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several species of *Amorphophallus* not counted before, most of these had $2n = 26$. In *A. campanulatus* from India he counted $2n = 28$. Earlier 26 and 28 have been counted. It seems that the sections *Rapygkos* and *Cundarum* have a more original cytological pattern than the other sections (cf. Larsen l.c.).



Fig. 2. 2 metaphase plates from root tips.

A. dizenii fits well into this pattern. In several good metaphase plates from root tips $2n = 28$ was counted (Fig. 2). The morphology of the chromosomes corresponds to what has been found earlier.

The author is indebted to Mr. Tyge Christensen for latinizing the diagnosis.

A REVISION OF PLETHIANDRA (MELASTOMATACEAE)

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ABSTRACT

Seven species are described and a key to the species is presented. The genus is recorded for the first time from Central Sumatra and this record is an extension of its generic distribution, known previously from Borneo and Malaya. *Plethiandra acuminata* Merr. and *Plethiandra sahepii* Burkill are reduced to synonymy and the following new combinations are proposed: *Plethiandra robusta* (Cogn.) Nayar, *Plethiandra sessiliflora* (Cogn.) Merr. var. *sessilis* (Stapf) Nayar.

ABSTRAK

Perteleaan dan kunci determinasi untuk membeda-bedakan tujuh jenis *Plethiandra* disajikan. Marga ini dilaporkan untuk pertama kali dari Sumatra Tengah, yang memperluas daerah penyebarannya sebab sebelumnya hanya diketahui tumbuh di Borneo dan Malaya. *Plethiandra acuminata* Merr. dan *Plethiandra sahepii* Burkill diperlakukan sebagai sinonim jenis lain dan kombinasi baru *Plethiandra robusta* (Cogn.) Nayar dan *Plethiandra sessiliflora* (Cogn.) Merr. var. *sessilis* (Stapf) Nayar telah diusulkan.

INTRODUCTION

J. D. Hooker founded the genus *Plethiandra* in 1865 on the basis of *Plethiandra motleyi* from Labuan (Borneo). He placed it in the tribe Astronieae immediately next to the genus *Kibessia*. Baillon (Nat. Hist. Pl. 7: 63. 1881), Cogniaux (1891) and Krasser (1893) followed Hooker f. in its assignment.

The genus was described again as *Medinillopsis* by Cogniaux (1891) with two species *Medinillopsis beccariana* from Sarawak and *Medinillopsis sessiliflora* from Singapore, both based upon Beccari's collections. In 1895 Stapf noted that Cogniaux's *Medinillopsis* matched perfectly with Hooker's genus *Plethiandra* and he suggested the reduction of the genus *Medinillopsis*. Although Stapf and later on Burkill (1917) suggested this, it was left to Merrill (*in Journ. Roy. As. Soc. Straits Spec. No. 449, 1921*) to make the new combinations in the genus *Plethiandra*.

Stapf in 1894 (*in Trans. Linn. Soc. II, 4: 163, 1894*) after adding a new species *P. hookeri* noted the correct systematic position

of the genus *Plethiandra* and placed it near *Medinilla*. In 1895 Stapf erected three new species *Plethiandra sessilis*, *P. cuneata* and *P. rejangensis* from Sarawak on the basis of Haviland's collections. Burkill (1917) briefly reviewed the genus and proposed a new species *Plethiandra sahebi* on the basis of a plant cultivated in Singapore Botanic Gardens. *P. sahebi* is found to be conspecific with *P. robusta* (Cogn.) Nayar and hence it is reduced to its synonymy. Although Stapf (1895) suggested *Medinilla robusta* Cogn. as a species of *Plethiandra* the new combination *Plethiandra robusta* (Cogn.) Nayar is effected only in the present review. Merrill's *Plethiandra acuminata* (in Univ. Calif. Publ. Bot. 15: 226, 1929) is found to be conspecific with *P. motleyi* Hook. f.

The Philippine genus *Carionia* Naud. placed near *Medinilla* has characteristically larger 6-merous flowers with 12 stamens; *Plethiandra*, an obviously allied genus, has smaller 6-merous flowers with 20—30 stamens. Apart from this in *Carionia* the stamens are two auricled ventrally and tuberculate dorsally and the extra-ovarial chambers descend to the base of the ovary, whereas *Plethiandra* is characterised by the inappendiculate stamens and the absence of extra-ovarial chambers.

The genus is recorded for the first time from Central Sumatra and this record is an extension of the generic distribution, known previously from Borneo and Malaya. Of the seven species so far known six are endemic to Borneo and one species *P. sessiliflora* (Cogn.) Merr. is recorded from Singapore and Central Sumatra.

PLETHIANDRA Hook. f.

Plethiandra Hook. f. in Bentham and Hooker f., Gen. Plant. 1: 772. 1865; Triana in Trans. Linn. Soc. 28: 153. 1871; Boerlage, Handl. Fl. Ned. Ind. 1: 527. 1890; Cogniaux in DC., Monogr. Plant. 7: 1111. 1891; Krasser in Engl. & Prantl, Nat. Pfl. Fam. III, 7: 196. 1893; Stapf in Hook. f., Ic. Pl. 25: t. 2418. 1895; Ridley, Fl. Mal. Pen. 1: 806. 1922; Bakh. f. in Meded. Bot. Mus. & Herb. Rijks. Univ. 91: 115. 1943.

Medinillopsis Cogn. in DC. Monogr. Phan. 7: 603. 1891; Krasser in Engl. & Prantl, Nat. Pfl. Fam. III. 7: 180. 1893.

Shrub. Branches terete or angular, usually glabrous. Leaves sessile or petiolate, elliptic, elliptic-ovate, ovate-oblong or ovate-lanceolate, base subrotund, cuneate or obtuse, apex acuminate or obtuse or subrotund, glabrous, 3—11-nerved, cross venules indistinct, rarely cross-venules on the uppersurface distinct, coriaceous. Flowers in axillary fascicles, 6-merous, subsessile or pedicellate; bracteoles present, minute, subulate. Calyx tube urceolate-campanulate or ovoid, limb usually truncate, rarely limb 6-toothed, glabrous. Petals 6, obovate-elliptic, elliptic or ovate-

lanceolate. Stamens 20—30, filament present, anthers linear, connective not produced, dorsally and ventrally inappendiculate. Ovary fully crescent with the calyx tube, extra-ovarial chambers absent, ovary 6-chambered, top of the ovary minutely puberulous or glabrate. Style filiform, glabrous, stigma punctiform. Berry subglobose or ovoid. Seeds minute, numerous.

TYPE SPECIES: *Plethiandra motleyi* Hook. f.

DISTRIBUTION: Malaya, Sumatra and Borneo.

KEY TO THE SPECIES OF PLETHIANDRA

1. Leaf sessile or subsessile or shortly petiolate, petiole if present not more than 5 mm long.
 2. Flowers long pedicellate with pedicels 15—30 mm long.
 3. Leaves elliptic-ovate, 5—11 × 5—6 cm, 5—7 nerved, calyx tube 3—6 mm long, calyx limb 6-toothed. 1. *P. motleyi*
 3. Leaves elliptic-oblong, 12—25 × 8—11 cm, 7—9 nerved, calyx tube 6—7 mm long, limb truncate. 2. *P. beccariana*
 2. Flowers subsessile or shortly pedicelled, pedicel not more than 8 mm long.
 4. Leaves subsessile, petiole 2—5 mm long; flowers shortly pedicelled, pedicel 5—8 mm long, petals 7—8 × 3 mm. 3. *P. hookeri*
 4. Leaves sessile, flowers subsessile, pedicel at most 5 mm long, petals 5—6 × 2 mm.
 5. Leaves ovate-oblong or ovate-lanceolate 28—30 × 5—12 cm, apex acuminate, 7—11 nerved. 4. *P. robusta*
 5. Leaves ovate-elliptic, 8—13 × 5—7 cm, apex obtuse or briefly acuminate, 7-nerved. 5. *P. sessiliflora*
6. Petals in bud acuminate, calyx tube 5 mm long.
 - P. sessiliflora* var. *sessiliflora*
 6. Petals in bud obtuse or rounded, calyx tube 4 mm.
 - P. sessiliflora* var. *sessilis*
1. Leaf long-petioled, petiole 10—30 mm long:
 7. Leaves large, 10—15 × 5—8 cm, flowers many in axillary fascicles, petals rotundate-obovate, 6—7 × 5.5—6.5 mm. 6. *P. rejangensis*
 7. Leaves smaller, 6—9 × 2.5—4 cm, flowers 1—3 in axils, petals elliptic-oblong, 7—8 × 3—3.5 mm. 7. *P. cuneata*

1. PLETHIANDRA MOTLEYI Hook. f.

Plethiandra motleyi Hook. f. in Benth. & Hook. f., Gen. Pl. 1: 772. 1865; Triana in Trans. Linn. Soc. 28: 153. 1871; Cogn. in DC., Monogr. Phan. 7: 1112. 1891; Krasser in Engl. & Prantl, Die Nat. Pfl. Fam. 3: 196. 1893; Merr. in Journ. Roy. As. Soc. Straits Spec. No. 448. 1921; Schwartz in Mitt. Inst. Not. Hamburg 7 (3): 225. 1931. — TYPUS: Borneo, *Motley 380* (Holotype K).

Plethiandra acuminata Merr. in Univ. Calif. Publ. Bot. 15: 226. 1929. — TYPUS: Borneo, *Elmer 20076* (Isotypes K, L).

Epiphytic shrub. *Branches* angular, glabrous, nodes thickened. *Leaves* sessile, elliptic-ovate or ovate-lanceolate, 5—11 × 5—6 cm, base cuneate, apex acuminate, glabrous, 5—7-nerved, cross-venules obscure, coriaceous. *Flowers* in axillary fascicles, 6-merous; bracteoles minute, 0.8 mm long; pedicels 15—28 mm long. *Calyx tube* urceolate-campanulate or hemi-spherical 3—6 mm long, glabrous, limb 6-toothed, teeth 0.5—1 mm long. *Petals* oblong-lanceolate 4.5—6 mm long, 1.5—2 mm broad, apex acuminate. *Stamens* about 22, filament 3.5 mm long, anther linear or linear-oblong, 1.5—1.8 mm long, connective not produced, inappending dorsally and ventrally. *Ovary* fully concrescent with the calyx tube, extra-ovarial chambers absent. *Style* filiform, 5—6 mm long, stigma punctiform. *Berry* globose, 5 × 4.5—5 mm. *Seeds* minute, cuneate, 0.5 mm long.

DISTRIBUTION: Primary forest on silty clay river bank and in submontane forest on limestone hills, Borneo.

BORNEO. Sabah. Elphinstone Prov.: Tawao, *Elmer 21887* (K, L); Tawao, east of Sg. Serudong, 4 September 1961, A. Bakar *SAN 26886* (K, L); Ulu Sungai, Serudong, 23 August 1962, F. C. Aban *SAN 31158* (K, L); Sepilok For. Res.: 1 July 1957, Sinclair & Tassim & Siron *9553* (K); Myburgh Prov.: Sandakan, *Elmer 20076* (K, L); Labuan: *Motley 380* (K); Sandakan, 11 September 1959, Meijer *19983 a* (K); Saribas, upper Paku, *Haviland 1552* (K); Bintulu, S. Labang, *Ashton S. 16291* (K, L); Sarawak. Baram Dist.: G. Api, alt. 133 m, *Anderson 4724* (K, L); Miri Dist.: G. Subis, alt. 133 m, 6 June 1962, *Anderson 16044* (K, L).

Three separate leaves and two twigs with two flowers represent the type material (*Motley 380*) and Hooker described the above mentioned species and founded the genus on the basis of this rather poor specimen. In 1929 Merrill erected *Plethiandra acuminata* on the basis of Elmer's collections from Sabah. On close scrutiny it is seen that *P. acuminata* Merr. is no more than a larger specimen of the species *Plethiandra motleyi* and hence its reduction to a synonym of the latter.

This species has a characteristic 6-toothed urceolate calyx tube and on this character it is readily distinguishable from the remaining species of *Plethiandra*. The nearest relative of *P. motleyi* seems to be *P. hookeri* from which it is distinguished by its acuminate leaves and long pedicellate flowers.

Triana (1871), Cogniaux (1891), Schwartz (1931) and Bakhuizen v.d. Brink (1943) erroneously spelled the specific epithet as '*mottleyi*'.

2. PLETHIANDRA BECCARIANA (Cogn.) Merr.

Medinillopsis beccariana Cogn. in DC., Monogr. Phan. 7: 603. 1891. — *Plethiandra beccariana* (Cogn.) Merr. in Journ. Roy. As. Soc. Straits Spec. No. 448. 1921; Schwartz in Mitt. Inst. Bot. Hamburg 7(3): 255. 1931. — TYPUS: Borneo, Sarawak, *Beccari 4004* (Isotype K).

Epiphytic shrub. *Branches* terete, glabrous. *Leaves* sessile, elliptic or elliptic-oblong, 12—25 × 8—11 cm, base obtuse or sub-rotund, apex obtuse or obtuse-acuminate, glabrous, 7-nerved, cross-venules indistinct, coriaceous. *Flowers* in axillary fascicles; pedicels 15—25 mm long. *Calyx tube* campanulate 6—7 × 4—4.5 mm, glabrous, limb truncate. *Petals* 6, 9—10 mm long. *Stamens* about 25, filament 6—7 mm long, anther linear 4—4.5 mm long, connective not produced, inappending dorsally and ventrally. *Ovary* fully concrescent with the calyx tube, extra-ovarial chambers absent. *Style* filiform, 10—12 mm long, glabrous, stigma punctiform.

DISTRIBUTION: Sarawak part of Borneo.

BORNEO. Sarawak, sine loc., *Beccari 4004* (K).

In 1891 Cogniaux proposed the species *Medinillopsis beccariana* on the basis of *Beccari 4004*. But Stapf (*in* Hook. f., Ic. Pl. 25: t. 2418. 1895) suggested that "judging from a specimen of Beccari's in the Kew Herbarium numbered 4004 and from Cogniaux's description there cannot be any doubt that it is identical with *Plethiandra*". Stapf (l.c.) had his doubts about the number of chambers in the ovary since he could not see any good specimen and he considered that Cogniaux's conception of three cells for *Medinillopsis* was incorrect. In 1921 Merrill (l.c.) appropriately transferred this species to the genus *Plethiandra*.

Vegetatively *P. beccariana* can be mistaken for *P. robusta*. But the flowers are long pedicellate (pedicel 15—25 mm long) in *P. beccariana*, whereas in *P. robusta* the flowers are subsessile or shortly pedicellate (pedicel 2—4 mm long).

3. PLETHIANDRA HOOKERI Stapf

Plethiandra hookeri Stapf in Trans. Linn. Soc. II, 4: 163. 1894; Stapf *in* Hook. f., Ic. Pl. 25: t. 2418. 1895; Merr. in Journ. Roy. As. Soc. Straits Spec. No. 448. 1921; Merr. in Univ. Calif. Publ. Bot. 15: 226. 1929. — TYPUS: Borneo, *Haviland 1169* (Holotype K).

Shrub. *Branches* terete, glabrous, nodes thickened. *Leaves* elliptic, 8—11 × 4.5—5.5 cm, base obtuse, apex obtuse or retuse, glabrous 5—7 nerved, cross venules indistinct, coriaceous; petiole 2—5 mm long. *Flowers* in axillary fascicles, 6-merous, reddish; pedicel 5—8 mm long. *Calyx tube* urceolate-campanulate, 4—5 mm long, limb truncate. *Petals* 6, obovate-elliptic, 8—9 × 2—2.5 mm, acute. *Stamens* 26—30, filament 4.5—5 mm long, anther linear 2.5—3 mm long, connective not produced, dorsally and ventrally inappending. *Ovary* fully concrescent with the calyx tube, extra-ovarial chambers absent, apex of the ovary puberulous. *Style* filiform, 8—9 mm long, glabrous; stigma punctiform.

DISTRIBUTION: In evergreen forests to 2500 m, Borneo.

BORNEO. Sabah. Kinabalu: alt. 2200 m, *Haviland 1169* (K); *Ibid.*, Marai Parai, alt. 1666 m, 27 April 1933, J. & M. S. Clemens 32985 (K, BM, L); *Ibid.*, R. & M. S. Clemens 32802 (K, BM); *Ibid.*, Eastern shoulder, alt. 2500 m, 18 June 1961, S. N. S. B. No. 1059 (K); *Ibid.*, Penibukan, alt. 1333—1666 m, 10 January 1933, J. & M. S. Clemens 30926 (K, BM, L); *Ibid.*, Upper Kinabalu, alt. 1666 m, 11 October 1933, J. & M. S. Clemens 40065 (K); Sarawak. Summit of Sathong, alt. 766 m, 12 July 1957, *Anderson 8364* (K, L).

This species is closely allied to *Plethiandra sessiliflora* but differs in having longer pedicels (5—8 mm long), larger flowers and subsessile leaves (petiole 2—5 mm long); whereas in *P. sessiliflora* the pedicels are shorter (1—3.5 mm long), the flowers smaller and the leaves sessile.

4. *Plethiandra robusta* (Cogn.) Nayar, *comb. nov.*

Medinilla robusta Cogn. in DC., *Monogr. Phan.* 7: 567. 1891. — TYPUS: Borneo, *Beccari 542*, *Beccari 4049* (syntypes K).

Plethiandra sahebi Burkill in *Journ. Roy. As. Soc. Str.* 77: 265. 1917; Merr. in *Journ. Roy. As. Soc. Straits Spec. No.*: 449. 1921. — TYPUS: Sarawak, *Burkill* s.n. (isotype K).

Epiphytic shrub. *Branches* terete, glabrous. *Leaves* sessile, ovate-oblong or ovate-lanceolate, 20—30 × 5—12 cm, base rounded, apex acuminate, glabrous, 9—11 nerved, cross venules indistinct, mid-rib thick and prominent on the lower surface, coriaceous. *Flowers* axillary in fascicles, about 10—12 buds present in each fascicle at various stages of development; pedicel 2—3 mm long. *Calyx tube* urceolate-campanulate, 3—4 mm long, glabrous, limb truncate. *Petals* 6, contorted in bud, obovate-elliptic, 5—6 mm long, obtuse. *Stamens* about 28, filament 3 mm long, anther linear 3 mm long, 1-porose, connective not produced, inappending dorsally and ventrally (rarely minutely tubercled dorsally). *Ovary* fully conerescent with the calyx tube, extra-ovarial chambers absent. *Style* filiform, 8 mm long, glabrous, stigma punctiform.

DISTRIBUTION: Endemic to Borneo.

BORNEO. Sarawak: near Kuching, 28 April 1893, *Haviland & House 3630* (K, BM); Nannam F. R., Sibiu Dist., Asan, alt. 5 m, 15 March 1960, *Anderson 12442* (K); S. labang, Bintulu, 20 March 1963, *Ashton S. 16290* (K); Bt. Naoung, Anap, alt. 1100 m, 11 October 1963, *Banyung ak Nyudong S. 19105* (K); Koengai Kenepal, *Hallier 2081* (K, L); sine loc., *Beccari 542* (K), *Beccari 4049* (K); Indonesian Borneo: W. Koetai, near L. Poehres, alt. 90 m, 12 August 1925, *Edert 2505* (K, L). — Local name: "Kechunai sabang" (Iban).

CULTIVATED: Sing. Bot. Gard., October 1917, *Burkill* s.n. (K).

In 1891 Cogniaux described *Medinilla robusta* and cited four collections of Beccari from Sarawak as syntypes. This taxon is transferred to the genus *Plethiandra* in view of the number of stamens, 6-merous

flowers and absence of extra-ovarial chambers. Stapf (l.c.), as early as 1895, commenting upon *Medinilla robusta* Cogn. indicated as follows: "I have not seen flowers of it, but I feel convinced it is also a species of *Plethiandra*." He further suggested that *M. robusta* Cogn. is closely allied to Cogniaux's *Medinillopsis beccariana* (= *Plethiandra beccariana* (Cogn.) Merr.) but for the former's short pedicel.

Burkill in 1917 (l.c.) described *Plethiandra sahebi*, a plant brought to Singapore from Sarawak by a former employee (Mr. B. K. Saheb) and cultivated at the Singapore Botanic Gardens. On a careful scrutiny of the type collection and Burkill's very good description of the plant it is found that *Plethiandra sahebi* is conspecific with *Medinilla robusta* Cogn.

Plethiandra robusta (Cogn.) Nayar is closely allied to *P. sessiliflora* but for its larger 9—11 nerved acuminate leaves.

5. PLETHIANDRA SESSILIFLORA (Cogn.) Merr.

Medinillopsis sessiliflora Cogn. in DC., *Monogr. Phan.* 7: 603. 1891. — *Plethiandra sessiliflora* (Cogn.) Merr. in *Journ. Roy. As. Soc. Straits Spec. No.*: 449. 1921; Ridley, *Fl. Malay Pen.* 1: 806. 1922 (as *Plethiandra sessiliflora* (Cogn.) Ridley). — TYPUS: Malaya, *Beccari* s.n. (Holotype FI not seen. Isotype K).

Epiphytic shrub. *Branches* subterete, young ones angular, glabrous. *Leaves* sessile, ovate-elliptic, 8—13 × 5—7 cm, base rounded, apex obtuse, glabrous, 7-nerved, cross-venules indistinct, coriaceous; pedicel at the most 3.5 mm long. *Flowers* axillary, subsessile; bracteoles subulate, 1.2 mm long. *Calyx tube* urceolate-campanulate, 5 mm long, limb subtruncate, six rudimentary teeth present. *Petals* 6, ovate-lanceolate, 5—6 × 2 mm. *Stamens* about 20, filament 4 mm long, anther linear 3 mm long, connective not produced, dorsally and ventrally inappending. *Ovary* conerescent with the calyx tube, extra-ovarial chambers absent, apex of the ovary minutely reddish puberulous. *Style* filiform, 6—7 mm long, glabrous, stigma punctiform. *Fruit* ovoid, reddish.

DISTRIBUTION: Epiphytic in swampy forests, Malaya and Sumatra.

MALAYA. Singapore, *Beccari* s.n. (K); *Ibid.*, Passin Panhang, 28 October 1910, *Ridley 15356* (K, BM); East Johore: Sungai Kayu, alt. low, 14 March 1937, *Kiah 32395* (K).

SUMATRA. Indragiri: Muara Padjanki, 9 April 1939, *Buwaldia 6449* (K, L).

This species was based on Beccari's collection from Singapore and Cogniaux (1891) assigned the species to *Medinillopsis*. Though Stapf as early as 1895 suggested that the new genus of Cogniaux (*Medinillopsis*) was superfluous in view of the availability of the genus *Plethiandra* Hook f., the new combination *Plethiandra sessiliflora* was effected only in 1921 by Merrill (l.c.).

While describing *Plethiandra sessilis* Stapf (in Hook. f., Ic. Pl. 25: 2418. 1895) indicated thus: "The description of *Medinillopsis sessiliflora* Cogn. agrees almost exactly with my *P. sessilis*, the only point of difference being the length of the petals." Though the petal-length is not a stable character for specific recognition the shape of the petals in the flower bud and the length of calyx tube indicate that Stapf's *P. sessilis* could best be considered as an infraspecific taxon. Because of the close resemblances between *P. sessiliflora* and *P. sessilis* and since the similarities outweigh points of difference, added to which there is a distinct geographical pattern of their distribution *P. sessilis* Stapf is relegated to varietal rank under *P. sessiliflora*.

Plethiandra sessiliflora (Cogn.) Merr. var. *sessilis*
(Stapf) Nayar, *stat. nov.*

Plethiandra sessilis Stapf in Hook. f., Ic. Pl. 25: t. 2418. 1895; Merr. in Journ. Roy. As. Soc. Straits. Spec. No.: 449. 1921. — TYPUS: Borneo, *Haviland c.c.f.a. 93* (Holotype K).

Epiphytic shrub. *Branches* subterete, young ones angular. *Leaves* sessile, ovate-elliptic, 7—12.5 × 5—6 cm, base rounded, apex obtuse, glabrous, 7-nerved, cross-venules inconspicuous, coriaceous. *Flowers* in axillary fascicles, sessile or subsessile, flower buds many in each fascicle at all stages of development. *Calyx tube* urceolate-campanulate, 3—4 mm long, limb subtruncate. *Petals* ovate-elliptic, 4—5 × 2 mm. *Stamens* about 20, filament 4 mm long, anther 2.5 mm long, connective not produced, dorsally and ventrally inappended. *Ovary* fully concretescent with the calyx tube. *Style* filiform, 6—7 mm long, glabrous, stigma punctiform.

DISTRIBUTION: Epiphytic shrub in peat swampy forests of Borneo.

BORNEO. Sarawak: Sarawak river, Penriss road 3rd mile, *Haviland c.c.f.a. 93* (K); Simanggang Dist., one mile from Tanjong Triso, alt. ca 3 m, 13 April 1960, *Anderson 9793* (K).

6. PLETHIANDRA REJANGENSIS Stapf

Plethiandra rejangensis Stapf in Hook. f., Ic. Pl. 25: t. 2418. 1895; Merr. in Journ. Roy. As. Soc. Straits. Spec. No.: 449. 1921. — TYPUS: Borneo, *Haviland d.g.k.a. 545* (Holotype K).

Epiphytic shrub. *Branches* terete, glabrous. *Leaves* elliptic, 10—15 × 5—8 mm, base acute or subrotund, apex briefly acuminate, glabrous, 3—5 nerved, cross-venules on the upper surface distinct, coriaceous; petiole 10—30 mm long. *Flowers* in axillary fascicles; pedicel 10—18 mm, long. *Calyx tube* urceolate-campanulate, 4.5—5 mm long, limb truncate. *Petals* 6, rotundate-obovate, 6—7 × 5.5—6.5 mm. *Stamens* about 30, filament 5 mm long, anther linear 3.5—4 mm long, connective not produced, inappended dorsally and ventrally. *Ovary* fully concretescent with the

calyx tube, extra-ovarial chambers absent. *Style* 9—10 mm long, filiform, glabrous, stigma punctiform.

DISTRIBUTION: An epiphytic shrub of 1.5—2 m height growing in primary lowland forests of Borneo.

BORNEO. Sarawak: Rejang, Sibul, *Haviland d.g.k.a. 545* (K); Kuching Dist., Bako National Park, alt. 25 m, 13 April 1962, *Ardis b. Arshid S. 16231* (K, L); Telok Paku, Bako National Park, alt. 10 m, 2 June 1963, *Paul Chai & Ilias Pa'ie S. 17854* (K); Asan, Bako National Park, alt. 50 m, 17 May 1956, *Purseglove P. 4912* (K); Near Kuching, 6 February 1893, *Haviland & Hose 3629* (K, BM, L, CAL); Baram Dist., Baram, 16 November 1894, *Hose 34* (K, BM); Ibid., April 1895, *Hose 583* (K, BM); Binatang Dist., Surong Trib, Daro F.R., alt. low, 2 February 1958, *Samusi bin Tahir 9724* (K). — Local name: "akai tembusu".

Plethiandra rejangensis Stapf with its larger 3—5 nerved leaves and rotundate-obovate petals is easily distinguished from *P. cuneata* Stapf.

7. PLETHIANDRA CUNEATA Stapf

Plethiandra cuneata Stapf in Hook. f., Ic. Pl. 25: t. 2418. 1895; Merr. in Journ. Roy. As. Soc. Straits Spec. No.: 448. 1921. — TYPUS: Borneo, *Haviland c.m.la. 179* (Holotype K, Isotype BM).

Shrub. *Branches* terete, glabrous. *Leaves* elliptic or oblong-elliptic, 6—9 × 2.5—4 cm, base cuneate, apex acuminate, glabrous, 3-nerved, cross venules inconspicuous, coriaceous; petiole 10—20 mm long. *Flowers* axillary, 1—3 in each axil; pedicel 10—18 mm long. *Calyx tube* urceolate-campanulate, 5—5.5 mm long, limb truncate. *Petals* 6, elliptic-oblong, 7—8 × 3—3.5 mm, apex obtuse. *Stamens* about 30, filament 5—6 mm long, anther linear, 3.5—4 mm long, connective not produced, inappended dorsally and ventrally. *Ovary* fully concretescent with the calyx tube, extra-ovarial chambers absent, apex of the ovary puberulous. *Style* filiform, 11—12 mm long, glabrous, stigma punctiform.

DISTRIBUTION: A bushy shrub of about 2 m height growing near sea coast in Sarawak part of Borneo.

BORNEO: Sarawak. Selabat Rock, sea coast, *Haviland 179* (K, BM).

In the type description of *P. cuneata* Stapf it is stated that the flowers are solitary. It is seen that the flowers are in small axillary fascicles of 1—3 flowers.

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