

## THE COMPOSITAE OF NEW GUINEA VII\*

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### SUMMARY

This seventh article on the *Compositae* of New Guinea contains (1) additions to previous articles, and (2) a taxonomic account of tribe 8 *Senecioneae*, with 7 genera in the area. Of these genera only *Crassocephalum*, *Emilia*, and *Erechites* are presently fully treated. An index to all genera of *Compositae* in New Guinea treated by the author is given at the end.

### ADDITIONS TO PREVIOUS ARTICLES

#### Additions to part I

- p. 610, line 12 omit ‘*cabreræ*’ and add these lines:  
2a. Leaves petiolate, blade ovate or broadly ovate, suddenly attenuate into the petiole, margin undulate-dentate or coarsely dentate. . . . . 2. *M. cabreræ*  
b. Leaves sessile, spathulate-lanceolate, truncate at the base, subentire or indistinctly repand-dentate . . . . . 3. *M. rupestris*
- p. 612, add after line 20:

#### 3. *Myriactis rupestris* Koster, *spec. nov.* — Fig. 1

*Herba* 23 cm longa, caule tenui, costato, glabro, radicante, 1–2 mm crasso ramis pluribus, tenuibus, glabris, costatis, flexuosis, 1–1.5 mm crassis, internodiis 3–8 cm longis. *Folia* alterna, sessilia, spatulato-lanceolata, ad basin truncata, apice subobtuso, mucronulato, subintegra vel indistincte repando-dentata, chartacea, subglabra, supra pilis brevibus sparsis, subtus glabra, trinervia, nervo mediano prominente subtus, 1–5 cm longa, 1–6 mm lata, nonnulla basalia approximata, superiora gradatim minora. *Capitula* terminalia, solitaria, parva, multiflora, longepedunculata, pedunculo costato, glabro, 1.5–6.5 cm longo, 1 mm crasso; *involucrum* patelliforme, squamae pluriseriatae, oblongae, acutae, ca. 6 mm longae, marginibus purpureis, fimbriatis, nullae corollae florum marginalium visae; *flores disci* numerosi, corolla florum disci tubulosa, 1.5 mm longa, parte inferiori cylindrica, parte superiori campanulata, lobis deltoideis, obtusis, antherae 3, ad

\* I in Nova Guinea, Bot. 24 (1966) 497–614 (numbering of tribes in accordance with this paper); II in Blumea 18 (1970) 137–145; III in Blumea 20 (1972) 193–226; IV Blumea 22 (1975) 207–217; V in Blumea 23 (1976) 163–175; VI in Blumea 25 (1979) 249–282.

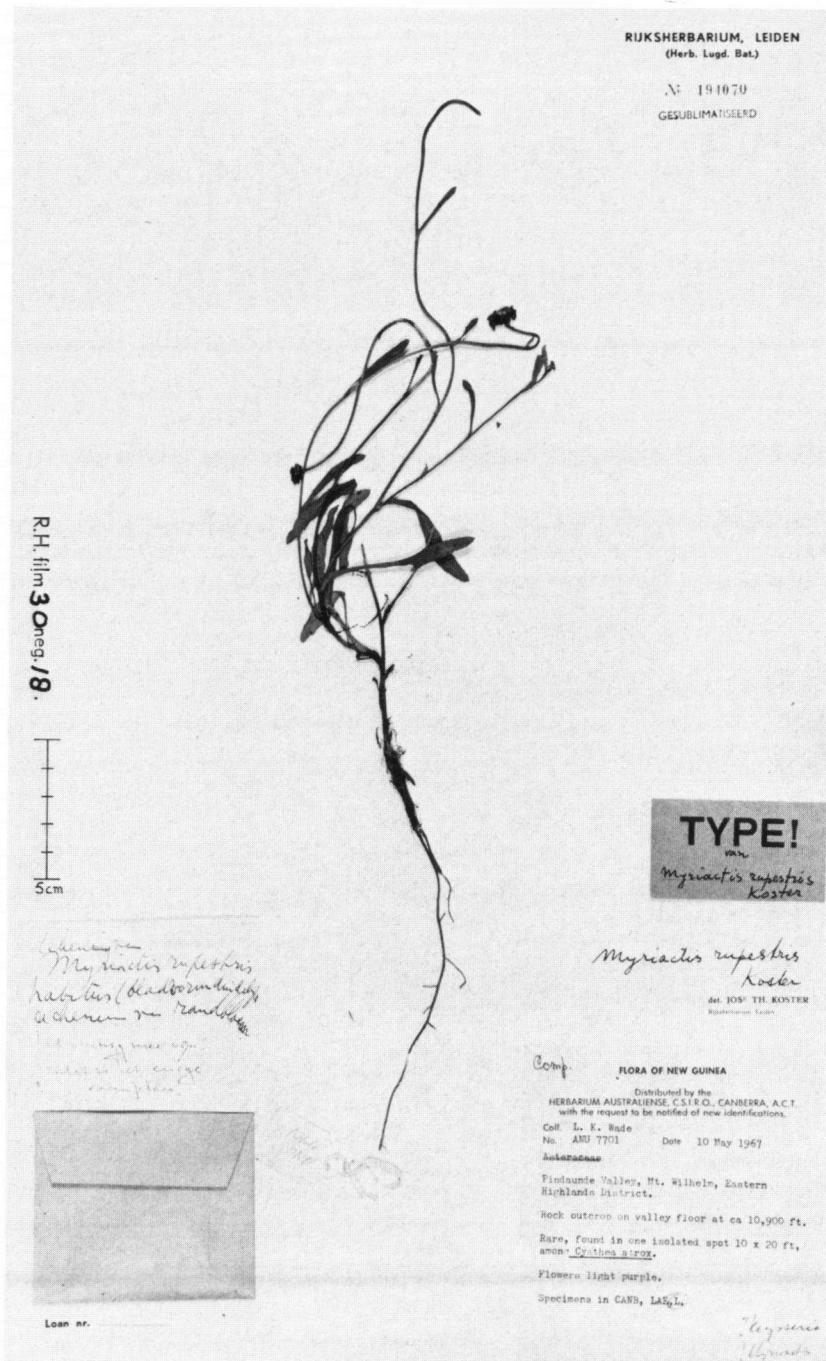


Fig. 1. *Myriactis rupestris* Koster

basin subsagittatae, apice obtuso, styli ramae 2, subacutae, hirsutae; *achenium* lageniforme, glabrum, 1,5 mm longum, 0,5 mm latum, a lateribus compressum, marginibus incrassatis, glandulosis, collo brevi, dense glanduloso; *receptaculum* convexus, nudum, alveolatum.

Type: *Wade ANU 7701* (L).

#### Distribution: New Guinea.

NEW GUINEA. East. Eastern Highlands Dist.: Mt. Wilhelm, Pindaunde Valley, rare, found in one isolated spot, 1967, *Wade ANU 7701* (L).

Collector's annotation: Flowers light purple.

Ecological notes: Growing on rock outcrop on valley floor among *Cyathea atrox*; altitude 3270 m.

#### Additions to part V

p. 174, add to lowest line (under *Lactuca subacaulis* Koster): id., summit area, along trail to Enduwa Kombugu, near triangulation point, scattered but not rare, 1965, *van Balgooy* 456 (L); id., summit area (Enduwa Kombugu), near the very peak, one specimen only, 1965, *van Balgooy* 37 (L); id., summit area, near track, scattered, 1965, *van Balgooy* 449 (L); id., summit area, crest between Enduwa Kombugu and Korgi Headwaters, 1965, *van Balgooy* 909 (L); id., summit area, near trig. point on track to summit, 1965, *van Balgooy* 452 (L).

p. 175, add on first line after 'cushions': stems woodish, strongly branched, underground stem; involucle purplish.

- add in line 5 (after vegetation): sandy soils between rocks, rocky seepage wet slope, sandy bed of small creek, on wet patch of soil.
- change on same line "4400" into "4450".

## 8. SENECLIONEAE

*Senecioneae* Cass., J. Phys. Chim. Hist. Nat. 88 (1819) 196; Hoffmann in E. & P., Nat. Pfl. Fam. 4, 5 (1894) 283.

Herbs, shrubs, or trees. Leaves mostly alternate. Heads discoid or radiate, homogamous or heterogamous; flowers bisexual or unisexual, fertile or sterile, corolla of female marginal flowers ligulate, or rarely tubular, or filiform, or very rarely bilabiate, corolla of bisexual or masculine disc-flowers tubular, 4–5-lobate, anthers usually obtuse, rarely sagittate or shortly caudate at the base, style-arms often very short, mostly penicillate at the apex, with stigmatic margins, sometimes with a shortly pilose apical appendage. Achenes variously shaped, pappus setaceous, bristles thin, very rarely wanting. Receptacle mostly naked.

#### KEY TO THE GENERA IN NEW GUINEA

- 1a. Dioecious, heads radiate, few-flowered, disc-flowers female, abortive
  1. *Brachionostylum*

- b. Heads homogamous, discoid, many-flowered, disc-flowers bisexual. . . . . 2
- c. Heads heterogamous, discoid or radiate, few- or many-flowered, disc-flowers bisexual, or masculine, or sterile and abortive . . . . . 5
- 2a. Peduncles with one or more small linear bracts, style-arms long, acute, with subulate short appendage. . . . . 2. **Gynura**
- b. Peduncles without, or rarely with one minute filiform bract, style-arms short, acute, or obtuse, or truncate with a subulate appendage . . . . . 3
- 3a. Inner phyllaries 1–2-seriate, equal, cohering, outer ones much shorter, free, style-arms filiform with truncate, penicillate apex with a subulate appendage . . . . . 3. **Crassocephalum**
- b. Phyllaries one-seriate or sometimes with a few much shorter ones, style-arms acute or obtuse triangular and penicillate at the apex, or truncate . . . . . 4
- 4a. Involucre ecalyculate, style-arms acute or obtuse, triangular and penicillate at the apex . . . . . 4. **Emilia**
- b. Involucre sometimes with a few much shorter phyllaries, style-arms truncate at the apex . . . . . 5. **Senecio**
- 5a. Heads radiate. . . . . 5. **Senecio**
- b. Heads discoid . . . . . 6
- 6a. Heads many-flowered, disc-flowers numerous, fertile. . . . . 6. **Erechthites**
- b. Heads few-flowered, disc-flowers solitary or few, sterile, abortive . . . . . 7. **Arrhenechthites**

### 1. BRACHIONOSTYLOM

See: Nova Guinea 14, Bot. (1928) 527, t. 90 B fig. 1–7.

### 2. GYNURA

This is being revised by Dr. F. G. Davies, Royal Botanic Gardens, Kew.

### 3. CRASSOCEPHALUM

*Crassocephalum* Moench, Meth. (1794) 516; Lessing, Syn. Comp. (1832) 395; Benth. & Hook. f., Gen. Pl. 2 (1873) 445; Moore, J. Bot. 50 London (1912) 209; Backer, Rec. Trav. Bot. Néerl. 36 (1939) 457; Humbert, Fl. Madagascar 3 (1963) 829; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 425; Hilliard, Comp. Natal Univ. Natal, Pietermaritzburg (1977) 368.

Herbs. Leaves alternate. Heads in terminal corymbs or solitary on long peduncles, during anthesis nodding, afterwards erect, medium-sized, homogamous, discoid, many-flowered; all flowers bisexual, fertile or heterogamous, marginal flowers female, unisexual; involucre cylindrical, inner phyllaries 1 or 2-seriate, equal, linear or lanceolate, with scarious margins, acute, during anthesis erect, cohering, finally spreading, reflexed, outer ones much shorter, linear, unequal, free; corolla tubular, tube long, thin, gradually widened into a much shorter infundibular 5-fid limb, anthers rounded, entire or subsagittate at the base, acute at the apex, style-arms filiform, with truncate penicillate apex with a subulate appendage; achenes cylindrical or linear, more or less terete, ribbed, with a pale ring at the base and at the apex; pappus-hairs numerous, long, thin, silky, finely denticulate, caducous; receptacle naked, flat, alveolate, alveoles with a membranous ring.

**Distribution:** About 20 species (depending on the interpretation of the genus) in tropical Africa, one species introduced into many countries.

### **Crassocephalum crepidioides (Benth.) S. Moore**

*C. crepidioides* (Benth.) S. Moore, J. Bot. 50 London (1912) 211; Backer, Rec. Trav. Bot. Néerl. 36 (1939) 458; Humbert, Fl. Madagascar 3 (1963) 842, fig. 155, 9–13; Koster in Backer & Bakhu. f., Fl. Java 2 (1965) 426; Van Steenis, J. Ind. Bot. Soc. 46(4) (1967) 453; Henderson, Proc. Roy. Soc. Queensland, 84 (4) (1973) 55, pl. 5 fig. B; Compton, Fl. Swaziland 11, suppl. (1976) 647; Hilliard, Comp. Natal Univ. Natal, Pietermaritzburg (1977) 370 fig. 13 C. — *Gynura crepidioides* Benth. in Hook. f., Niger Fl. (1849) 438.

Erect herb 20–100 cm tall, often branched, sometimes multicaulous; stem 1–11 mm thick, ribbed, slightly pilose between the ribs or glabrous. Leaves subsessile or petiolate, spatulate-oblong, or lyrate, or elliptic, or oblong, decurrent or tapering into the 1–4 cm long petiole, acuminate at the apex, margin irregularly serrate-dentate, or blade irregularly pinnately lobed or pinnatifid, membranous, thinly shortly pilose at both sides or glabrous, 2–23 cm long, 0.5–9.5 cm broad. Heads in small terminal dense corymbs, with densely pilose branches, peduncles filiform, densely pilose, 2–3 mm long, bearing few minute linear bracts; *involucre* 7–12 mm long, phyllaries linear-lanceolate, ribbed, with membranous margins. Corolla filiform, 9–11 mm long. Achenes cylindrical, angular, very shortly pilose between the ribs, c. 2 mm long, pappus 9–12 mm long.

**Distribution:** Original from tropical Africa, introduced into South Africa, Madagascar, Indonesia, Phillipine I., Ceylon, India, Burma, Thailand, Fiji I., Solomon I., Mal. Peninsula, New Guinea, New Zealand, Cook I., Okinawa, Marianas I., Ryukyu I., Australia.

**NEW GUINEA.** All over New Guinea, incl. d'Entrecasteaux I. and Bismarck Arch. (Manus I., Nw. Britain, New Ireland); 69 collections seen.

**Collectors' annotations:** Plants 1.50 m tall, stem purple, striate and pale green; heads nodding; corolla (dull)rust-red, lacquer-red, or various shades of orange, green and red, white with red-orange tips, or yellow turning (dark) orange, also pinkish white at base, salmon pink, white with pink-brown lobes, light purple; anthers dark purplish brown; style purple, purplish red, yellow with brown-red apex; achenes dark brown or black. Sap used for wound dressing.

**Ecological notes.** Weed, often locally common in various habitats: (abandoned kaukau, peanut, sweet potato) gardens, roadsides, (treefern) grasslands, native clearing in *Nothofagus* forest, rain forest, secondary regrowth, disturbed lowland forest, exposed ground between remains of trees killed by frost, on previously burnt over growths, primary mountain forest, margin of lakes and swamps, banks of streams and creeks, on (gravelly) flood beds of rivers; on (sandy) rocky soil, on clay, on limestone, on loam, on black peaty soil; altitude: sea-level –2900 m.

### **4. EMILIA**

*Emilia* Cassini, Bull. Sci. Soc. Philom. Paris (1817) 68; Benth. & Hooker f., Gen. Pl. 2 (1873) 445; Clarke, Comp. Ind. (1876) 174; Hoffmann in E. & P., Nat. Pfl. Fam. 4, 5 (1894) 297 (subgenus); Bailey,

Queensl. Fl. (1900) 873; Garabedian, Kew Bull. (1924) 137; Gagnepain in Lecomte, Fl. Gén. I.-C. 3 (1924) 516; Koster in Pulle, Fl. Suriname 4 (2) (1938) 163; Humbert, Fl. Madagascar 3 (1963) 804; Aristigueta in Lasser, Fl. Venezuela 2 (1964) 761; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 427; Ohwi, Fl. Japan (1965) 879; Barkley & Cronquist in N. American Fl., ser. 2 part 10 (1978) 147.

Erect or ascending herbs. *Leaves* alternate, sessile. *Heads* more or less corymbose, many-flowered, homogamous, discoid; *involucre* one-seriate, ecalyculate, cylindrical or more or less campanulate, phyllaries oblong-linear, with pellucid margins, parallel-nerved, during anthesis erect and in the lower part cohering, afterwards reflexed; *flowers* bisexual, corolla tubular, infundibuliform, elongate, 5-lobate, anthers entire at the base, acute at the apex, style-arms filiform, short, obtuse or acute, penicillate, triangular at the apex; *achenes* cylindrical, more or less ribbed, glabrous or pilose, truncate, pappus-hairs numerous, thin, dentate, soft, white silky; *receptacle* naked, flat.

**Distribution:** 45 species in tropical Africa, Madagascar, tropical Asia, Australia; naturalized in America.

#### KEY TO THE SPECIES IN NEW GUINEA

- 1a. Involucre as long as the flowers or 1–3 mm shorter than the flowers; achenes with 5 shortly pilose ribs and with indistinct ribs in between them
  - 1. *E. sonchifolia*
- b. Involucre 2–5 mm (rarely 1 mm) shorter than the flowers; achenes 10–12 ribbed, glabrous . . . . . 2. *E. prenanthroidea*

#### 1. *Emilia sonchifolia* (L.) DC.

*E. sonchifolia* (L.) DC., Prodr. 6 (1837) 302; Garabedian, Kew Bull. (1924) 141; Merrill, Phill. J. Sci. 29 (1926) 427; Mattfeld, Engl. Bot. J. 62 (1929) 443; Koster in Pulle, Fl. Suriname 4 (2) (1935) 163; Kitamura, Bot. Mag. Tokyo 55 (1941) 348; Aristigueta in Lasser, Fl. Venezuela 10(2) (1964) 762; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 428; Ohwi, Fl. Japan (1965) 879; Fosberg c.s., Smithson. Contrib. Bot. 22 (1975) 42; Li, Fl. Taiwan 4 (1978) 853, pl. 1224, fig. 1–6; Barkley & Cronquist, N. American Fl. ser. 2 part 10 (1978) 149. — *Calatia sonchifolia* L., Sp. Pl. (1753) 835.

Erect herb, 25–75(–150) cm tall, often branched at the base; stem striate, glabrous or nearly so, 2–3 mm thick, internodes 2–6 cm long, *Leaves* irregularly more or less coarsely dentate, glabrous at both sides, 4–11 cm long, 1–5.5 cm broad, upper ones smallest; lower leaves lyrate, pinnatifid, with an ovate-deltoid, more or less round, elliptic, ovate, obovate, or reniform terminal lobe, lower part (often narrowly) alate; upper leaves amplexicaul, sagittate or rhomboid-sagittate, 1–7 cm long, 2–30 mm broad. *Heads* few in slender corymbs or rarely solitary, 20–45-flowered, 4–5 mm wide; peduncles filiform, 1–5 cm long; *involucre* as long as or somewhat shorter than the 9–14 mm long flowers, 8–12 mm long; *phyllaries* 7–10 (often 8), lanceolate, with erect or obliquely patent subacute apex, with narrow transparent margins, parallel-nerved, glabrous; lobes of corolla linear, acute; *achenes* 3 mm long, linear-oblong, without disc-shaped base and apex, with c. 16 prominent ribs, of which several very shortly pilose (hairs thick), alternating with c. 3 glabrous, finally less prominent ribs; *pappus-hairs* 7–8 mm long.

**Remark:** Hen-and-chicken forms occur with green inflorescences.

**Distribution:** Tropical Africa, Indonesia, Malay Penins., India, Philippine I., Ceylon, Taiwan, China, Ryukyus, Japan, Thailand, Nepal, New Guinea, Bismarck Arch., Samoa, Caroline I., Tuamotu Arch., Cook I., Fiji I., Australia; naturalized in North, Central, and South America.

**var. sonchifolia**

*Lower leaves* more or less lobed, lyrate, the lobes of the lower part acute.

**Distribution:** As the species.

**New GUINEA. West.** Wandammen Penins., Wondiwoi Mts., 1962, Schram BW 10734 (L). E a s t . Milne Bay Dist.: Mt. Dayman, Brass 23254 (L); Koyabagiri, 1947, Cruttwell 14 (K); Cape Vogel Penins., Menapi, occasional, 1953, Brass 21919 (LAE). — Northern Dist.: Saiho hospital, Hoogland 3474 (BO). — Central Dist.: Kanosia, Carr 11114 (NY); Nunumai, c. 12 km north of Amazon Bay, Pullen 7591 (L). — Morobe Dist.: Kaiapit subdist., Markham valley, Jerry 4416 (L); Vicinity of Finschhafen, Sawyer 268 (L, hen-and-chicken form); Finschhafen, 1889–1891, Weinland 3 (BO, BRI). — Madang Dist.: Long I., Miller & Vandenberg NGF 48535 (L). — Sepik Dist.: Torricelli Mts., Derbyshire 393 (L) — Western Dist.: Daru I., Brass 6320 (BRI).

**Collector's annotations:** Spreading, erect or suberect herb, 1.50 m tall, leaves soft blue-green, flowers pink to purple, or orange (reported once).

**Ecological notes:** Weed in roadsides, on waste ground, in gardens, in open grassland, open places, regrowth along sandy river shores; also found on rather moist ground, in stream bed in primary forest; altitude: sea level to 1550 m.

**var. javanica (Burm.) Mattfeld**

**var. javanica (Burm.) Mattfeld**, Nova Guinea 14, Bot. (1928) 529; Engl. Bot. J. 62 (1929) 445 — *Hieracium javanicum* Burman, Fl. Ind. (1768) 174, t. 57 fig. 1 — *E. javanica* (Burm.) C. B. Robinson, Phil. J. Sci., Bot. 3 (1908) 217 (syn. excl.)

*Lower leaves* subsessile or sessile, often tapering in the lower part, lanceolate or narrowly oblong-obovate, entire, subentire, or dentate; upper leaves amplexicaul, oblong-sagittate or sagittate.

**Remark:** The type of *Hieracium javanicum* Burman has not been found in herb. Burman in Geneva (Baehni *in litt.*).

**Distribution:** Indonesia, Philippine I., Malesia, New Guinea.

**New GUINEA. West.** Rouffaer R., *Docters van Leeuwen* 10176 (BO, L); Siriwo, Janowsky 188 (BO, L); Noord R., Römer 377 (L). E a s t . Eastern Highlands Dist.: Numbu., Borgmann 427 (L). — Madang Dist.: Dimpu, Henty NGF 17620 (L, hen-and-chicken form).

**Collector's annotation:** Plant erect, flowers purple or white.

**Ecological notes:** Growing on banks, in maize crop among grass and weed, etc.; altitude: 175–1850 m.

## 2. *Emilia prenanthoidea* DC.

*E. prenanthoidea* DC., Prodr. 6 (1837) 303; Clarke, Comp. Ind. (1876) 176; Garabedian, Kew Bull. (1924) 144; Mattfeld, Engl. Bot. J. 62 (1929) 446, 500.

*E. papuana* Mattfeld, Engl. Bot. J. 70 (1940) 478.

Herb, 15–110 cm tall, rooting at the lower nodes; stem slender, ribbed, glabrous, sometimes purplish, 1–3 mm thick, branched; branches few or many, lowest internodes 0.50–12.50 cm long. Lower leaves narrowly spatulate or lanceolate, or linear-ob lanceolate, or linear-lanceolate, upper leaves sagittate-lanceolate; leaves with more or less rounded auricles (sometimes indistinct) at the base, acuminate, acute or obtuse at the apex, entire or sometimes shortly repand-dentate, chartaceous, somewhat bullate, glabrous at both sides or nearly so below, 1.5–17 cm long, 2–30 mm broad, upper ones smaller. Heads 2 or sometimes 3 together, or solitary, on thin 3–33 cm long peduncles, sometimes with one minute linear bract, 20–45-flowered; involucre 7–12 mm long, 1–5 mm shorter than the 9–10 mm long flowers; phyllaries 6–8, lanceolate, obtuse or subacute, parallel-nerved, glabrous, lobes of corolla linear, distinctly nerved, with acute papillose apex; achenes linear-oblong or oblong to barrel-shaped, disc-shaped at the base and apex, 3–4 mm long, with 12–16 prominent ribs, sometimes finely glandular between the ribs, glabrous; pappus-hairs c. 7 mm long.

**Distribution:** India, Indonesia, Philippine I., China, New Guinea.

#### forma prenanthoidea

*E. papuana* Mattfeld, Engl. Bot. J. 70 (1940) 478.

Lower leaves sagittate-lanceolate or linear-lanceolate, subentire or repand-dentate (teeth short and broad), glabrous or nearly so above, subscabrous, shortly pilose below.

**R e m a r k :** De Candolle described the leaves of the species thus: — *foliis sagittato-amplexicaulibus elongato-lanceolatis acuminatis subintegerrimis supra glabriusculis subtus pube crassiuscula scabris.* It seems senseless to distinguish a forma *papuana* (*E. papuana* Mattfeld, Eng. Bot. J. 70 (1940) 478) with linear-lanceolate leaves, indistinctly auriculate at the base, since intermediate forms occur with f. *prenanthoidea*. Consequently *E. papuana* Mattfeld is considered a synonym of *E. prenanthoidea* DC.

Very variable in *E. prenanthoidea* are the shape of the leaves, the size of the heads and the proportion of the length of the involucle to the flowers.

**Distribution:** As the species.

**NEW GUINEA.** West. Anggi Gita Lake, Bivouac Noordpool, very scarce, 1962, Sleumer & Vink BW 14031 (L.). East. 30 collections seen from mountainous regions from all over the area. Clemens 4812 (A) was by Mattfeld identified as *E. papuana*, but flowers are lacking.

**Collectors' annotations:** Usually a locally common herb, erect, or partly decumbent, lax, slender, 1.50 m tall; stem reddish, partly dark purple; leaves (dark) purple bluish below; involucre reddish purple, green streaked dark reddish; corolla pink to purple, or light mauve, whitish, or yellow (reported once).

**Ecological annotations:** Found in grasslands, (grassy) swamps, on grassy dry ridges, forest trails, abandoned native gardens on steep slopes, volcanic plains, on river banks, also in closed low vegetation; on wet peat soil, and clay; altitude 1050–2700 m.

**forma angustifolia (DC.) Clarke**

*forma angustifolia (DC.) Clarke*, Comp. Ind. (1876) 176; Koster in Backer & Bakhuysen, Fl. Java 2 (1965) 428 — *Emilia angustifolia* DC., Prodr. 6 (1837) 303; Garabedian, Kew Bull. (1924) 141.

Lower leaves cordate- or sagittate-lanceolate, subentire, glabrous at both sides.

**Distribution:** India, Thailand, Java, New Guinea.

**NEW GUINEA.** West. Arfak Mts., Gjellerup 1141 (BO, L); Balim valley, Kostermans & Soegeng 625 (L). East: 15 collections seen from all over the area.

**Collectors' annotations:** Erect or scrambling, up to 120 cm tall, stems and underside of leaves reddish, phyllaries purplish-green with dark purplish margins, corolla red, pink(-purple), pinkish white, violet, very light lilac, lavender, blue.

**Ecological notes:** Weed along roadsides and in fallow gardens, in grasslands, swamps, on slopes, in marshy open low scrub, in poor rain forest, in savannas, in white sand, organic mud, on rocky soil; altitude 180—2160 m.

**forma dentata Koster, nova forma.**

*Folia inferiora spathulato-oblonga vel lanceolato-oblonga vel sagittata, grosse dentata, subtus subscabra, superiora integra.*

Type: Brass 11666 (L).

**Distribution:** New Guinea.

**NEW GUINEA.** West. Balim Valley, common, 1938, Brass 11666 (A, L; type); Angguruk, 1973, Staiveur & Sinke 2551 (L); Joka-atas, near Hollandia, 1960, Kostermans & Soegeng 431 (L). East. Milne Bay Dist.: Baniara subdist., Bonenau village, 1969, Pullen 8083 (L). — Madang Dist.: Finisterre Mts., Saidor subdist., Naho-Rawa divide, Moro, 1964, Sayers NGF 21498 (L).

**Annotations:** Leaves below somewhat glaucous and tinged purple; corolla white or very pale pink, or pale purple.

**Ecological notes:** Grassland, old village gardens, deforested slopes; also on sandy banks of creeks behaving as a rheophyte; altitude 400—1700 m.

*Emilia sagittata* (Vahl) DC., Prodr. 6 (1837) 302 was recorded from New Guinea, between Owen Stanley Range and south coast, Rose 36, by Garabedian, Kew Bull. (1924) 144. It is originally from South Africa and cultivated in many countries. No specimen of this species from New Guinea was seen by the present author.

## 5. SENECIO

For New Guinea this is being studied by Dr. P. van Royen, Bernice P. Bishop Museum, Honolulu.

## 6. ERECHTITES

*Erechtites* Rafinesque, Fl. Ludoviciana (1817) 65; Lessing, Syn. Gen. Comp. (1832) 395; Benth. & Hook. f., Gen. Pl. 2 (1873) 443; Hoffmann in E. & P., Nat. Pfl. Fam. 4, 5 (1894) 291; Koster in Pulle, Fl. Suriname 4 (2) (1938) 162; Belcher, Ann. Missouri Bot. Garden 43 (1956) 10; Cabrera, Fl. Buenos Aires 6 (1963) 279; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 423; Ohwi, Fl. Japan (1965) 878.

Herbs with rootstock. Leaves alternate, subpetiolate or sessile, decurrent or semi-amplexicaul. Heads corymbose, discoid, heterogamous, many-flowered; *involucre* cylindrical, calyculate, phyllaries uni-seriate, linear or lanceolate, acute, finally divergent and reflexed, a few much shorter, inserted lower down; marginal flowers female, corolla filiform, 4–5-dentate at the apex, disc-flowers masculine or bisexual, corolla slenderly infundibuliform, 5-sid at the apex, anthers obtuse at the base, acute at the apex, style-arms of disc-flowers obtuse or truncate at the apex. Achenes linear, oblong-linear of subsfusiform, c. 10-ribbed, ribs prominent, pappus-bristles numerous, long, soft, silky, fine; *receptacle* flat or basin-shaped, naked, alveolate, sometimes fimbriate.

**Distribution:** 5 species in America; adventitious in central Europe, southeastern Asia, Pacific I., Indonesia, Philippine I., New Guinea (1 species), northern Australia.

### ***Erechtites valerianifolia* (Wolf) DC.**

*E. valerianifolia* (Wolf) DC., Prodr. 6 (1837) 295; Mattfeld, Engl. Bot. J. 69 (1938) 288; Kitamara, Bot Mag. Tokyo 55 (1941) 348; Belcher, Ann. Missouri Bot. Gard. 43 (1956) 25; Aristeguieta in Lasser, Fl Venezuela 10 (2) (1964) 760; Koster in Backer & Bakh. f., Fl. Java 2 (1965) 424; Ohwi, Fl. Japan (1965) 878; Beadle c.s., Fl. Sydney Region (1972) 468; Li, Hui-Lin, Fl. Taiwan 4 (1978) 856, pl. 1225, fig. 1–6. — *Senecio valerianaefolia* Wolf, Index Serninum Hort. Berol. (1825) p. unknown.

Erect or decumbent, and rooting at the base, branched, 45–140 cm tall; stem ribbed, glabrous or nearly so, 2–9 mm thick. Leaves with 0.5–4 cm long petioles, higher ones subsessile, oblong, pinnately lobed or pinnatipartite, sometimes with a terminal lobe, lobes oblong or elliptic, very acute, acutely dentate, blades 2.5–17 cm long, 1–10 cm broad, glabrous or nearly so at both sides. Heads on thin, 0.5–4.5 cm long peduncles; *involucre* 9–12 mm long; *corolla* of marginal flowers c. 7 mm long, of disc-flowers c. 9 mm long. Achenes c. 3 mm long, with patent white hairs.

**Distribution:** Mexico, South America; naturalized in Philippines, Ceylon, Malay Penins., Indonesia, Taiwan, New Guinea, Japan, northern Australia, Fiji I., Solomon I., Hawaiian I., Tonga, Samoa.

**NEW GUINEA.** 26 collections seen from all over the area.

**Collectors' annotations:** Plants up to 2 m tall; corolla pale purple to pink, lavender or white with pink apex; style-arms purple or pink; anthers white; achene dark brown, pappus reddish purple (in apex white), purple at apex; foetid, acrid smell.

**Ecological notes:** Grows on abandoned native peanut and sweet potato gardens; also in dry open roadsides, on grassy hills, riverbanks, in creekbeds, on recent volcanic deposits, along swamps, in open places in rainforests, secondary forest, in bamboo jungles, ravines etc.; on loamy, sandy, black-peaty soils; altitude: 100–2600 m.

**R e m a r k :** Mattfeld, Eng. Bot. J. 62 (1929) 441, mentioned five species of *Erechites* for New Guinea; two of these have later on been placed in the genus *Arrhenechthites*: *A. haplogyna* (F. v. M.) Mattfeld (Engl. Bot. J. 69, 1938: 292) and *A. novoguineensis* (S. Moore) Mattfeld (Engl. Bot. J. 69, 1938: 292). The other two species, *Erechites erechthitooides* (F. v. M.) Mattfeld and *E. papuana* (Lauterbach) Mattfeld are now placed into the synonymy of *Senecio papuanus* (Lauterb.) Belcher (see Ann. Missouri Gard. 43, 1956: 53). *E. arguta* (A. Rich.) DC. is considered to be a synonym of *Senecio glomeratus* Desf. ex Poiret by Belcher (see Ann. Missouri Bot Gard. 43, 1956: 61).

## 7. ARRHENECHTHITES

See: Koster, Blumea 18 (1970) 139.

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