthouse, c. 9 miles east of Kagua petrolpost, common, 1961, *Pullen* 2792 (L); Angey valley, near Ebenda, 1961, *Schodde* 1577 (L); Tari subdist., Telabo, 1972, *Powell UPNG* 1614. — Madang Dist.: Upper Gusap R. valley, southern side of Finisterre Range, near Moro village, common, 1964, *Pulle* 6142 (L).

**Collectors' annotations:** 90 cm tall, stems reddish, leaves with reddish edges, white milky latex, corolla (bright) yellow (tipped with orange); crushed stem and leaves a medicine for scabies.

**Ecological notes:** in rather wet tall (*Imperata* tussock) grasslands, on grassy (deforested) slopes, in treefern grassland, in bracken where burnt, on side of track, on (wet) rocky soil of river bank, in (old, native, sweet potato) gardens, in swamp among dense matting sward of *Acorus*, in swamp on large tussock formed by grass and sedge species, in young secondary forest, in rain forest, in primeval forest on (steep) banks of rivers and creeks, in area of newly burnt grass on river beaches, in soft wet mud, on sandy soil. Altitude 45—3560 m.

#### b. var. *pygmaea* (Zoll. et Mar.) Koster

*Lactuca pygmaea* Zoll. et Mor., Nat. Geneesk. Arch. Neerl. Indië 2 (1845) 565. — *Aracium pygmaeum* Miq., Fl. Ind. Bat. 2 (1856) 111. — *Ixeris pygmaea* Stebbins, J. Bot. 75 (1937) 50. — *Lactuca laevigata* var. *pygmaea* (Zoll. et Mor.) Koster in Backer & Bakh. f., Fl. Java 2 (1965) 437.

*Crepis nudicaulis* Schultz-Bip. in Zoll., Syst. Verz. Ind. Arch. (1854) 125 (acc. to Stebbins, l.c.).

*Crepis papuana* S. Moore, Trans. Linn. Soc. Lond. (1916) 87. — *Lactuca papuana* Mattfeld, Bot. Jahrb. 62 (1929) 449. — *Ixeris papuana* Stebbins, J. Bot. 75 (1937) 50; Kitamura, Bot. Mag. Tokyo 55 (1941) 349.

Herbs 5—55 cm tall. Basal leaves spatulate, oblong- or spatulate-lanceolate, 2.5—29 cm long (petiole included) 5—25 mm broad, petiole 0.5—18 cm long, cauline leaves wanting. Inflorescence often depauperated, composed of 3—20 heads; involucre 8—11 mm long.

**Remark:** Dwarf specimens of this variety differ from var. *pusilla* only by the inflorescence being composed of 3 heads. The type of *Lactuca pygmaea* was not seen by the author. However, the description agrees well with the specimens here dealt with.

**Distribution:** Java, Celebes, Ceram, New Guinea.

**NEW GUINEA.** West. Star Mts.: Mt. Antares, western (lower) summit, 1959, *Kalkman* 4522 (L); id., Auriga Camp, common, 1975, *Veldkamp* 6377 (L); id., Tel Basin, 1975, *Veldkamp* 6209 (L); Mt. Wilhelmina, 11 km northeast of summit, 1938, *Brass & Meyer Drees* 9729 (A); id. north slopes, 1938, *Brass & Meyer Drees* 10084 (A, L); Lake Habbema, 1938, *Brass* 9588 (L); 9 km northeast of Lake Habbema, common, 1938, *Brass* 10885 (A, L); Balim valley, near Wellesy, 1966, *Kostermans & Soegeng* 968 (L, one plant without, one plant with minute cauline leaves); Carstensz Mts.: Utakwa, 1912—13, *Kloss s.n.* (BM, type of *Crepis papuana* S. Moore); id., c. 200 m west of Ertsberg, 1971, *Hope ANU* 10882 (CANB). — E a s t. Milne Bay Dist.: Mt. Donana, 1962, *Cruttwell* 1249 (L); Raba Raba subdist., end of South Spur of Goe Dendeniwa, Mt. Suckling complex, 1972, *Stevens & Veldkamp LAE* 54206 (L); Maneau Range, Mt. Dayman, north slopes, frequent, 1953, *Brass* 22906 (L). — Northern Dist.: Mt. Suckling, summit, 1963, *Darbyshire* 1194 (CANB). — Central Dist.: Vanapa valley, scarce, 1933, *Brass* 4816 (BRI); Tapini subdist., Mt. Strong, 1971, *Stevens & Coope LAE* 51381 (L); Wharton Range, west slope, track from Avios to Tjidibombo, 1965, *van Royen NGF* 30001 (L); Mt. Albert Edward, 1935, *Brass* 4356 (BRI), 4357 (BO, BRI, GH); Tapini subdist., Mt. Strong, summit ridge, 1971, *Coope & Stevens NGF* 46176 (L); Murray Pass, Wharton Range, common, 1933, *Brass* 4648 (BRI, GH). — Morobe Dist.: Rawlinson Range, 1941, *Clemens* 12407 (MICH); Upper Zaran Creek, Mt. Enggom, southwest slope, Sarawaket Range, 1963, *van Royen NGF* 16190 (L); Huon Peninsula, Cromwell Mts., Mannasat, scarce, 1964, *Hoogland* 9402 (L); Huon Peninsula, Salawaket Range, Gimdoh, 1964, *Hoogland* 9927 (L); id., Monarauwe, 1964, *Hoogland* 9709 (L); Mt. Salawaket, base, 1963, *Hartley TGH* 11119 (L, mixed with var. *pusilla*). — Eastern Highlands Dist.: Goroka subdist., near Kerigomma camp, common, 1956, *Hoogland & Pullen* 5553 (CANB, L, LAE, mixed with var. *pusilla*); Mt. Wilhelm,

c. 67 km southwest from Madang, 1953, *Semple & Rainer s.n.* (MELB); Chimbu subdist., Lake Aunde, 1962, *van Royen NGF 15182* (L); Mt. Michael, 1954, *McGrath 5994* (LAE); Goroka subdist., Mt. Otto, summit, *Johns & Noble NGF 47078* (L); Mt. Wilhelm, east slopes, frequent, 1959, *Brass 29886* (L); id., slopes north of Lake Aunde, common, 1968, *McVean & Wade ANU 7112* (L); Kainantu, Mt. Piora, *Henty & Carlquist NGF 16642* (L); Upper Chimbu R. valley, Komanemambuno, 1960, *Borgmann 240* (L). — Western Highlands Dist.: Kubor Range, Nona-Minj Divide, South of Minj. 1963, *Pullen 5037* (L); id., Nona Minj Divide, very rare, 1963, *Vink 16028* (L); id., Mt. Kinkain, 1963, *Vink 16054, 16167, 16167 A, 16253* (L); id., Mt. Milyin Kalyin, rather common, 1963, *Vink 16214* (L). — Southern Highlands Dist.: Mt. Giluwe, western summit, 1961, *Schodde 1849* (L); Mendi subdist., base of volcanic plug, 1973, *Croft et al. 60649 LAE* (L); Mt. Ialibu, near Repeater Station, 1972, *Stevens & Foreman LAE 55904* (L); Mt. Giluwe, Mendi subdist., 1972, *Stevens & Foreman LAE 52263* (L). — Madang Dist.: Saidor subdist., Lake Naho, *Sayers NGF 21403* (L).

**Collectors' annotations:** solitary or scattered or in small groups, strong branching rootstock, milky sap, stem (dark) purple or reddish, leaves greyish green, pale shining or glaucous green, often purple below, teeth purplish, petioles and peduncles purple or reddish, heads drooping in bud and in fruit, phyllaries (dark) purplish- or dark blueish or blackish- or grey-green or green, corolla (bright) yellow, achene light brown, pappus (light) brown or white.

**Ecological notes:** in (sub)alpine grasslands, in tussock-grasslands, in short and in long grassy vegetation, in open (recently burnt) grasslands, in treefern-grasslands, in open place in subalpine shrub-vegetation, in damp open gully in mossforest amongst grasses, in boggy tussock sedge-grassland, on sandy banks of a grassland stream, in moss growing in crack on a rock, in peaty grassland on slope, on seepage slopes, in open places above the tree-line, in moss-cushions, in open stony bed of a stream in forest, on wet peats, on rocky ground, in open dry places, Altitude 1800—4020 m.

**c. var. pusilla** (Mattfeld) Koster, *nov. comb.*

*Lactuca pusilla* Mattfeld, Nova Guinea 14, Bot. (1929) 531, pl. 91, fig. C 1—6; Bot. Jahrb. 62 (1929) 450.

Small herb. 1—15 cm tall. Basal leaves spatulate, entire, subentire, or minutely mucronate-dentate, without petiole 5—20 mm long, 2—5 mm broad, petiole 3—60 mm long, cauline leaves wanting. Heads 1 or 2; involucre 5—6 mm long, outer phyllaries mostly somewhat remote.

**Distribution:** New Guinea.

NEW GUINEA. West. Mt. Wichmann, summit, 1913, *Pulle 978* (BO, type of *Lactuca pusilla* Mattfeld); Lake Habbema, common, 1938, *Brass 9193* (A, L); 9204 (A, L); Mt. Wilhelmina, 11 km northeast of summit, 1938, *Brass & Meyer Drees 9732* (A, L); Carstensz Mts., Yellow Valley, common, 1972, *Hope ANU 16045* (L), Star Mts., Tel. Basin, 1975, *Veldkamp 6208* (L). — East. Northern Dist.: Mt. Scratchley, 1896, *Guilianetti s.n.* (K). — Central Dist.: Mt. Knutsford, 1889, *MacGregor s.n.* (MEL, identified by F. von Müller as *Taraxacum officinale* G. H. Weber, by Mattfeld as *Lactuca umbellata* Mattf.). — Morobe Dist.: Mt. Bangeta, summit, scattered, 1963, *van Royen NGF 20028* (L); Mt. Salawaket, base, 1963, *Hartley TGH 11119* (L, mixed with var. *pygmaea*). — Eastern Highlands Dist.: Mt. Wilhelm, east slopes, 1959, *Brass 30022* (L); Goroka subdist., near Kerigomma camp, common, 1956, *Hoogland & Pullen 5553* (CANB, mixed with var. *pygmaea*). — Western Highlands Dist.: Kubor Range, Mt. Kinkain, rather common, 1963, *Vink 16054* (L, mixed with var. *pygmaea*). — Southern Highlands Dist.: Mt. Giluwe, western summit, 1961, *Schodde 1951* (L).

**Collectors' annotations:** white milky sap, leaves dark olive green, midrib dark purplish below, petioles and peduncles purple, phyllaries dark (greyish) green, outer ones with white or light green margins, corolla (ochre) yellow (red-edged).

**Ecological notes:** on alpine grasslands, on fire-induced alpine meadow, on peaty grassland, in moss on rocky slope, on (wet sandy seepage) slope, in alpine bog, among dwarf grasses of open bog, in moss-tundra. Altitude 2960—4410 m.

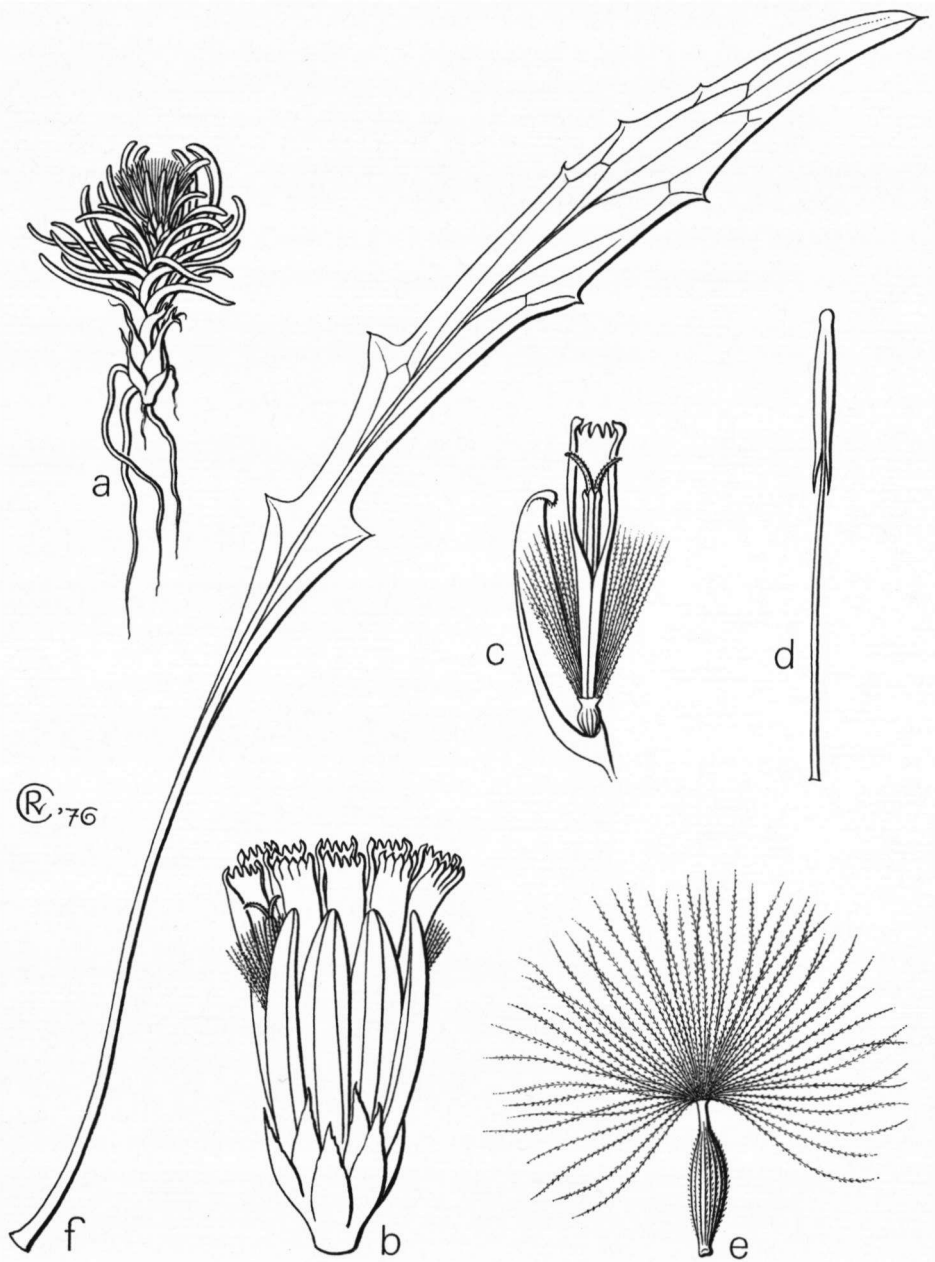


Fig. 1. *Lactuca subacaulis*. a. Habit,  $\times 1\frac{1}{3}$ ; b. head,  $\times 6\frac{1}{3}$ ; c. flower,  $\times 6\frac{1}{3}$ ; d. anther,  $\times 13\frac{1}{3}$ ; e. achene,  $\times 6\frac{1}{3}$ . — *Lactuca laevigata* var. *exciso-dentata*. f. Leaf,  $\times 1\frac{1}{3}$ . (a—c, e from Smith ANU 15129; d. from Hoogland & Pullen 5786; f. from van Royen & Sleumer 8042).

**d. var. lamii** (Mattfeld) Koster, *nov. comb.*

*Lactuca lamii* Mattfeld, Nova Guinea 14, Bot. (1929) 530, pl. 91, fig. D; Bot. Jahrb. 62 (1929) 449. — *Ixeris lamii* Stebbins, J. Bot. 75 (1937) 50.

Short herb, 12 cm tall. Basal leaves sessile (described by Mattfeld as petiolate), linear-lanceolate, tapering to the 1 mm broad base, entire, 3—7 cm long, 3—4 mm broad, cauline leaves wanting. Head solitary (or 2, acc. to Mattfeld, *l.c.*), peduncle 2 mm long, outer phyllaries somewhat remote.

**Distribution:** New Guinea.

NEW GUINEA. West. Mt. Doorman, region of Mamberamo R., 1940, *Lam 1700* (BO, type).

**Collectors' annotations:** stem brownish-purple, leaves glossy, scape reddish-purple, outer phyllaries dark greenish-purple, corolla yellow.

**Ecological notes:** in open, more or less plain peat. Altitude 3260 m.

**e. var. exciso-dentata** Koster, *var. nov.* — **Fig. 1 f.**

Folia exciso-dentata, dentibus subtriangularis, mucrone brevi et tenui ornatis.

**Typus:** *van Royen & Sleumer 8042* (L).

**Distribution:** Flores, the Philippines, New Guinea.

NEW GUINEA. West. Vogelkop Peninsula: Nettoti Range, Wekari R. camp, common, 1961, *van Royen & Sleumer 8042* (L, type). — East. Eastern Highlands Dist.: Goroka Subdist., near Yontegi village, between Duanantina R. and Karmanuntiga R., fairly common, 1956, *Hoogland & Pullen 5313* (LAE). — Southern Highlands Dist.: between Kendakl and Yombi, c. 6 miles north of Ialibu patrol post, 1961, *Pullen 2734* (CANB).

**Collectors' annotations:** white latex, leaves light green, corolla yellow.

**Ecological notes:** in tall grassland on hillside, on small rise in recently burnt grass-sedge bog, on stones along river. Altitude 1550—2010 m.

**3. Lactuca subacaulis** Koster, *spec. nov.* — **Fig. 1a—e.**

Herba nana, brevissima, 1—2.5 cm alta, rhizoma saepe bifurcatum, crasciusculum (3—4 mm crassum), radicibus multis crasciusculis. Folia rosulata, densa, sessilia, linearia, raro spatulato-linearia, ad basin dilatata, nervis parallelibus prominentibus subtus, ad apicem subobtusata, integra, crasciuscula, utrinque sparse et minute glandulosa, 7—20 mm longa, 1—1.5 mm lata. Capitulum solitarium, subcaule; involucrem cylindricum, 6—7 mm longum, squamis glabris, interioribus subaequalibus, lineari-lanceolatis, subacutis, marginibus albidis, exterioribus minoribus imbricatis, lanceolatis, acutis; flores in capitulo circa 10, corolla ligulata, apice 5-dentata, dentibus subacutis, 6—11 mm longa, antherae ad basin sagittatae, caudatae, caudis tenuibus, ad apicem subobtusae, styli rami lineares, obtusi, achenium anguste oblongo-lageniforme, ad apicem gradatim attenuatum, costatum, glabrum, ferrugineum, 3.5 mm longum, pappo 4.5 mm longo, sordido; receptaculum parvum, planum, nudum.

**Typus:** *Smith ANU 15129* (L).

**Distribution:** New Guinea.

NEW GUINEA. East. Eastern Highlands Dist.: Mt. Wilhelm, Pindaunde Valley, saddle camp, 1971, *Smith ANU 15129* (L, type); id. peak, common, 1956, *Hoogland & Pullen 5786* (CANB, L, LAE); id.,  $\frac{1}{2}$  mile past Wilhelm trig. point, 1966, *McVean & Wade ANU 7233* (L); id., east slopes, close to track below Wilhelm summit, 1965, *Walker ANU 5246* (L); id., 1960, *Borgmann 97* (L).

**Collectors' annotations:** usually growing in groups or forming cushions, white latex, corolla yellow. \

**Ecological notes:** in rocky crevices, on fine gravel between rocks, rockshelf with bays of vegetation, beside frost-heaved areas of gravel, on bare soil by track, dry tundra vegetation. Altitude 4200—4400 m.

#### DUBIOUS SPECIES

*Lactuca microsperma* K. Schum. in Schumann & Lauterbach, Fl. Deutsch. Schutzgeb. Südsee, Nachtr. (1905) 403, was brought to the synonymy of *Crepis japonica* (L.) Benth. by Mattfeld (Bot. Jahrb. 62, 1929: 450). The type was not seen by the present author, since it is destroyed now.

*Lactuca umbellata* Mattfeld, Bot. Jahrb. 62 (1929) 449, 500. — *Ixeris umbellata* Stebbins, J. Bot. 75 (1937) 51. The type is destroyed. Mattfeld identified the specimen collected by MacGregor on Mt. Knutsford and named *Taraxacum officinale* G. H. Weber by F. von Müller, as *L. umbellata*. This specimen was identified by the present author as *L. laevigata* (Bl.) DC. var. *pusilla* (Mattfeld) Koster.

*Taraxacum officinale* G. H. Weber (F. von Müller, Transact. Roy. Soc. Victoria 1, 2, 1889: 15) was recorded from Mt. Knutsford, coll. MacGregor s.n. This specimen was identified by Mattfeld as *Lactuca umbellata* Mattfeld and by the present author as *Lactuca laevigata* (Bl.) DC. var. *pusilla* (Mattfeld) Koster.

*Hieracium* spec. (Mattfeld, Bot. Jahrb. 62, 1929: 451) recorded from Mt. Scratchley, coll. Gulianetti s.n., is identified by the present author as *Lactuca laevigata* (Bl.) DC. var. *pusilla* (Mattfeld) Koster.