

**NOMENCLATORAL CHANGES IN SPILANTHES AND BLAINVILLEA
WITH REMARKS AND A KEY TO THE SPECIES OF SPILANTHES
IN THE MALAY ARCHIPELAGO**

by

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There has been considerable confusion over the name *Verbesina pseudo-acmella* and *V. acmella* published by Linnaeus in the *Species Plantarum* (1753, p. 901). He applied these names to definitions taken from his earlier work, *Flora Zeylanica* (1748, p. 144, 145, nos. 308 and 309), with only one unimportant alteration. The title page of the *Flora Zeylanica* shows that the book is intended as an account of Hermann's plants, and this is confirmed for the two species concerned by the close agreement between the descriptions published and the specimens in Hermann's Herbarium preserved in the Department of Botany of the British Museum. These two Linnean species must, therefore, be interpreted by reference to Hermann's specimens, regardless of the fact that figures cited by Linnaeus in the synonymy of each species (viz. Seba, *Thesaur.* 1, t. 10, 11; Plukenet, *Alm. t.* 159, f. 4) are of the plant which generally has been known as *Spilanthes acmella*.

In 1888, Trimen published notes on Hermann's Herbarium (*Journ. Linn. Soc. Lond. (Bot.)* vol. 24, p. 129); he identified the specimens representing these two species as follows: No. 308, *Verbesina pseudo-acmella*, as possibly a young specimen of *Wedelia biflora* DC.; and No. 309, *Verbesina acmella*, as *Blainvillea latifolia* DC. A drawing included in the herbarium he identified as "*Spilanthes acmella*". As this drawing was not mentioned by Linnaeus, it must not be considered when interpreting the species. In his revision of the genus *Spilanthes*, A. H. Moore (*Proc. Amer. Acad. Arts & Sci.* 42, 1907, p. 521) rejected the name *Verbesina pseudo-acmella* L. as referring to a mixture of genera, but retained "*Verbesina acmella* L." as the basis of a species of *Spilanthes*.

One of us (W. R. P.) has re-examined the specimens in Hermann's herbarium and finds that:

Verbesina pseudo-acmella L., Fl. Zeyl. 308 (fig. 2) = *Eclipta prostrata* (L.) L. (*E. alba* (L.) Hassk.), not *Wedelia* as suggested by Trimen.

Verbesina acmella L., Fl. Zeyl. 309 (fig. 1) = *Blainvillea latifolia* (L. f.) DC. as stated by Trimen.

The drawing, as stated by Moore, is crude and unidentifiable.

It follows that: (I), *Verbesina pseudo-acmella* L. and its several combinations are synonyms of *Eclipta prostrata*, which dates from 1753); (II), the epithet "*acmella*" must be applied to the species at present known

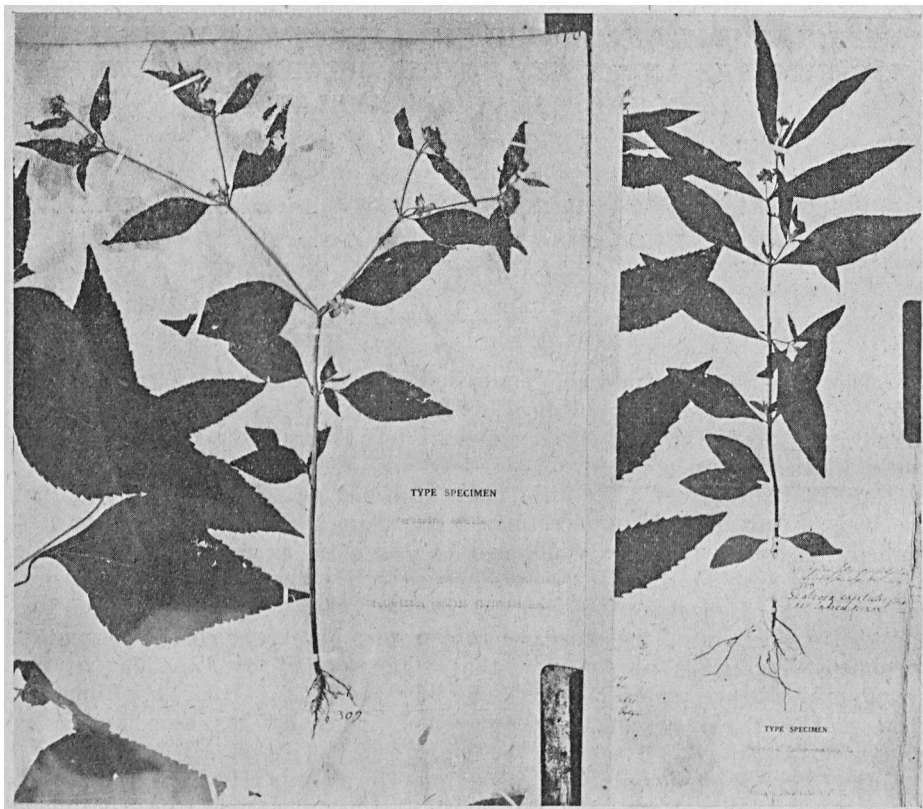


Fig. 1 — Type specimen of *Verbesina acmella* L.

Fig. 2 — Type specimen of *Verbesina pseudo-acmella* L.

as *Blainvillea latifolia*; and, (III), the species known as *Spilanthes acmella* must take the next available name. The necessary nomenclatural changes are set out below.

Blainvillea acmella (L.) Philipson, comb. nov. = *Blainvillea latifolia* (L. f.) DC. ex Wight, Contr. Bot. Ind., 1834, p. 17.

Spilanthes paniculata Wall. ex DC. Prodr. 5, 1836, p. 625 = *Spilanthes acmella* auct. — non (L.) Murr.

The earlier specific names cited by Moore in the synonymy of *Spilanthes acmella*, namely, *Spilanthes melissæfolia* Salish. (Prodr., 1796, p. 186) and *Acmella linnaei* Cass. (in Dict. Sci. Nat. 24, 1822, p. 330), cannot be applied to this species as they are mere changes of name for *Verbesina acmella* L. The name *Acmella lanceolata* Link ex Spreng. cannot be

adopted because it was published merely as a synonym of *Spilanthes pseudo-acmella* (L.) Spreng.

Spilanthes paniculata Wall. ex DC. appears to be a very variable species. A form with two-coloured heads occurs around Buitenzorg (Java) and was identified by Backer (Handb. Suikerriet-cult. VII, 1934, p. 790) as *Sp. ocimifolia* (Lam.) A. H. Moore. This South American species, however, usually has one-coloured heads with white or whitish-green flowers, according to A. H. Moore (l. c. p. 532). As hardly any other differences are to be found between the plants with two-coloured heads and *Sp. paniculata*, it is proposed here to consider them as a form of that species.

***Spilanthes paniculata* Wall. ex DC. forma bicolor Koster.**

Capitula bicoloria, floribus disci junioribus purpurascensibus.

J a v a: Buitenzorg; bank of river Tjiliwung, Botanical Garden, *Schiffner* 2777 (Herb. Lugd. Bat.) — type.

Among specimens from the Malay Archipelago many variations are to be seen in the achene of *Sp. paniculata*; they can have (sometime unilateral) ciliated, often pale swollen edges and they are often verrucose with thickened glands, or simply glandular; they are thinly pubescent, especially at the top and most often 2.5 (2—3) mm long; the pappus consists of two, sometimes one or three, often unequal hairs. Study of this species *in vivo* might show that a number of forms are to be distinguished. *Sp. paniculata* occurs all over the Malay Archipelago.

Very closely allied is *Spilanthes calva* DC. which differs by the glabrous or almost glabrous, and somewhat smaller (2 mm long) achenes, without ciliate, swollen edges, and without a pappus. The plants are creeping and rooting at the lower nodes. Although *Sp. paniculata* may have radiate as well as discoid heads, with 0—12 ray-florets. *Sp. calva* never has ray-florets. In the Malay Archipelago, *Sp. calva* is known from Java and the Lesser Sunda Islands.

Spilanthes iabadicensis A. H. Moore (l. c. p. 542), *fig. 3*, is also clearly allied to *Sp. paniculata*. Its heads are smaller and of a different shape. They are radiate, with about five ray-florets, nearly spherical or ovoid (disc 7—11 mm × 5—6 mm) and acute at the top; the involucre is one-seriate; the achene is only 1—1.5 mm long. The leaves are elliptic, rarely ovate-elliptic. The heads of *Sp. paniculata* are also spherical when young (5—6 mm in diameter), but afterwards are conical-ovoid (10—15 mm × 7—9 mm) and obtuse at the top; the involucre is two-seriate; the leaves are broadly ovate or elliptic ovate.

Sp. iabadicensis is a common species in Sumatra and Java, but did not receive its name until 1907. Probably this species was meant by Miquel's *Sp. acmella* (Fl. Ind. Bat. 2, 1856, p. 79), though we have not seen a specimen identified by him; it is certainly the case with De Candolle's (Prodr. 5, 1836, p. 623), as well as with Backer's *Sp. acmella* (Backer, l. c. p. 791). All three authors referred to *Sp. paniculata* under the name *Sp. pseudo-acmella*.

Preliminary key to the species of *Spilanthes* in the Malay Archipelago.

Spilanthes Jacq.: heads terminal and in the upper axils, solitary, on long straight peduncles, homogamous or heterogamous, radiate or discoid, becoming ± ovoid; ray-flowers 1-seriate, ♀; disc-flowers numerous, ♂; involucre basin-shaped, involucrel

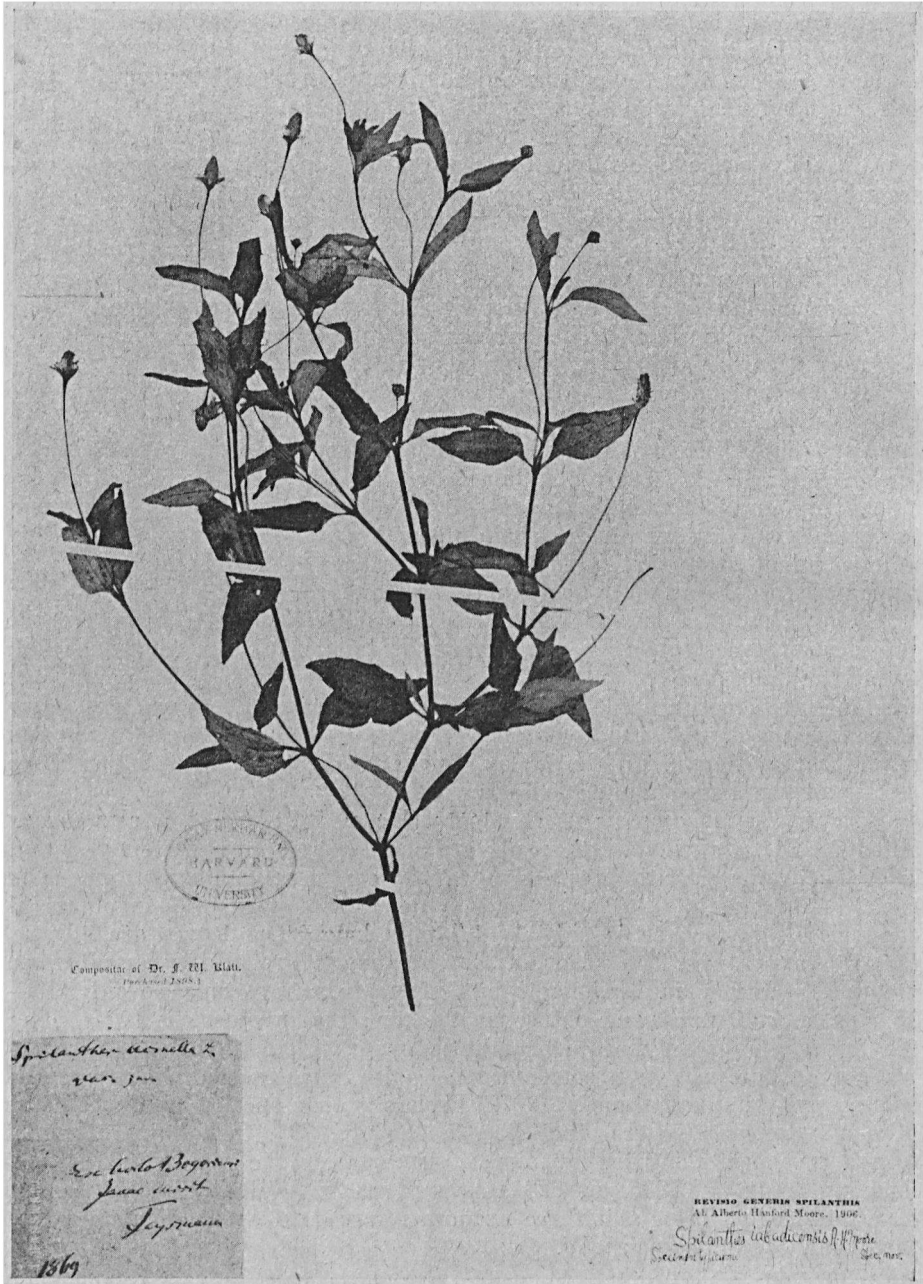


Fig. 3 — Type specimen of *Spilanthes iabadicensis* A. H. Moore.

scales glabrous, mostly with fringed edges; receptacle columnar, tapering to the top, scales navicularly folded around the flowers, with membranous edges; corolla usually yellow, of ray-flowers ligulate, 2-3-lobate at the top, of disc-flowers \pm tubular, mostly 5-lobate; anthers subacute at the top and entire at the base; branches of the style short, truncate; achene oblong, black, of ray-flowers 3-angular, of disc-flowers flattened from the sides; hairs of pappus short, 2, sometimes 1 or 3 or wanting. Leaves opposite, usually petiolate. Herbs.

1. Heads discoid, large, often two-coloured (yellow and reddish brown), at first 8-12 mm, afterwards 11-18 mm thick, receptacle conical-oblong, obtuse, afterwards 5-6 mm thick; corolla tubular. Leaves triangular or triangular-ovate. Heads on a 6-14 cm long peduncle, at first hemispherical, afterwards cylindrical-ovoid, rounded or obtuse at the top; involucre scales 2-seriate, 15-20, oblong, obtuse, 4-5 mm long; corolla \pm 2 mm long, reddish brown at the top when young; achene ciliate at the edges, for the rest glabrous, \pm 2 mm long; hairs of pappus 2, 1 or wanting. Leaves obtuse at the top, at first suddenly, afterwards gradually, attenuate to the $\frac{1}{2}$ -4 cm long petiole, dentate, undulate-dentate or nearly entire, nearly glabrous on both sides, $1\frac{1}{2}$ -5 $\frac{1}{2}$ cm long, without petiole 1-5 $\frac{1}{2}$ cm wide; perennial; $\frac{1}{4}$ - $\frac{1}{2}$ m high; from Brazil, in Java sometimes cultivated as a medical plant. *Sp. oleracea* L.
Heads radiate, or when discoid, heads at first 5-6 mm, afterwards 7-9 mm thick, all flowers yellow (except *S. paniculata* Wall. ex DC. f. *bicolor* Koster with two-coloured heads); receptacle subulate or narrowly conical, acute; corolla of disc-flowers funnel-shaped. Leaves ovate, elliptical, lanceolate or linear. 2
2. Involucre scales 3-seriate, lanceolate, 15-20; receptacle narrowly conical, acute; ligule of ray-flowers oblong, 5-13 mm long, usually long exerted outside the involucre. Heads on 5-18 $\frac{1}{2}$ cm long peduncles, at first hemispherical, afterwards broadly ovate, obtuse or rounded at the top; disc at first 3-7 mm high, 6-7 mm wide, afterwards 10-17 mm high, 8-12 mm wide; involucre scales obtuse, 3-5 mm long; ray-flowers 5-15; corolla of disc-flowers 2 mm long; achenes with (sometimes unilateral) ciliate, sometimes pale edges, for the rest glabrous or slightly pubescent at the top, 2-2 $\frac{1}{2}$ mm long (in *Sp. grandiflora* Turcz. var. *calva* Benth. glabrous, without ciliated edges, $1\frac{1}{2}$ -2 mm long); hairs of the pappus mostly wanting, rarely 2. Leaves ovate-lanceolate or lanceolate, rarely ovate, long attenuate at the top, at first suddenly, afterwards gradually attenuate in a $\frac{1}{2}$ -2 cm long petiole, undulate-dentate or repandate-dentate, glabrous on both sides, often bullate, 2 $\frac{1}{2}$ -8 cm long without petiole, 3-30 mm broad. Often rooting at the lower nodes; $\frac{1}{4}$ -1 m high; Java, New Guinea; 150-2000 m alt.; way-sides, along ditches, grassy fields, open forests. *Sp. grandiflora* Turcz.
Involucre scales 1- or 2-seriate; receptacle subulate or narrowly conical; ligule of the ray-flowers, if present, oval, 1-4 mm long, slightly exerted outside the involucre 3
3. Leaves sessile, oblong-linear or linear; receptacle narrowly conical. Heads discoid, oblong, rounded at the top, on 6-11 cm long, rather thick, ribbed peduncles, which increase to the top, at first \pm 7 mm long and \pm 6 mm wide, afterwards to 11 mm long and \pm 9 mm wide; involucre scales 2-seriate, ovate-oblong, obtuse at the top, 2-4 mm long; corolla \pm 3 mm long; achene obovoid-oblong, with pale thickened edges, 4 mm long; hair of pappus 1, $1\frac{1}{2}$ mm long. Leaves obtuse at the top, entire, with 3 prominent nerves below, glabrous on both sides, 2-3 cm long, 3-6 mm broad. Creeping, rooting at the nodes and there with ascending branches, lax, elongated; \pm 1 m high; N. Borneo. *Sp. chamaecaula* A. H. Moore
Leaves petiolate or subsessile, ovate or elliptical; receptacle subulate. 4
4. Heads fairly numerous, often more or less paniculate, with \pm 5 ray-flowers, small, at first subglobose or ovoid, afterwards elongated ovoid, acute, disc at first 3-5 mm high and 3-4 mm wide, afterwards 7-11 mm high and 5-6 mm wide; involucre scales 1-seriate, 5-7; achene 1-1 $\frac{1}{2}$ mm long. Leaves elliptical, rarely ovate-elliptical. Heads on 1-12 cm long, mostly filiform peduncles; involucre scales ovate or ovate-lanceolate, obtuse, 2-3 $\frac{1}{2}$ mm long; receptacle 4-5 mm long; ligule of ray-flowers yellow, 1-3 mm long; corolla of disc-flowers \pm 1 mm long, 3-5-lobate; achene with (sometimes unilateral, rarely not at all) shortly ciliate, sometimes pale, edges, for the rest glabrous; hairs of pappus 2, sometimes 1, or wanting. Leaves with obtuse or nearly acute tip,

gradually attenuate in a 2—20 mm long petiole, sub-entire or undulate, rarely undulate-dentate, subglabrous on both sides, 1½—8½ cm long without petiole, ½—3 cm broad. Mostly creeping at the base, rooting at the lower nodes; annual; 20—80 cm high; Sumatra, Java, New Guinea; 1—1000 m alt.; moist soil, rice-fields, along ditches and rivers, gardens (*Sp. acmella* auct., non (L.) Murr.)

. *Sp. iabadicensis* A. H. Moore
 Heads with or without ray-flowers, at first subglobose, afterwards conical-ovoid, obtuse, at first 5—6 mm long and as wide, afterwards 10—15 mm long and 7—9 mm wide; involucre scales 2-seriate, 8—14; achene 2—3 mm long. Leaves broadly ovate or elliptical-ovate 5

5. Heads without or with 5—12 (mostly 5) ray-flowers; achene very variable, with (sometimes unilateral) ciliate, sometimes pale and thickened edges, thinly and shortly pubescent especially at the top, often warty by thickened glands, 2—3 (mostly 2½) mm long; hairs of pappus 2, sometimes 1 or 3, often unequal in length. Sometimes rooting at the lower part of the stem and the lower branches. Heads (two-coloured in *Sp. paniculata* Wall. ex DC. f. *bicolor* Koster) on a 2½—16 cm long peduncle; involucre scales ovate, oblong or elliptical, obtuse or subacute, 2½—3½ mm long; receptacle finally 5—10 mm long; ligule of ray-flowers sulphur-yellow, 1—1½ mm, rarely to 4 mm long, subglobose or broadly oval; corolla of disc-flowers (with purplish tips when young in *Sp. paniculata* Wall. ex DC. f. *bicolor*) ± 2 mm long, 4—5-lobate. Leaves acute or obtuse at the tip, at first suddenly, afterwards gradually attenuate in a 3—45 mm long petiole, entire, undulate, undulate-serrate or repandate-serrate, often bullose, on both sides glabrous or nearly glabrous, 1—12 cm long without petiole, ½—7 cm broad; annual; 10—80 cm high; Sumatra, Java, Lesser Sunda Islands, Borneo, Celebes, Moluccas, New Guinea (f. *bicolor*: Java, Buitenzorg); 1—2000 m alt.; moist grassy and other fields, rice-fields, banks of rivers, way-sides, edges of forests (*Sp. acmella* auct., non (L.) Murr., *Sp. pseudo-acmella* auct., non (L.) Murr., *Sp. rhombifolia* Zp.) *Sp. paniculata* Wall. ex DC.

Heads without ray-flowers; achenes glabrous or subglabrous, without ciliate edges, ± 2 mm long; pappus wanting. Creeping and rooting at the nodes. Heads on a 3—13 cm long, thin or fairly thin peduncle; involucre scales broadly ovate or oblong, with obtuse or acute tips, 3—4 mm long; receptacle finally 4—7 mm long; corolla of disc-flowers 1—2 mm long, 4—5-lobate. Leaves obtuse at the top, at first suddenly, afterwards gradually attenuate in a 1—10 mm long petiole, undulate or undulate-serrate, sometimes entire, thinly pubescent on both sides, 1—4½ cm long without petiole, 6—25 mm broad; annual; 30—80 cm high; Java, Lesser Sunda Islands; 1—2000 m alt.; moist soil, grassy fields, monsoonforests (*Sp. rugosa* Bl.) *Sp. calva* DC.