

SAURAUIAE GERONTOGEAE

II. Notes on some species of Java

by

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Abstract

Nomenclatural notes are given for 4 species from Java: *Saurauia bracteosa* DC., *S. javanica* (Nees) Hoogl. (*Reinwardtia javanica* Nees; syn.: *S. reinwardtiana* Bl.), *S. lanceolata* DC. (syn.: *S. micrantha* Bl.), and *S. microphylla* Vriese (syn.: *S. blumiana* Benn. non *S. blumeana* Spreng.). *S. bogoriensis* Hoogl. is described as a new species from Java.

Introduction

In the course of the preparation of a new account of the species of *Saurauia* of Java, it was found that some nomenclatural adjustments are required. As further fieldwork in Java is envisaged before the full account is presented, these are published here in advance.

During visits to the Ciapus gorge on the slopes of the Salak near Bogor in 1973 and 1975, specimens were collected of an apparently undescribed species. For assistance in this and other fieldwork in West Java the author is indebted to the Director of Herbarium Bogoriense, Dr. Mien A. Rifai, and his staff, in particular Gregory Hambali without whose assistance it would have been impossible to obtain the material on which the description of this new species is based.

Herbarium specimens were studied in and from the same herbaria as listed in the first paper of this series, and their cooperation is gratefully acknowledged. For the opportunity to study the Noronha manuscript, containing the plates and descriptions on which *Saurauia gigantea* DC. and *S. cauliflora* DC. are based, the author is indebted to the librarian of the Central Library of the Muséum National d'Histoire Naturelle, Paris.

The illustrations of *S. bogoriensis* were prepared by Mrs. Cathy Porter.

I. NOMENCLATURAL NOTES ON SOME SPECIES

1. *Saurauia bracteosa* DC. in Mém. Soc. Phys. Hist. Nat. Genève 1 (1822) 423, t. vi A. — LECTOTYPE: "ex India tulit Lahaye" in P-JU (11,955).

Synonyms: *Saurauia bracteosa* var. *punctata* DC. l.c. (1822) 423, t. vi B. — HOLOTYPE: "Java — De La Haye. Hb. DELESSERT" in G.

Saurauia gigantea DC. l.c. (1822) 424; Bl., Bijdr. Fl. Ned. Ind. (3) (1825) 129. — TYPE: "Scapha gigantea. Noronha ic. ined. in bibl. Juss.", now in the Bibliothèque Centrale du Muséum National d'Histoire Naturelle (manuscripts 42 and 43, plate 59).

Saurauia blumeana Spreng., Linn. Syst. Veg. (ed. 16) 4 (2) (1827) 210. — TYPE: "Java (*S. gigantea* Blum.)."



Fig. 1. *Saurauia bogoriensis* Hoogl. Flowering branch, $\times \frac{2}{5}$. After Hoogland 12628.

The protologue for *S. bracteosa* is inconclusive as to whether the typification "*Hab. In Java. La Haye* (v.s.sp. in herb. Deless.)" applies to the species or to its variety *punctata*. In the Prodrum [1 (1824) 526] De Candolle typified the species "in Javâ (v.s. in h. Juss.)", but the variety, though mentioned, is not typified. The only specimen in the Delessert herbarium in Geneva annotated by De Candolle clearly forms the basis for his var. *punctata*, and is accepted as HOLOTYPE for the variety. In the absence of clear typification of the species in the original publication and on the basis of the reference in the Prodrum I accept the specimen in the Herbarium A.L. de Jussieu the LECTOTYPE for the species. There are in the main herbarium in Paris two further sheets of specimens collected by De Lahaie (no. 2118) which may represent isotypes. The differences for var. *punctata* are so slight that this specimen may even have been collected from the same tree.

S. gigantea was described by Blume without any reference to the earlier publication by De Candolle, though he gave the same Sundanese name: "Kileho mundin(g)". Blume appears to have had access to the De Candolle publication as he compared his new species *S. reinwardtiana* [l.c. (1825) 128] with *S. bracteosa*. It is reasonable to assume that Blume used De Candolle's name, supplying his own description. To me there is no doubt that the same species was involved, and consequently that there was no taxonomic justification in Sprengel supplying a new name for Blume's taxon. I refrain from typifying his *S. blumeana*; Sprengel's description could have been based merely on Blume's, or he may have had an actual specimen which should be considered the type. I have seen no such specimen.

2. *Saurauia javanica* (Nees) Hoogl., *comb. nov.*

Basionym: *Reinwardtia javanica* Bl. ex Nees in Syll. Pl. Nov. Ratisb. 1 (1822) 98 = *Blumia javanica* (Nees) Spreng., Linn. Syst. Veg. (ed. 16) 3 (1826) 126 = *Saurauia blumia* Steud., Nomencl. Bot. (ed. 2) 1 (1840) 212 et 2 (1841) 440, 516, *nom. illeg.* — TYPE: Blume, "Habitat ad Salak Javae insulae", lost; NEOTYPE: Blume s.n., "Sallak", in L (908.251-1101).

Synonym: *Saurauia reinwardtiana* Bl., Bijdr. Fl. Ned. Ind. (3) (1825) 128. — TYPE: "in montosis Javae insulae"; LECTOTYPE: Blume s.n., "Sallak", in L (908.251-1101).

The detailed generic and specific descriptions of *Reinwardtia javanica* Nees are in all aspects in full agreement with the genus *Saurauia* and the species currently known as *S. reinwardtiana* Bl. Koorders and Valetton [in Bijdr. 3 Booms. Java (1896) 250] do not wish to include Nees's taxon in *Saurauia* but they have apparently not seen the original description, only Sprengel's excerpt. Their objection against the yellow colour of the flowers as given by Sprengel, is not valid as Sprengel misinterpreted Nees's description "*Floris aperti interiora lutea*" which is perfectly acceptable in *Saurauia* as indicating the colour of the anthers.

I am using the same specimen to typify *Reinwardtia javanica* Nees and *Saurauia reinwardtiana* Bl. which I hope will eliminate any confusion which might otherwise arise in the future. *S. javanica* is one of a number of closely similar taxa found in Java, Sumatra, and Borneo, and including i.a. *S. hirsuta* Bl., *S. dasyantha* Vriese, and *S. trichocalyx* Kds & Val.

3. *Saurauia lanceolata* DC. Mém. Soc. Phys. Hist. Nat. Genève 1 (1822) 421, non t. iv. — TYPE: "Hab. in Java ubi dicitur *Popko*. Lechenault. (v. s. sp. in h. Mus. Par.)"; HOLOTYPE in P.

Synonym: *Saurauia micrantha* Bl., Bijdr. Fl. Ned. Ind. (3) (1825) 127. — TYPE: "ad margines catarrhactarum fervidarum montis Gede."; LECTOTYPE: Blume s.n., Java, in L (910.95-454).

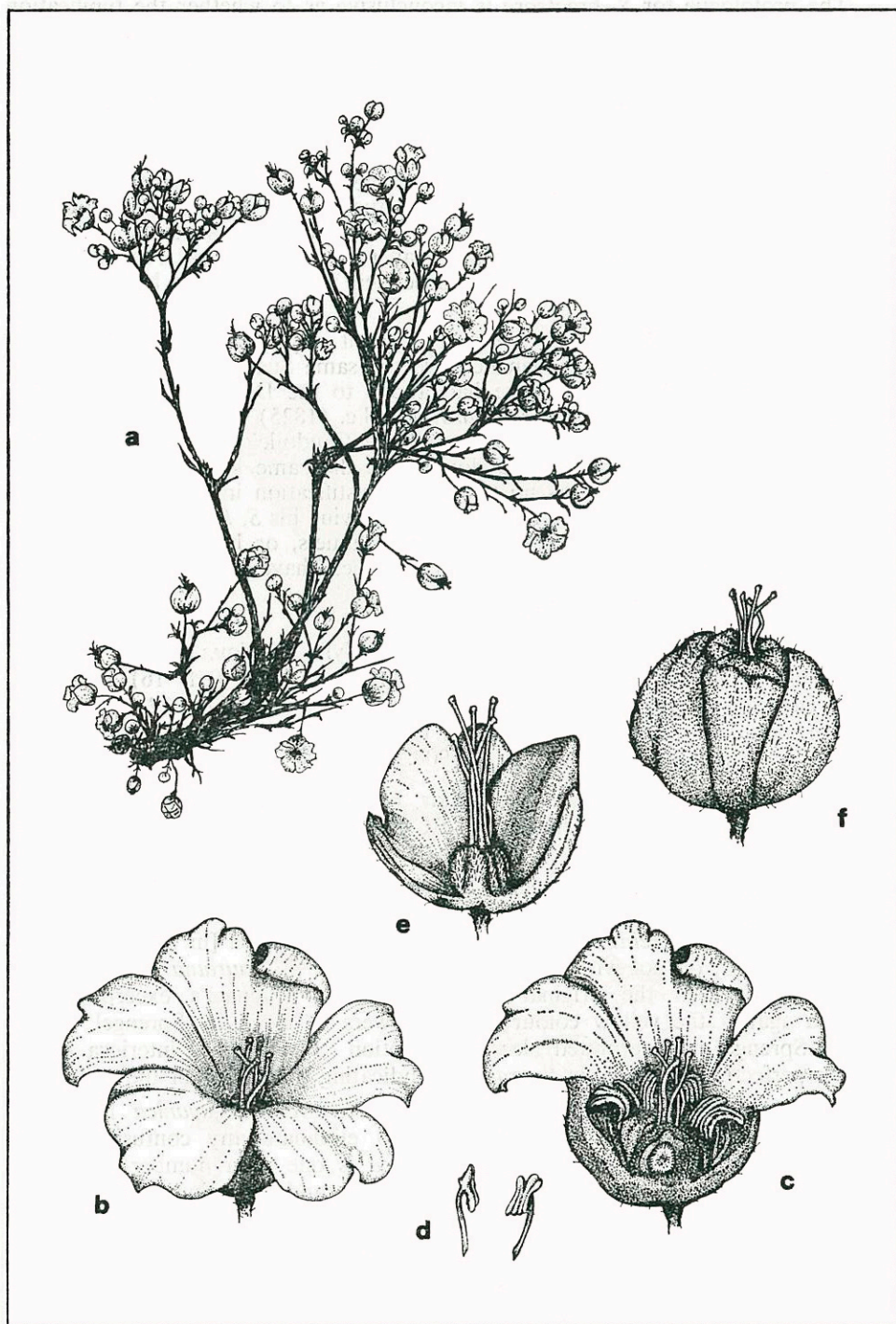


Fig. 2. *Saurauia bogoriensis* Hoogl. a. Individual inflorescence from cluster on main trunk, $\times \frac{1}{2}$; b. open flower, $\times 2\frac{1}{2}$; c. longitudinal section of flower, $\times 2\frac{1}{2}$; d. stamens, $\times 2\frac{1}{2}$; e. flower section without corolla and stamens, $\times 2\frac{1}{2}$; f. immature fruit, $\times 2\frac{1}{2}$. All after Hoogland 12628.

The confusion which arose from the discrepancy between the original description of *Saurauia lanceolata* and the plate associated with it has prevented this name from having been accepted for a Javanese species. As already indicated by Choisy [in Mém. Soc. Phys. Hist. Nat. Genève 14 (1855) 116] and more recently again by Merrill [in J. Arn. Arb. 35 (1954) 144, t. i], plate iv of De Candolle's, though given the name *Saurauia lanceolata* and referred to in the text under that name bears no relationship to the species described on the basis of the Lechenault specimen in the Paris herbarium, a photograph of which was reproduced in Merrill's paper. Choisy suggested that De Candolle's remark on the similarity of this species and *Apatelia lanceolata* was due to him not realising that his illustrator had twice sent him a drawing of the one species. Similarly the introduction of his [var.] *β. glabrata* can only be understood as having been made in the final stage of the manuscript without reference to actual specimens; only the single collection by Lechenault appears to be involved.

The plate is referable to *Apatelia lanceolata* (Ruiz & Pavon) DC., a South American species described and illustrated in the same publication [DC. l.c. (1822) 427, t. viii] which is now considered synonymous with *Saurauia biserrata* (Ruiz & Pavon) Spreng.

Saurauia lanceolata is endemic to West Java.

4. *Saurauia microphylla* Vriese, Pl. Ind. Bat. Or. (1856) 49. — TYPE: "In insulae Javae monte Dieng ibique in sylvis vidit cel. Junghuhn"; LECTOTYPE: Junghuhn 62 in L (910.95-619), ISOTYPES in G, L.

Synonym: *Saurauia blumiana* Benth., Pl. Jav. Rar. (1840) 174, t. 37, *nom. illeg.*, non *S. blumeana* Spreng. 1827. — TYPE: Horsfield, Java; HOLOTYPE: Horsfield 1 : 105 in BM.

Because of the earlier homonym the name for this well known species, so excellently illustrated by Bennett, unfortunately has to be changed. Under Article 73 of the Seattle Code *blumeana* and *blumiana* are to be considered orthographic variants which invalidates the later name. The variant *blumeana*, preferable in accordance with Recommendation 73C of the Code as the name honours C.L. Blume, has been used for the species under consideration by several later authors, e.g. Choisy & Zollinger, De Vriese, Miquel, Koorders, Koorders-Schumacher, Koorders & Valetton, and Gilg & Werdermann.

The type collection of *S. microphylla* has, as suggested by the epithet, particularly small leaves. These specimens were gathered from a 30 m tall tree whereas all other collections seen, as far as adequately annotated in this respect, represent shrubs or small trees up to ca 6 m only. It is not unusual in tropical trees for leaf size to decrease with tree height. The height indicated for this particular collection greatly exceeds that recorded for any of the other species known from Java though tall trees are well known to occur amongst species of *Saurauia* elsewhere, e.g. in New Guinea.

Saurauia microphylla is endemic to Java, most frequent in Central and East Java and absent in the Western half of West Java.

II. A NEW SPECIES FROM WEST JAVA

5. *Saurauia bogoriensis* Hoogl. *sp. nov.* (fig. 1, 2)

Arbor parva usque 10 m alta, 20 cm diametro. Folia ovato-oblonga vel oblonga, plerumque 17-27 cm longa, 8-11 cm lata, 12-18-nervata, apice obtusa subacuminata, basi obtusa ad rotundata, petiolo 4-6 cm longo. Inflorescentiae solitariae, usque 5 cm longae in axillis foliorum, solitariae vel 2-4 fasciculatae, usque 8 cm longae in axillis cicatricium foliorum in ramulis minoribus, usque 10 vel plures fasciculatae, usque 25 cm longae in ramulis crassioribus et in trunco;

cymosae, identidem ramosae, pauciflorae vel usque 100-florae. Pedunculus brevis, usque 2 cm longus, subcrassus (2 mm diametro). Pedicelli usque 2 cm longi, 1 mm diametro, bracteis bracteolisque ovato-oblongis usque 5 mm longis, 2 mm latis. Sepala 2 exteriora late triangulari-ovata, 7.5-9 mm longa, 9.5-11.5 mm lata; 2 interiora transverse elliptica, 7.5-9 mm longa, 8.5-11 mm lata. Corolla late campanulata, ca 10 mm longa, 35 mm diametro; tubus 3.5-4.5 mm longus, 11-12.5 mm diametro; lobi 11-14 mm longi, 10-14 mm lati, apice bilobulati. Stamina plerumque 25-35, filamentis subaequalibus 3.5-5.5 mm longis, antheris versatilibus dorsifixis 2.5-3.5 mm longis. Ovarium conicum, apice rotundatum, 2.5-3 mm longum, 4.5-5 mm diametro, dimidio inferiori glabrum, dimidio apicali pilosum, (3-) 4-5 (-6)-loculare; styli 7-8 mm longi, basi 2-2.5 mm connati.

Squamae tenuiter subulatae, in ramulis usque 8 mm longae, in costa usque 5 mm longae, secus nervos et in intervenio usque 3 mm longae; costa et nervi facie inferiori foliorum dense squamosi, facie superiori sparsim squamosi; intervenium facie inferiori foliorum satis dense squamulosum et, inter squamas, dense villosum, facie superiori glabrum.

TYPE: *Hoogland 12628*, Ciapus Gorge SW of Bogor, W. Java, 6 June 1975, in dense fairly low forest on steep slope at ca 650 m altitude. HOLOTYPE in CANB, ISOTYPES being distributed to A, BO, G, K, L, US, SING.

Further collections examined: *Hoogland 12384* (collected from the same tree as the type; B, BO, CANB, KEP, MEL, P, SING, US), *12631* (BO, CANB, L), *Van Steenis 5649* (BO, L).

When I first collected it, I had confused this species with *S. cauliflora* DC. on account of the similarity in leaf shape and nature (including colour) of the tomentum. On subsequent analysis of the flowers there appeared to be clear distinguishing features between the two species: while in *S. cauliflora* the outer sepals are glabrous, or have at most only a few scales on the outside, they have a dense cover of scales and floccose tomentum similar to the lower side of the leaves in *S. bogoriensis*. The number of stamens in the flowers of *S. cauliflora* generally ranges between about 16 and 20, in those of *S. bogoriensis* between 25 and 35. The number of ovules per carpel is of the order of 150-160 in *S. cauliflora*, of 400-550 in *S. bogoriensis*. The number of carpels per flower varies from 2-4 (mostly 3) in *S. cauliflora*, from 3-6 (3 and 6 only rare) in *S. bogoriensis*. The ovary of *S. bogoriensis* has a tomentum of fairly stiff, generally straight hairs in the upper part, that of *S. cauliflora* is glabrous or has a loose thin-floccose tomentum in the upper part. The inflorescence of *S. bogoriensis* is much more clearly and divergently branched than that of *S. cauliflora*, particularly in the cauline clusters. *Saurauia cauliflora* rarely, if ever, exceeds 5 m in height and 10 cm in diameter, whereas both trees of *S. bogoriensis* collected by me were about 10 m tall and 20 cm in diameter.

The epithet of the new species, apart from its geographical connotation, honours the National Biological Institute at Bogor.