

NEW TAXA AND COMBINATIONS IN VIREYA RHODODENDRONS FROM SABAH (BORNEO)

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ABSTRACT. This paper is the precursor to a Sabah National Parks publication 'The Rhododendrons of Sabah' which will appear shortly and seeks to validate the new names and combinations used in that work. A great deal of new information on Sabah Rhododendrons has accumulated in the past few years and a full account of all the taxa known to occur in Sabah together with illustrations of most of the species will appear in 'The Rhododendrons of Sabah'.

Rhododendron javanicum (Bl.) Benn. subsp. **brookeanum** (Lindley) Argent & Phillipps var. **kinabaluense** Argent, Lamb & Phillipps var. **nova** corolla aurantiaca vel rubra, tubo intra luteo distinguitur.

Submontane in distribution from 1000-1800m altitude, the flowers orange or red with yellow centres.

Type: Sabah, Sinsuron rd west of summit of Gunung Alab, 1400 m, ix 1979, I. S. Collette 39/79 (holo. E).

R. javanicum subsp. **cockburnii** Argent, Lamb & Phillipps subsp. **nova**

Frutex epiphyticus. *Folia* elliptica lepidota sparsa 11-17 × 4-7 cm, apice late acuto vel subapiculato, basi late attenuato-rotundata; petioli longi 12-20 × c. 4 mm. *Umbellae* c. 5-florae. *Corolla* grandis, omnino rubra, infundibuliformis, 4.5 × 4.5 cm (in vivo 6.4 × 6.4 cm), tubo extus glabro intus inferne laxe piloso; tubus rectus, basi 6-8 mm diam., versus orem usque 17 mm diam. dilatatus; lobi patentes suberecti, c. 22 × 15 mm. *Stamina* 10; filamenta triente inferiore subdense vel laxius pilosa, superne angustiora et glabra; antherae cylindricae curvatae 5 mm longae. *Ovarium* cylindricum, glabrum, 6 × 2.5 mm; stylus 14 mm longus, glaber. *Fructus* ignotus.

Epiphytic shrub. *Leaves* elliptic, sparsely lepidote, 11-17 × 4-7 cm; apex broadly acute to sub-apiculate; base broadly cuneate to rounded; petioles long, 12-20 × c. 4 mm.

Umbels c. 5-flowered. *Corolla* large, funnel-shaped, entirely bright scarlet, when living 4.5 × 4.5 cm; the tube glabrous outside, but with lax hairs inside near the base, straight, 2.5 cm long, 6-8 mm wide at the base expanding to 17 mm wide at the mouth; the lobes spreading suberect, c. 22 × 15 mm. *Stamens* 10; filaments in the basal third subdensely to laxly hairy, above this glabrous; anthers cylindrical, curved, 5 mm long. *Ovary* cylindrical, glabrous, 6 × 2.5 mm; style 14 mm long, glabrous. *Fruit* not seen.

Type: Sabah, Lamag District: SE of Inarat, ridge to Gunung Lotung, 975 m, 15 v 1976, *Cockburn*, San 83123 (holo. SAN).

Named after Peter Cockburn former botanist at Sandakan who found this plant whilst collecting on G. Lotung and known only from the type gathering.

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This new subspecies is interesting in quite closely approaching *Rhododendron triumphans* Yessin & Chevalier from Vietnam in respect of flower size and colour and the long, rather slender, petioles, but that species has simple hairs on the ovary and smoother leaves. It is also similar to *R. javanicum* subsp. *moultonii* (Ridley) Argent but this differs in its yellow to orange flower colour, its broader shorter petioles and less sulcate leaves. The type subspecies is quite distinct with smooth leaves and pale orange or orange and pink flower colour.

***R. javanicum* subsp. *gracile* (Lindley) Argent, Lamb & Philipps, stat. nova.**
 Basionym: *R. gracile* Lindley in J. Hort. Soc. Lond. 3:84 (1848).

Leaves smooth, not puckered, up to 3.5 cm wide. The ovary covered in simple hairs. Flowers generally yellow (in Sabah). Anthers about 4 mm long.

This subspecies is imperfectly understood and at present includes all the slender-leaved forms of *R. javanicum* some of which may merely be impoverished forms of subsp. *brookeanum* (Lindley) Argent & Philipps. However, on the southern slopes of Gunung Lotung this subspecies grows terrestrially in low pole forest at about 1000 m altitude where it is quite strikingly different in appearance and ecology from all other forms of this species. This population on G. Lotung shows strong similarities to *R. salicifolium* Becc. from southern Sarawak, being larger than that species without the tendency to curvature of the leaves.

***Rhododendron longiflorum* Lindley var. *longipetalum* Argent, Lamb & Philipps, var. nova**

Similis *R. longifloro* var. *subcordato* (Becc.) Argent tubo corollae recto, sed corolla major 5.2 × 7.0 cm lobis longioribus 3.5 × 2.0 cm, tubo 4 cm longo basi 8 mm diam., orem versus ad 15 mm diam. dilatato differt.

Similar to *R. longiflorum* var. *subcordatum* in having a straight corolla tube, but much larger flowered, 52 × 70 mm, with longer lobes 35 × 20 mm, the tube being 40 × 8 × 15 mm.

Type: Sabah, Sinsuron Rd, 21 ii 1980, *Phillipps & Ampal*, Philipps 1337 (holo. E).

Found twice, once on the Sinsuron road at the highest altitude recorded for this species (1060 m) and once on Gunung Madalon at 760 m. The first record is from an area where *R. javanicum* subsp. *brookeanum* is common and it is possible that the large flowers of this variety are the result of hybridisation with that species although the leaves are perfectly typical of *R. longiflorum*.

***Rhododendron stenophyllum* Hook. f. ex Stapf in Trans. Linn. Soc. Bot. 4:196 (1894).**

The usually quoted authority for this species of Hook. f. ex Becc. (*Malesia* 1:203, 1878) is incorrect. It is quite clear that Beccari had not seen the specimen at the Kew herbarium to which Hooker had attached the name *R. stenophyllum* and he was not attempting to describe it. The earliest description of the species is by F. W. Burbidge (*The Garden of the Sun* p. 274, London, Murray, 1880) but this is a casual description,

invalid within the terms of the *International Code of Botanical Nomenclature* (Art. 34, 1c). The first valid description of this species was provided by Stapf who cited Low's specimen (sine numero) which bears the name *R. stenophyllum* in Hooker's handwriting.

Rhododendron stenophyllum subsp. **angustifolium** (J. J. Smith) Argent, Lamb & Phillips **stat. nova**

Basionym: *R. stenophyllum* var. *angustifolium* J. J. Smith, Bull. Jard. Bot. Buit. ser. III, 13:452 (1935).

This has narrower leaves, 1.4–2.2 mm wide, which are thirty or more times as long as wide compared with the type subspecies which has leaves 2.5–6.0 mm wide and less than twenty-five times as long as wide.

This taxon has been raised to subspecific status since in addition to the above morphological difference, there appears to be a marked difference in ecology; subsp. *angustifolium* occurs at lower altitude between 1500–2400 m whilst subsp. *stenophyllum* grows above 2700 m. *R. stenophyllum* subsp. *stenophyllum* is at present only known from G. Kinabalu whilst *R. stenophyllum* subsp. *angustifolium* is much more widespread occurring in Sabah, Sarawak, Brunei, and northern Kalimantan.

Rhododendron baconii Argent, Lamb & Phillipps. **sp. nova**

Arbor usque ad 9 m alta vel frutex. *Ramuli* laeves virides in partibus apicalibus juvenilibus lepidoti. *Folia* in pseudovercillis 4–6 et inter verticillas alia squamiformia dispersa cito caduca. *Folia* elliptica vel late-elliptica, apice rotundata vel retusa, margine integra valde recurvata (viva et sicca), basi rotundata vel late attenuata, 3.5–8.0 × 1.5–4.0 cm parce lepidota (lepidibus discoideis zona marginali irregulariter lobata, centro minuto vix vel haud impresso); costa supra impressa subtus elevata crassa per totam longitudinem, nervis lateralibus c. 4–6 paribus late patentibus infra levissime elevatis, supra laevibus, obscuris; atro-viridia infra paulo pallidiora; petioli 1.2 × 2.5–3 mm parce lepidoti, supra levites sulcati.

Umbellae 3–6 florum. *Flores* semi-penduli. *Perulae* non visae. *Pedicelli* 23–28 × 1.25 mm dense pilosi et parce lepidoti. *Calyx* annuli formis humilis vel distincte lobatus (3 × 2 mm). *Corolla* rosea non odorata 3.5 × 4.0 cm; tubus extra lepidotus, intus inferne laxo pilosus, rectus, 1.7 cm longus, basi c. 8 mm diam., orem versus c. 12 mm diam. dilatatus; lobi leviter emarginati 1.8 × 1.6 cm, levites patentes, extra lepidoti. *Stamina* 10, symmetrica circa orem disposita filamenta 15 mm longa, inferne et per $\frac{1}{2}$ long. subdense et patenter pilosa, superne glabra; antherae 3 mm longae. *Ovarium* cylindricum dense pilosum pilis patentibus 3.5 × 2.5 mm; stylus 9 mm longus in triente inferiore pilosus, ceterum glaber; stigma c. 2 mm diam. *Fructus* 14 × 7 mm, molliter pilosus. *Semen* 2.4 mm longum, sine caudis 1.2 mm longum, cauda usque ad 0.8 mm longa.

Tree to 9 m, or shrub in more open situations, twigs smooth, green, sparsely scaly when young. Vegetative buds not prominent, about 2 mm. *Leaves* in pseudowhorls of 4–6, between which are scattered scale leaves, that soon fall off. Foliage leaves elliptic, to broadly elliptic; the apex rounded or retuse; the margin entire, strongly recurved even in the fresh state in fully mature leaves; base rounded or broadly tapering; 35–80 × 15–40 mm, sparsely scaly with discoid but irregularly lobed scales with a broad marginal flange and small, impressed central point of attachment; quickly becoming glabrescent above and often beneath as well; midvein impressed above and strongly raised below throughout its length; lateral veins about 4–6 pairs, widely spreading, very slightly raised beneath, almost smooth and fairly obscure above; texture thick and

leathery but smooth; dark green, slightly paler below. *Petioles* 1-2 × 2.5-3 mm, sparsely scaly, weakly grooved above.

Flower buds not seen. *Umbels* 3-6 flowered, the flowers half-hanging. *Pedicels* 23-28 × 1.25 mm, densely hairy and with a few scales. *Calyx* a low hairy ring or with fine well marked lobes 3 × 2 mm. *Corolla* pink, not scented, 35 × 40 mm; the tube 17 × 8 × 12 mm, scaly outside, hairy near the base inside; the lobes slightly emarginate 18 × 16 mm, weakly spreading, overlapping to about two-thirds, finely scaly outside. *Stamens* arranged all round the flower; filaments 15 mm, with spreading hairs in the lower third; anthers 3 mm. *Ovary* densely hairy with spreading hairs, 3.5 × 2.5 mm; style 9 mm, hairy in the basal third; stigma c.2 mm diam. *Fruits* 14 × 7 mm, softly hairy. *Seeds* 2.4 mm, without tails 1.2 mm, longest tail 0.8 mm.

Type: Sabah, Kinabalu National Park, Gunung Tambuyukon, 12 iii 1980, Argent & P. Walpole, Argent 1459 (holo. E, iso. SAN).

Named in honour of Andrew Bacon, a keen Sabah naturalist who participated in the ascent of G. Tambuyukon during which the first flowering material of this species was collected.

This species is characterized by its large, pink, non-hairy flowers and generally flat, smooth leaves. It most closely resembles *R. praetervisum* Sleumer but the flowers are much shorter and the petioles are broader than long rather than clearly longer than broad as in that species.

This species occurs at altitudes between 2000-2500 m in low ridge forest or more open shrub covered ridges on Gunung Tambuyukon, the only location from which it is known at present. It was in full flower in March 1980, whereas the first collection of the species made by W. Meijer (San-28814) was fruiting in July 1961 and thus probably had a similar flowering time.

***Rhododendron meijeri* Argent, Lamb & Phillips, sp. nova**

Frutex terrestris c.75 cm altus, ramulis viridibus teretibus pilis et lepidibus asperis. *Folia* in pseudoverticillis densis c. 8, coriacea, flavovirentia; late elliptica, oblonga vel obovata, apice late acuminata vel rotundata interdum leviter retusa, margine integra leviter recurvata, basi rotundata vel cuneata, 12-27 × 12-18 mm pilis albi simplicibus et lepidibus discoidei (zona marginali irregulariter lobata, centro minuto vix vel haud impresso) tecta, costa supra leviter impressa, infra perfere totam longitudinem late sed vadosa elevata, nervis lateralibus obscuris, vel 3-5-paribus, angulo semirecto patentibus; petioli 1.5-3 × 2.2-2.6 mm, virides, pilosi et lepidoti supra late sed leviter sulcati.

Umbellae c. 7-florae. *Flores* semi-erecti. *Perulae* non visae. *Pedicelli* 10 × 1.25 mm dense albo-pilosi lepidibus fuscis nonnullis intermixtis. *Calyx* annuliformis, humilis dense albo-pilosus. *Corolla* infundibuliformis, alba, non odorata, 25 × 29 mm; tubus extra lepidibus parvis fuscis intus pilis simplicibus nonnullis praeditus; rectus c.12 mm longus, basi c.5 mm diam., orem versus ad c.10 mm diam. dilatatus; lobi 14 × 14 mm fere per totam longitudinem imbricati, extra lepidibus fuscis nonnullis praediti. *Stamina* 10; filamenta 9 mm longa inferne lata et triente basali dense pilosa superne angustiora et glabra; antherae 3 × 1 mm fuscae. *Ovarium* cylindricum, dense pilosum pilis semi-erectis, 3 × 3 mm; stylus 3 mm longus paulo asper glaber; stigma 1.5-2.5 mm diam. *Fructus* 16 × 8 mm; valvae rigide patentibus leviter curvatae. *Semen* 2 mm longum, sine caudis 1.1 mm longum, cauda usque ad 0.5 mm longa.

Shrub to 0.75 m. The twigs green, rounded, rough with hairs and scales, buds 2 mm, inconspicuous green or brownish, hairy and lepidote. *Leaves* in rather dense pseudowhorls of about eight together; broadly elliptic, oblong, or obovate; the apex broadly pointed or rounded, occasionally

slightly retuse; margin entire, slightly recurved; base rounded to tapering; 12–27 × 12–18 mm, with simple white hairs and discoid, irregularly lobed scales with a broad marginal flange and small, impressed central point of attachment; main vein slightly impressed above and broadly but shallowly raised beneath for most of its length; lateral veins obscure, or three to five pairs, slightly raised below and spreading at about forty-five degrees; leathery in texture and rather yellowish green. *Petioles* 1.5–3 × 2.2–2.6 mm, green, hairy and scaly and broadly but shallowly grooved in the upper part.

Flower buds not seen. *Umbels* of about seven semi-erect white flowers. *Pedicels* 10 × 1.25 mm, densely white-hairy and with some brown scales. *Calyx* a low, densely white-hairy ring. *Corolla* white, 25 × 29 mm; the tube 12 × 5 × 10 mm with scattered brown scales outside, and some simple hairs within; the lobes 14 × 14 mm, overlapping for most of their length, with some brown scales outside. *Stamens* probably spreading; filaments 9 mm, broadening and hairy in the basal third; anthers 3 × 1 mm, brown. *Ovary* 3 × 3 mm, densely white-hairy with semi-erect hairs; style 3 mm, rather rough; stigma 1.5–2.5 mm diam. *Fruits* 16 × 8 mm, the valves stiffly spreading, only slightly curving. *Seeds* 2 mm, without tails 1.1 mm, the longest tail 0.5 mm.

Type: Sabah, Gunung Tambuyukon, 2450 m, vii 1961, *Meijer*, San 34640 (holo. SAN).

Named after Willem Meijer, Dutch botanist and intrepid plant collector, who found this species on the first ascent of Gunung Tambuyukon.

This species is characterized by its small elliptic to obovate, very hairy leaves, and short, white, funnel-shaped flowers. The only other similarly hairy species, *R. stapfianum* Hemsley ex Prain, has longer leaves with quite different scales and much longer tubular-salver-shaped flowers. *R. meijeri* superficially resembles *R. buxifolium* Low ex Hook. f. in leaf size and shape but apart from this it differs in scale type, hairiness, flower size and colour and it seems unlikely to be closely related. This species clearly belongs in series *Vireya* but otherwise has no very obvious affinity, and its position in this group is fairly arbitrary. *R. meijeri* is only known growing terrestrially around the summit of Gunung Tambuyukon at 2400–2500 m altitude in open scrubby vegetation on ultrabasic rocks. The only flowering collection was made in July although flowers may occur at other times of the year.

Rhododendron suaveolens Sleumer forma **roseum** Argent, Lamb & Phillips, forma **nova** a forma *suaveolante* floribus omnino roseis differt.

Differing from f. *suaveolens* in the uniformly pink colour of the flowers. Type: Sabah, Kinabalu National Park, 1600 m, iv 1981, *Jukien* s.n. (holo. Kinabalu National Park Herbarium).

This form was first found in 1981 near the National Park Headquarters by the senior park-ranger, Mr Justin Jukien. It has also subsequently been reported from the Penataran River area of Kinabalu.

Dendrolepidon Argent, Lamb & Phillipps, series **nova** [=series *Javanica* Sleumer p.p., plus subsection *Solenovireya* Copeland f. p.p.] lepidibus dendroideis vel stellatis ab epidermide laevi exorientibus distinguitur.

Multicellular hairs (scales) dendroid or stellate from a more or less smooth epidermis.

Type: species: *R. rugosum* Low ex Hook. f.

This series groups the Bornean *Rhododendrons* with mostly dendroid or stellate brown scales of subsection *Vireya* Copeland f., viz.: *R. rugosum* Low ex Hook. f., *R. polyanthemum* Sleumer, *R. nieuwenhuisii* J. J. Smith, *R. stapfianum* Hemsley ex Prain and *R. pneumonanthum* Sleumer. In scale-type it resembles subsection *Phaeovireya* centred in New Guinea, but the scales are not raised on epidermal tubercles as in that subsection (except weakly so in *R. pneumonanthum*). It is not possible to say at present whether there is a real relationship between this new series and *Phaeovireya* or whether this represents parallel evolution.

Rhododendron rugosum Low ex Hook. f. var. **laeve** Argent, Lamb & Philipps, var. **nova** a var. *rugoso* foliis laevibus differt.

Differs from the type in the smooth, non-rugose leaves.

Type: Sabah, Kinabalu, Marai Parai Spur, ix 1979, A. Lamb (holo. SAN 89661).

Rhododendron borneense (J. J. Smith) Argent, Lamb & Philipps, stat. nov.

Basionym: *Rhododendron quadrasianum* Vidal var. *borneense* J. J. Smith in Bull. Jard. Bot. Buit. Ser. III, 13:444 (1935).

This taxon has been raised to specific status as it forms a distinct morphological unit within the *R. quadrasianum* complex. It is arguable whether to retain *R. quadrasianum* as a broad and variable species but this would then have to encompass *R. ericoides* Low ex Hook. f. as this is similarly distinct in morphology and ecology. It seems best, at least for a local taxonomic treatment, to maintain three closely related *Pseudovireya* species: *R. borneense*, *R. cuneifolium* Stapf and *R. ericoides* differing in minor but apparently constant morphological characters which are correlated with the occupation of successive altitudinal zones on the mountains.

Two subspecies are recognized within *R. borneense*: subsp. *borneense* with broad leaves more than 5 mm wide, and subsp. **villosum** (J. J. Smith) Argent, Lamb & Philipps, comb. et stat. nov. [Basionym: *R. quadrasianum* Vidal var. *villosum* J. J. Smith in Bull. Jard. Bot. Buit. Ser. 3, 13:444, 1935] with narrow leaves up to 4 mm wide.

Rhododendron cuneifolium Stapf var. **microcapum** Argent, Lamb & Philipps, var. **nova**

Ramuli dense lepidoti, sed sine pilis simplicibus, sub petiolis costati. Folia anguste obovata, apice rotundato vel retuso, margine subtiliter crenulata lepidibus impressis, basi attenuata; 5-8 × 1.5-2.5 mm; costa supra impressa, subtus elevata; nervis lateribus non visibilibus; petioli 1-1.5 × 0.5-0.75 mm inconspicue sulcati.

Umbellae 1-2-florae; flores penduli. Pedicelli 6 × 0.5 mm, lepidoti. Calyx lobis late ovatis, apice obtuso, 1.5 × 1.5 mm. Corolla pallide rubra non-odorata, 15 × 9 mm; tubus rectus 13 mm longus, basi c. 5 mm diam., orem versus 6.5 mm diam.; lobi erecti, extra lepidoti, 3.5 × 3.5 mm. Stamina ad dimidium oris inferius disposita; filamenta 13 mm longa, glabra; antherae 1 mm fuscae. Ovarium 1.5-2 × 1.5-2 mm dense lepidotum, sine pilis; stylus 11 × 1 mm, glaber; stigma 1.5 mm diam. Fructus 4-4.5 × 3 mm. Semen 0.8-0.9 mm longum, sine caudis 0.4 mm, cauda usque ad 0.3 mm.

Twigs fluted with leaf supports and covered in scales but without hairs. *Leaves* spirally arranged; narrowly obovate; the apex rounded or retuse, the margin finely crenulate with impressed scales; the base cuneate; 5–8 × 1.5–2.5 mm; midvein impressed above and prominent below; lateral veins not visible. *Petioles* 1–1.5 × 0.5–0.75 mm, inconspicuously grooved.

Inflorescence 1–2 flowered, the flowers pendent. *Pedicels* 6 × 0.5 mm, scaly. *Calyx* with broadly ovate, blunt lobes, 1.5 × 1.5 mm. *Corolla* pale red; without scent; 15 × 9 mm; the tube 13 × 5 × 6.5 mm; the lobes 3.5 × 3.5 mm, erect, scaly outside. *Stamens* arranged on the lower side of the flower; filaments 13 mm, glabrous, slightly swollen just above the base; anthers 1 mm, brown. *Ovary* 1.5–2 × 1.5–2 mm, densely scaly, without hairs; style 11 × 1 mm, glabrous; stigma 1.5 mm diam., dark brown. *Fruit* 4–4.5 × 3 mm. *Seeds* 0.8–0.9 mm, without tails 0.4 mm, the longest tail 0.3 mm.

Type: Sabah, Trus Madi, crest of main ridge, 2286 m, 7 i 1961, I. S. Collett 646B (holo. K).

***Rhododendron durionifolium* Becc. subsp. *sabahense* Argent, Lamb & Phillipps, subsp. nova**

Frutex c.3 m altus, ramulis subteretibus dense lepidotis. *Folia* in pseudoverticillis c.5, elliptica vel anguste—elliptica, 9–16 × 2–5 cm, apice acutato vel acuminato, margine integra sed aliquid sinuata, basi anguste attenuato, infra dense lepidota, supra glabrescentia (lepidibus fugacis); petioli 4–7 mm longi.

Umbellae c.15–20 florum. *Flores* horizontaliter dispositae vel semi penduli. *Pedicelli* c.15 × 1 mm, dense lepidoti. *Calyx* annuliformis. *Corolla* rubra, glabra vel prope basin parce lepidota. *Stamina* 10; filamenta c.18 mm longa inferne et per ½ long. subdense et patenter pilosa, superne glabra; antherae 2.5–3 mm longae. *Ovarium* cylindricum, dense fusco-lepidotum, 7 × 2 mm; stylus 11 mm longus parte inferiore lepidotus, superne glaber; stigma c.2 mm diam. *Fructus* ignotus.

Shrub to 3 m. Twigs subterete, densely scaly. *Leaves* pseudoverticillate with c.5 together; elliptic to narrowly elliptic, 9–16 × 2–5 cm; the apex acute or acuminate; the margin entire but somewhat sinuate; the base narrowly attenuate; beneath densely scaly, above glabrescent, the scales quickly disappearing; petioles 4–7 mm long.

Umbels c.15–20 flowered. *Flowers* held horizontally or half hanging. *Pedicels* c.15 × 1 mm, densely scaly. *Calyx* a low ring. *Corolla* red, glabrous or near the base sparsely scaly outside. *Stamens* 10; filaments c.18 mm long with spreading hairs in the lower ½, glabrous above; anthers 2.5–3 mm long. *Ovary* c.7 × 2 mm, cylindrical, densely covered in brown scales; style 11 mm long, scaly near the base, glabrous above; stigma c.2 mm diam. *Fruit* not seen.

Type: Sabah, Sipitang Dist., Long Pasia track, 900 m, v 1981, A. Phillipps, San 93169 (holo. E, iso. SAN).

This subspecies occurs in fairly uniform populations on Gunung Lumarku, Gunung Lotung and near Long Pasia. It differs from the type subspecies in the more slender, narrowly elliptic to elliptic leaves, 90–160 × 20–50 mm, with a tapering base, a longer petiole 4–7 mm long, the leaves greener and more quickly glabrescent above, and the flowers predominantly red or pink rather than orange in colour.

Rhododendron × liewianum Argent, Lamb & Phillipps, **hybrida nova**

Frutex c. 1 m altus. *Folia* in pseudovercillis, anguste-elliptica, apice acutato, margine integra, plana, basi anguste attenuata, 6–8.6 × 1–1.2 cm, inferne parce lepidotus (lepidibus discoideis, zona marginali irregulariter lobata, centro minuto, vix vel haud impressis), costa supra leviter impressa, infra valde elevata, nervis lateralibus c. 6 paribus angulo acuto patentibus, indistinctis; petioli c. 6 × 2 mm supra sulcati.

Umbellae c. 4 florum; flores horizontaliter dispositi vel leviter penduli. *Pedicelli* 10 × 1 mm pilosi et lepidoti. *Corolla* rosea, non-odorata, 25 × 20 mm; tubus extra subtiliter pilosus et lepidotus, 16 mm longus, basi 4 mm diam., orem versus 10 mm diam. dilatatus; lobi 9 × 8 mm. *Stamina* symmetrica circa orem disposita; filamenta 10 mm longa, triente inferiore pilosa, superne glabra; antherae 4 × 1 mm, brunneae. *Ovarium* dense albo-pilosum, lepidibus paucis intermixtis; stylus 5.5 mm longus; stigma c. 1 mm diam. Fructus ignotus.

Shrub to about 1 m high. *Leaves* in well marked pseudowhorls, narrowly elliptic; the apex acute; the margin flat; the base narrowly tapering; 60–86 × 10–12 mm; rather sparsely covered in type 'A' scales; midvein slightly impressed above, strongly raised below; lateral veins, about six pairs, spreading at an acute angle, rather obscure. *Petiole* about 6 × 2 mm, grooved above.

Umbels four-flowered, the flowers horizontal to slightly hanging. *Pedicels* 10 × 1 mm, both hairy and scaly. *Corolla* pink, without scent, 25 × 20 mm; the tube, 16 × 4 × 10 mm, finely hairy and scaly outside; the lobes, 9 × 8 mm. *Stamens* arranged all round the flower; filaments 10 mm, hairy in the basal third; anthers 4 × 1 mm, brown. *Ovary* 3.5 × 2.2 mm, densely white-hairy and with some scales; style 5.5 mm; stigma c. 1 mm diam. *Fruit* not seen.

Type: Sabah, Kinabalu National Park, by main ascent trail, 2000 m, xi 1979, P. Barrett-Payton s.n. (holo. E).

Named after Encik Francis Liew, Deputy Director of National Parks in Sabah, who fostered the idea of a *Rhododendron* handbook and encouraged the field work upon which this book is based.

This hybrid, almost certainly between *R. rugosum* Low ex Hook. f. and *R. stenophyllum* Hook. f. ex Stapf, is highly distinctive with its pink or purplish flowers and very slender flat leaves. However, when without flowers it could be mistaken for *R. nervulosum* Sleumer which usually has a much less well defined petiole or the more common hybrids between *R. crassifolium* Stapf and *R. stenophyllum* which have a slightly longer, thicker and more rounded petiole and a different pattern of veins. *R. × liewianum* has now been found in at least three places towards the lower end of the zone of overlap of the parent species, from about 1900–2500 m altitude.

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