

NOTES ON MALAY COMPOSITAE IV ¹⁾

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VERNONIEAE — VERNONINAE

Vernonia Schreb.

Revised key to the sections:

- 1.a. Achene 10-ribbed; pappus reddish (when dry) 2
- b. Achene angular or subterete with less than 10 ribs or not ribbed; pappus white, dingy white or reddish (when dry) 3
- 2.a. Pappus uni-seriate or nearly so **Decaneurum**
- b. Pappus clearly bi-seriate **Lepidaploa**
- 3.a. Pappus uni-seriate or, if bi-seriate, inner involucreal scales caducous afterwards 4
- b. Pappus bi-seriate 5
- 4.a. Heads many-flowered; involucreal scales linear-lanceolate to oblong, acute to very pointed at the top **Cyanopis**
- b. Heads 1—10-flowered; involucreal scales oblong or ovate, small, obtuse at the top **Strobocalyx**
- 5.a. Achene angular, glabrous or pilose; outer row of the pappus consisting of flattened setae or scales 6
- b. Achene terete or subterete, more or less clearly ribbed, more or less appressed pubescent; setae of the outer row of the pappus filiform **Tephrodes**
- 6.a. Heads paniculate, corymbose or few together, pedunculate, 12- to many-flowered 7
- b. Heads glomerate, sessile or subsessile, 2—9-flowered . . . **Congestae**
- 7.a. Outer row of the pappus consisting of flattened setae. **Claothrachelus**
- b. Outer row of the pappus consisting of scales **Lepidella**

Sectio **Strobocalyx** Bl.

Vernonia arborea Ham. var. **javanica** (DC.) Clarke (cf. *Blumea* I, 1935, 386).

BALL Mt. Abang: *van Steenis 8034* (BO); Lake of Brata: *de Voogd 1659* (L).
CELEBES. Malili, Oesa: *Waturandang 162* (BO).

¹⁾ I in *Blumea* IV, 1941, 482; II in *Blumea* VI, 1948, 264—265; III in *Blumea* VII, 1953, 288—291.

This variety has not been recorded from Bali and Celebes before.

Vernonia arborea Ham. var. **obovata** Moore (cf. *Blumea* I, 1935, 391).

BILLITON. *Riedel s.n.* (FI).

First record of this variety from Billiton.

Vernonia arborea Ham. var. **pilifera** Koster (cf. *Blumea* I, 1935, 397).

BORNEO. Central East Borneo, W. Kutai, near Mt Kemul: *Endert 3865* (BO, L).

First record of this variety from Borneo.

Vernonia durifolia Koster (cf. *Blumea* I, 1935, 399).

SUMATRA. West Coast, Mt Merapi: *Schiffner 2742* (L).

This is the second find of this species on Mt Merapi; its area seems to be limited to three mountains in Sumatra's West Coast.

Vernonia subdentata Koster, nov. spec. — *Fig. 1, a—d.*

Arbor parva, 5 m alta (sicut in scheda descripta), ramis teretibus, fusco-velutinis, 3—7 cm crassis; internodiis 0,5—2 cm longis. Folia alterna, petiolata, petiolis fusco-velutinis, 0,5—3 cm longis, 2—3 mm latis, basin versus latoribus, elliptica vel obovato-elliptica, ad basin attenuata, cuneata, ad apicem breviter acuminata, acuminibus 2—6 mm longis, acutis, integra vel parte apicali dentibus brevibus praeditis, coriacea, pinninervia, nervis utrinque 6—8, ad apicem arcuate connexis, ultimis reticulatis, subtus prominentibus, supra obscura, glandulosa, nervis velutinis, subtus pallidiora, glandulosa, sparse pilosa, sine petiolo 5—13 cm longa, 2—6 cm lata, superiora minora. Inflorescentia terminalis, corymbosa, ampla, multiflora, 17 cm alta, 24 cm lata, ramis lateralibus arcuatis, dimidio inferiore nudo, interdum ad basin folio parvo praeditis, fusco-velutinis. Capitula oblonga, pedunculata vel subsessilia, pedunculis 1—5 mm longis, fusco-velutinis, 3-flora, 10—12 mm longa, circa 3 mm crassa; involucrium oblongo-campulatum, 5—6-seriatum, 4 mm longum, squamis denique patentibus, obtusis, interioribus oblongis, subglabris, vel in parte superiore sparse pilosis, marginibus ciliatis, exterioribus gradatim decrescentibus, ovatis, villosis; receptaculum parvum, cicatricibus florum annulo et aculeo centrali praeditis; flores bisexuales, corolla tubulosa, glabra, 6 mm longa, lobis lanceolatis, acutis, 3 mm longis; antherae apice obtusae, ad basin longe sagittatae; achenium turbinatum, obscure costatum, subtriquetrum, latere uno anguloso-curvato, glabrum, minute glandulosum, 4 mm longum, pappo sub-uniseriato, sordide stramineo, 5 mm longo, setis planis, perpaucis multo brevioribus, tenuioribus, filiformibus; stylus hirsutus, ramis acutis.

SUMATRA. Central, Mt Tudjuh, W. part of former crater wall, 1°40' S., 101°20' E., virgin forest, 2000—2200 m alt.: *Jacobs 4501* (BO), *typus*, one branch still blooming, the others already long time out of flower, Aug.¹⁾

This species resembles *V. durifolia* Koster, which has 3—4 (not 5 as described in the diagnosis) flowers in a head, but shorter involucres, an outer row of shorter pappus-hairs, and thicker, broadly elliptic, entire leaves with rotundate base or nearly so. All species belonging to the section *Strobo-*

¹⁾ I am grateful to Mr M. Jacobs for sending his n. 4501 for identification and for drawing my attention to the fact, that in the type of *V. durifolia* the heads are 3-flowered, which afterwards appeared to be 3—4-flowered. The number of the flowers in a head in this section is sometimes difficult to find out, since the flowers are deducous, and the scars left are often indistinct.

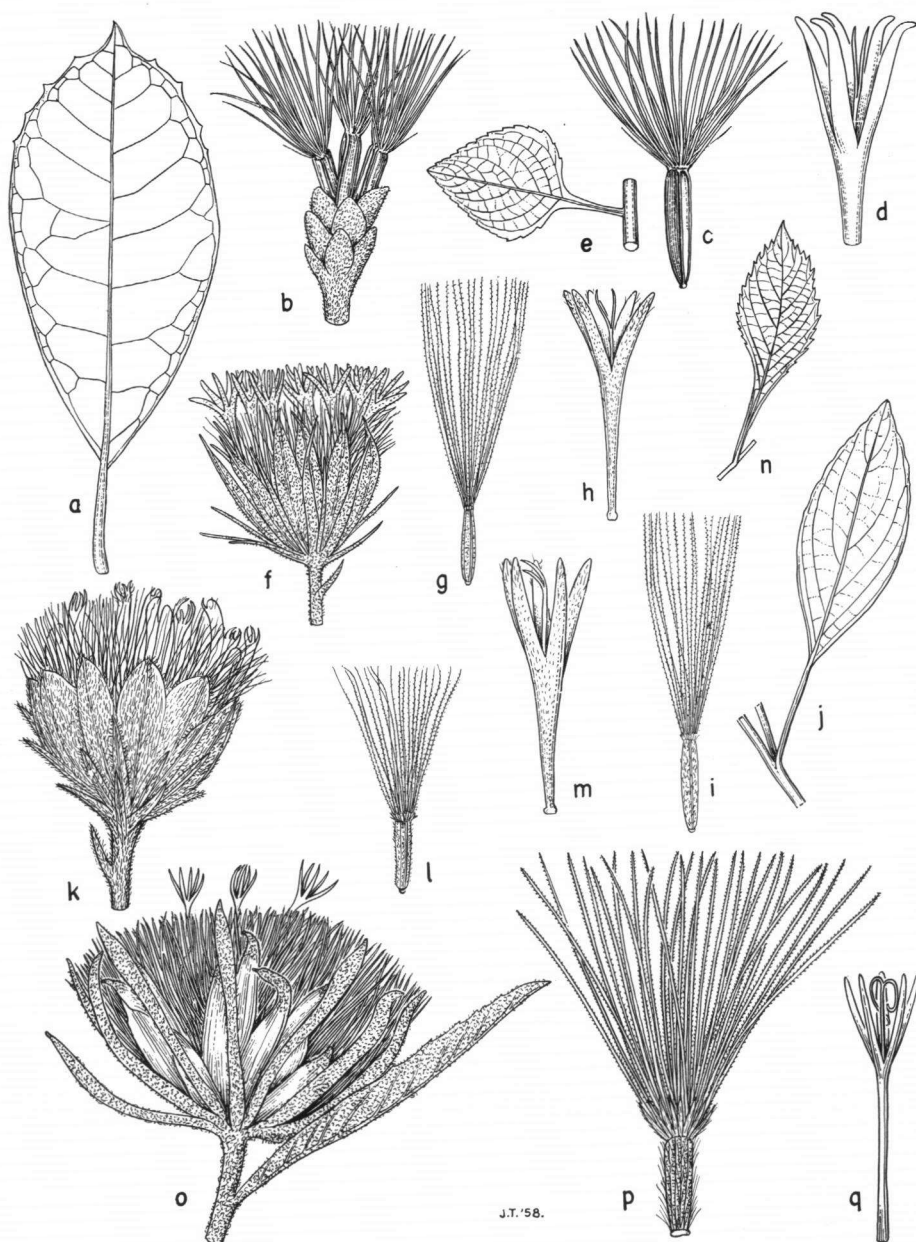


Fig. 1. a—d. *V. subdentata* Koster, a. leaf, $\times \frac{1}{2}$, b. head with ripe achenes, $\times 3\frac{1}{2}$, c. achene with pappus, $\times 4$, d. corolla with style, $\times 5$, from type specimen, e—h. *V. lamii* Koster, e. leaf, $\times \frac{1}{2}$, f. head, $\times 5$, g. achene with pappus, $\times 10$, h. corolla with style, $\times 7\frac{1}{2}$, from type specimen, i. *V. lamii* Koster, achene with pappus, $\times 10$, from Jaag 71, j—m. *V. luxuriosa* Koster, j. leaf, $\times \frac{1}{2}$, k. head, $\times 5$, l. achene with pappus, $\times 5$, m. corolla with style, $\times 7$, from type specimen, n—q. *V. coronata* Koster, n. leaf, $\times \frac{1}{2}$, o. head, $\times 3$, p. achene with pappus, $\times 5$, q. corolla with style, $\times 3\frac{1}{2}$, from type specimen.

This is the first record of this variety from the south-eastern part of Celebes.

Vernonia cinerea (L.) Less. var. **parviflora** (Bl.) DC. (cf. Blumea I, 1935, 412).

SUMATRA. Island of Enggano: *Lütjeharms* 4918 (L); 5026 (L); 5294 (L).

BALI. West, East of Gilimanuk: *van Steenis* 7565 (BO).

ARU ISLANDS. Vokan: *Beccari s.n.* (FI).

These are the first records of this variety from the here mentioned islands.

Sectio **Claotrachelus** (Zoll. et Mor.) Koster

Vernonia erigeroides DC. (cf. Blumea I, 1935, 438).

BALI. Nusa Penida, Tanglad to Kelumpuh: *de Voogd* 2433 (BO).

ALOR. Kalabahi, Likuatang, North coast: *Jaag* 756 (ZT, L); Kabola peninsula, near road from Kababahi to Adang: *Jaag* 137 (ZT, L); Kabola peninsula, highland of Adang Budjang: *Jaag* 318 (ZT); Kuí, Moru-Gendok, forest of Eucalyptus: *Jaag* 552 (ZT, L).

First records of this species from Bali and Alor.

Vernacular names. *tinápal*, *dawáng maár*, *mömöd* (all Alor).

Use. Chewed leaves for curing wounds (Alor).

Vernonia zollingerianoides Schultz-Bip. (cf. Blumea I, 1935, 441).

JAVA. Mt Watangan near Puger: *Altmann* 407 (L).

The area in Java of this species seems to be restricted to the region of Puger and the near island Nusa Barung. This is the fourth find of this calcicole species, living on rocks and boulders. It is recorded to be scarce as well as numerous. Part of the type is preserved in the Herbarium of the University of Florence.

Vernonia lamii Koster, nov. spec. — *Fig. 1, e—h.*

Herba probabiliter annua, 35 cm alta vel altior, ramosa; caulis subteres, costatus, breviter hirsutus, 2—2,5 mm crassus; internodiis 1,5—10 cm longis. Folia alterna, in petiolum attenuata, superiora sessilia, rhomboideo-elliptica vel late ovata vel elliptica, undulato-serrata, dentibus interdum mucronulatis, apice obtuso saepe mucronulato, obscure viridia (in sicco), supra sparse breviter appresso-hirsuta, subtus sparse hirsuta, chartacea, pinninervia, nervis subtus prominentibus, cum petiolo 3—7 cm longa, 1—3 cm lata. Inflorescentia corymbosa, diffusa, in axillis 3—6 superioribus ramis 3—7 cm longis capitula 3—6 ferentibus, interdum bracteis linearibus praeditis; capitula pedunculata, pedunculis 0,5—5 mm longis, parva, campanulata, 20—25-flora, 5—6 mm longa, 3—4 mm crassa; involucrium campanulatum, 4-seriatum, 4 mm longum, squamis lanceolatis, subulatis, uninerviis, exterioribus gradatim decrescentibus, interioribus 0,5 mm latis, marginibus scariosis; receptaculum planum, denique subconvexum, tuberculatum; flores bisexuales, corolla infundibuliformis, 4 mm longa, 5-lobata, lobis lanceolatis, acutis, 1,5 mm longis, subglabris; antherae ad apicem acutae, ad basin breviter sagittatae; achenium oblongo-turbinatum, irregulariter 5-angulare, breviter sparse albo-pilosum inter costis prominentibus, 1 mm longum, minute glanduloso-punctatum, pappo 2-seriato, setis seriei interioris caducis, scabris, albis, 3 mm longis, exterioribus applanatis, minutis; styli rami longi, acuti, breviter hirsuti.

TIMOR. East, limestone plateau of Baucau*, circa 350 m alt.: *van Steenis 18018* (L), *typus*; mountain slope above Timor-Dilly, wayside, circa 200 m alt., numerous, Dec.: *Jaag 74* (ZT, L), stem 6 mm thick, leaves with petioles up to 9 cm long, 4 cm broad, petioles up to 4 cm long, April; mountain slope above Timor-Dilly, wayside, circa 350 m alt.: *Jaag 71* (ZT), heads 28-flowered, 6–7 mm long, outer row of pappus-hairs slightly longer than in the type; numerous, April — *Fig. 4*.

This species differs from *V. erigeroides* DC. by the inflorescence and by the undulate-serrate broader, not very glandular leaves.

It is named in honour of Dr H. J. Lam, who has so much advanced taxonomical botany of the Malay Archipelago.

Vernonia luxuriosa Koster, nov. spec. — *Fig. 1, j–m*.

Herba grandis, valde ramosa, ramis leviter curvatis, ad 40 cm longis, subteretibus, costatis, sparse fulvo-tomentosis, internodiis 1–3 cm longis. Folia alterna, elliptica vel lanceolato-elliptica, in petiolum (ad 1,5 cm longum) sensim attenuata, ad apicem obtusa et mucronulata vel subacuta, margine revoluta, integra vel margine mucronulata, pinninervis, nervis prominentibus subtus, chartacea, luteo-viridia (in sicco), subtus pallidiora, glanduloso-punctata, fulvo-tomentosa, supra sparse breviter pilosa, cum petiolo 3–10 cm longa, 0,5–2,5 cm lata. Inflorescentia subcorymbosa, diffusa, ramis saepe quasi dichotomis, ad basin saepe bractea minuta praeditis, parte inferiore longiore nuda, parte superiore capitula 4–9 ferente bracteis minutis praedita. Capitula pedunculata, pedunculis 6–10 mm longa, plerumque bracteis minutis praeditis, campanulata, 25–30-flora, 7 mm longa, 4–5 mm crassa; involucrium campanulatum, 4-seriatum, 5 mm longum, squamis uninervis, pilosis, glandulosis, interioribus oblongis, obtusis, mucronatis, marginibus scariosis, exterioribus sensim decreescentibus, lanceolatis, acutissime acuminatis; receptaculum planum, denique convexum, tuberculatum; flores bisexuales, corolla infundibuliformis, purpurea (in schedâ descripta), 5 mm longa, 5-lobata, lobis lanceolatis, acutis, pilosis, 2 mm longis; antherae ad apicem acutae, ad basin breviter sagittatae; achenium turbinatum, saepe leviter curvatum, irregulariter 5-angulatum, dense pilosum, dense glandulosum, 2 mm longum, costis prominentibus, pappo biseriato, pilis albis, scabris, seriei interioris filiformibus, 3,5 mm longis, exterioris applanatis, parvis; stylus breviter hirsutus, rami longi, acuti.

TIMOR. Tibar, West of Dilly, sea-cliffs of schist, locally common, 5–10 m alt.: *van Steenis 18670* (L, *typus*; BO); Timor: *Forbes 3498* (L), a single branch with an inflorescence, stem and leaves (especially below) densely tomentose, Dec.

This species differs from the near *V. wetarensis* by the bigger heads with more flowers and the longer and densely pilose achenes. It is a much taller, much branched, luxuriantly flowering herb. In *V. wetarensis* the panicles are small.

Revised key to the species of the section *Claotrachelus* (Zoll. et Mor.) Koster in the Malay Archipelago:

- 1.a. Achene 5-angular, glabrous or pubescent between or on the ribs 2
- b. Achene pseudo-alate, 5-costate; grooves between the ribs puberulous

V. floresiana Koster
(cf. *Blumea* I, 1935, 444)
- c. Achene 3-angular, outer side smooth, glabrous, inner sides much grooved, ribs pilose

. ***V. letiënsis*** Koster
(cf. *Blumea* I, 1935, 445)

- 2.a. Inflorescence small, corymbosely* paniculate or branches of the inflorescence obliquely spreading or few heads (1—2) at the top of the stem; achene glabrous, pubescent or having few hairs on the ribs 3
- b. Branches of the inflorescence pseudo-dichotomous, spreading, rigid, straight; achene pure white pubescent between the ribs *V. erigeroides* DC.
(cf. Blumea I, 1935, 438)
- 3.a. Involucrum campanulate; scales pubescent or villous 4
- b. Involucrum nearly basin-shaped; scales glabrous *V. zollingerianoides* Schultz-Bip.
(cf. Blumea I, 1935, 441)
- 4.a. Stem variously pilose; leaves linear, linear-lanceolate, elliptic-lanceolate, elliptic or broadly ovate; heads corymbose or paniculate 5
- b. Stem hirsute (hairs spreading, perpendicular on the stem, slightly curved); leaves oblong-spathulate; heads few, 1—2 together at the top of the stem
V. zollingeriana Schultz-Bip.
(cf. Blumea I, 1935, 442)
- 5.a. Leaves elliptic, elliptic-lanceolate, or broadly ovate, entire or serrate or mucronulate or undulate-serrate 6
- b. Leaves linear or linear-lanceolate, repandate-dentate, revolute at the margins, greyish tomentose below *V. sumbavensis* Koster
(cf. Blumea VII, 1952, 288)
- 6.a. Leaves serrate, dark green (when dry) 7
- b. Leaves entire or with undulate or mucronulate margin, yellow-green (when dry) 8
- 7.a. Leaves elliptic-lanceolate or elliptic, mucronately serrate; heads about 15-flowered, 7—8 mm long, peduncles 10—15 mm long; achene glabrous or nearly so, densely glandular, 1.5—2 mm long; outer row of pappus-hairs short
V. reinwardtiana De Vriese et Miq.
(cf. Blumea I, 1935, 443)
- b. Leaves rhomboid-elliptic or broadly ovate or elliptic, undulate-serrate; heads 20—28-flowered, 5—7 mm long, peduncles 0.5—5 mm long; achene shortly appressed pilose, minutely glandular, 1 mm long; outer row of pappus-hairs minute or very short *V. lamii* Koster
- 8.a. Small herb, 20—30 cm high; inflorescence small, terminal and at the top of the branches; heads 20-flowered, 5—6 mm long; achene glabrous, 1.5 mm long
V. wetarensis Koster
(cf. Blumea I, 1935, 440)
- b. Tall herb, branches up to 40 cm long; inflorescence extended, lower part of the branches naked, higher part bearing 4—9 heads; heads 25—30-flowered, 7 mm long; achene densely pilose, 2 mm long *V. luxuriosa* Koster

Sectio *Decaneurum* (DC.) Oliver

***Vernonia cuneata* Less.** (cf. Blumea I, 1935, 447).

MOLUCCAS. Island of Morotai, Mt Permatang, Sangowu River: *Kostermans* 929 (BO, L).

A new record of this species from the Moluccas. It was known there from Amboina, Ceram and Halmahera, up to this time.

Sectio *Congestae* Koster

(cf. Blumea I, 1935, 451)

***Vernonia capituliflora* Miq.** (cf. Blumea I, 1935, 451).

SUMBAWA. Bima, wayside: *van der Gaag* (priv. coll.).

This is the third find of this, as far as known, endemic species.

Sectio **Lepidaploa** DC. Prodr. V, 1836, 26;
Benth. Gen. Pl. II, 1876, 228.

Vernonia coronata Koster, nov. spec. — *Fig. 1, n—q.*

Herba, probabiliter alta, ramosa, ramis subteretibus, costatis, inter costas pilosis, partibus superioribus 2—6 mm crassis. Folia alterna, sessilia, spathulato-elliptica, basin versus longe attenuata, apice acuta, acute serrata, dentibus mucronulatis, utrinque sparse pilosa, subtus glandulosa, membranacea, pinninervia, nervis subtus prominentibus, dense pilosis, superiora 4—8 cm longa, 1—3,5 cm lata. Inflorescentia terminalis, disperse corymbosa, foliata, capitula pauca, pedunculata, pedunculis 0,5—2 cm longis, magna, campanulata, circa 50-flora, 12—15 mm crassa, circa 1 cm longa; involucrium campanulatum, atque capitulus aequilongum, 3-seriatum, ad basin corona bractearum spathulato-linearium, uninervium, quam involucrium parce longiorum, 11 mm longarum praeditum, squamis anguste oblongis, acutis, parte apicali foliacea, pubescente, glandulosa, parte basali straminea, glabra, exterioribus brevioribus; receptaculum magnum, planum; flores bisexuales, corolla infundibuliformis, 1 cm longa, 5-lobata, lobis lanceolatis, acutis, 1,5 mm longis; antherae ad basin sagittatae, apice acuta; achenium oblongo-turbinatum, obscurum, 10-costatum, 3—4 mm longum, costis pilosis, pilis subpatentibus, inter costis dense glandulosum, pappo bi-seriato, rufescente, 6—7 mm longo, setis subpaleaceis, planis, ciliatis, seriei interioris caducis, exterioris brevibus, persistentibus; styli rami longi, acuti.

SUMATRA. Foot of Mt Pusu Puhit: *Surbeck 163* (ZT), March.

Up to this time no species of the section *Lepidaploa* was known from the Malay Archipelago. *V. coronata* differs from the nearest species in that section, *V. gardneri* Thwaites, by the shape of the leaves and of the involueral scales, and, moreover, by the corona of spathulate-linear bracts at the foot of the head.

EUPATORIEAE-PIQUERINAE

Adenostemma Forst.

Adenostemma renschii Koster (cf. *Blumea* I, 1935, 482).

ALOR. Central highland, Pido-Woisika, valley of rivulet, 800 m alt.: *Jaag 1341* (ZT).

This is the second find of this species; it was known from Flores only, up to this time.