

NOTES ON ERICACEAE FROM PAPUA NEW GUINEA

J.F. VELDKAMP

Rijksherbarium / Hortus Botanicus, Leiden, The Netherlands

SUMMARY

One new species is described in the genera *Agapetes* and *Vaccinium*, each. *Vaccinium acutissimum* F. Muell. var. *pilosistylum* is raised to specific rank. An intersubsectional hybrid between *Rhododendron alticolum* Sleum. and *R. rubellum* Sleum. is noted.

1. *Agapetes kudukii* Veldk., spec. nov.

A congeneribus novoguineensibus in foliis basi valde ad profunde cordatis differt. Praeterea innovatio, ramulus, latus laminae superior, corolla extus glabra, folia ovata, pedicellus ad ultimum fundum bracteolis provisus supra eas et infra calycem articulatus, limbus calycis sub anthesi c. 2,5 mm longus tubo 5-sulcato dimidio longior, corolla 28-35 mm longa 5-10 mm lata, filamentus theca (incl. tubulo) 0,25-0,28-plo brevior, theca processu basali muricato ceterum laevis. — Typus: *Veldkamp & Kuduk 8531* (L, holo; iso to be distributed), Papua New Guinea, Central Prov., Mt Yule, 3270 m, edge of scrub, common, 15 October 1989.

Erect to scrambling shrub, up to 5 m long, glabrous. Petioles 2.5-8 mm long. *Leaves* patent, slightly curved, ovate, 3.5-10.5 by 2-6 cm, below with a few blackish red hairlets, base cordate to deeply so, below without spots, margin crenate, teeth with blackish red hairlets, apex acuminate, nerves at base with 3 pairs, more or less fan-shaped, higher up with 1 or 2 pairs. *Flowers* 1 (or 2 or 3) together. Pedicel articulated at base and under the calyx, 15-25 mm long, bracteoles basal. *Calyx tube* ellipsoid, 5-sulcate, constricted immediately below the expanded limb, 5-5.5 mm long; limb c. 2.5 mm long, patent to slightly recurved at anthesis, at anthesis about half as long as the tube. *Corolla* tubular, curved to slightly S-shaped, 28-35 by 5-10 mm, outside completely glabrous, dirty green purple to pink, lobes triangular, c. 3 by 3 mm. Disk glabrous. *Filaments* adherent at base in bud, free, 7-7.5 mm long, 0.25-0.28 times as long as the anthers (incl. the 10-12 mm long tubules); anthers 25-27 mm long, subsmooth, basal processes slightly turned in, muriculate, thecae c. 15 mm long. *Ovary* 5-locular. Style 33-35 mm long, glabrous. *Fruit* woody, purple black.

Distribution - Papua New Guinea: Central Province, Mt Yule, 8° 12' 37" S, 146° 47' E.

Habitat - Edge of scrub, common, 3270 m.

Notes - Plants collected in August 1968 by Woods (2966-b, L) above Woi tape (8° 33' S, 147° 15' E), about 65 km to the SE of Mt Yule, and cultivated in the Royal Botanic Gardens of Edinburgh (acc. no. 710179-G49) have the same type of leaves, but the flowers are significantly smaller with a corolla of c. 23 by 10 mm, 18-20 mm long anthers with 9-11 mm long thecae and 8-9 mm long tubules.

A somewhat similar fan-shaped basal nervature of the blades, but not the cordate base, is found in *A. sclerophylla* Sleum. (see Sleumer: 1967, fig. 118, 119).

Agapetes shungolensis Stevens (1973) differs by apparently being a treelet, blades oblong to obovate-oblong, 11–17 mm wide, base cuneate, nerves pinnate, bracteoles inserted above the base of the 12–15 mm long pedicels, calyx tube urceolate, terete, narrowed below the limb, 3–4.25 mm wide, limb 1.2 mm long, corolla c. 3 mm wide, filaments 8–10 mm long, connate for the major part, anthers 22–24 mm long, thecae 10–12 mm long, muriculate all over.

Agapetes carrii Sleum. has somewhat similar leaves, but a hairy, 18–20 mm long corolla, c. 2 mm long filaments, markedly granular, 6–7 mm long anther-cells, tubules 9–10 mm long, styles c. 17 mm long.

Named after Mr. Max Kuduk of the Botany Department, University of Papua New Guinea, Port Moresby, whose company I enjoyed during our trips to Mt Fala and Mt Yule.

2. *Rhododendron* (180) *alticolum* Sleum. × *Rhododendron* (74) *rubellum* Sleum.

Rhododendron alticolum was placed in section *Vireya* subsection *Euvireya* series *Buxifolia* by Sleumer (e.g. 1966: 597, no. 180), but Van Royen (1982: 1667) regarded it as a member of the series *Javanica* because additional collections were of specimens with leaves up to 8(–9) cm long. Mr. Max Kuduk and I collected this species on Mt Yule, apparently a new record (*Veldkamp & Kuduk 8505*, L).

The subsection *Euvireya* has sessile, 'star-shaped' scales; the leaves feel smooth.

Rhododendron alticolum has smooth branchlets, leaves with a cuneate base running down along the petiole for a bit, an essentially glabrous corolla, the few scales entire, and an ovary covered by scales only, while the style is glabrous.

In the same area *R. rubellum* (Sleumer, 1966: 526, no. 74) of the section *Vireya* subsection *Phaeovireya* was found (*Veldkamp & Kuduk 8506*, L).

The subsection *Phaeovireya* has dendroid scales, i.e. scales placed on top of a distinct persistent stalk or tubercle, whereby the leaves feel scabrid, especially below.

Rhododendron rubellum has pusticulate branchlets, leaves with a rather abruptly cuneate to subtruncate base, a corolla with appressed fimbriate scales, and an ovary and the lower part of the style covered by both scales and stiff hairs.

Veldkamp & Kuduk 8505-A and *-B* (L) apparently represent hybrids between *R. alticolum* and *R. rubellum*. The leaves have a mixed indument of subsessile and shortly stalked subentire scales and are rough to the touch. The branchlets are nearly smooth, the blades have the base of *R. alticolum*, the corolla has appressed entire to slightly stellate scales, and *8505-A* a style and ovary as in *R. rubellum*. *Veldkamp & Kuduk 8505-B* has an ovary with much smaller setae, only slightly longer than the scales and thus approaches *R. alticolum* more.

In the collections we made there are also differences in the aspect of the leaves. Those of *Veldkamp & Kuduk 8505* (*R. rubellum*) are rather thick, greyish above and yellowish green below, also the nerves, with strongly involute margins after drying. In *Veldkamp & Kuduk 8506* (*R. alticolum*) and *Veldkamp & Kuduk 8505-A* and *-B* (the putative hybrid) they are less thick, olive green above, and brownish beneath with

dark nerves because the subtire scales have a larger surface than in the fimbriate ones of *R. rubellum*; the margins are only slightly revolute. Thus to the naked eye the specimens of 8505-A, -B, and 8506 are very similar, but with the lens the indument places 8505-A and -B much closer to 8505.

If 8505-A and -B had been the only collections, they might have been mistaken for *R. culminicolum* F. Muell. var. *culminicolum*, which is known to occur in the Owen Stanley Range, although not yet seen from Mt Yule. In this taxon, however, the scales are quite appressed against blade and corolla, and more regularly circular in outline. Short setae on the ovary similar to 8505-B were observed in *Szent-Ivany 5* and *LAE (Stevens & Coode) 51392* (both in L) from Mt Strong, N of Mt Yule.

3. *Vaccinium* (§ *Oarianthe*) *candidum* Veldk., *spec. nov.*

Vaccinio sororio J.J. Smith similis, sed in marginibus foliorum 2–4 paribus glandularum minutarum, floribus candidis, filamentis basi paulo dilatatis laevibus, stylo glabro differt. — Typus: *Veldkamp & Kuduk 8324* (L, holo; iso to be distributed), Papua New Guinea, Central Prov., Mt Fala, 8° 58' S, 147° 38' 30" E, 2785 m, 6 October 1989.

Shrublet, c. 30 cm high. *Blades* (obovate-)elliptic, 7–10 by 5–6 mm, base cuneate, margin entire, slightly involute i. s., with 2–4 glandular dots, apex rounded, acumen bluntly acute. Pedicels and peduncles 3–5 mm long. *Calyx* glabrous, tube 2 by 1.75–2 mm, limb 1–1.25 mm long, lobes 1–1.25 by 1.75–2 mm, acutish, margin ciliolate. *Corolla* urceolate, 6–7 by 3–4.75 mm, white, outside glabrous, inside pilose in the upper half, lobes c. 1.2 mm long, revolute. Disk glabrous. *Filaments* 1.75–2.5 mm long, pilose; anthers 1.1–1.25 mm long, muricate, tubules 0.3–0.4 mm long. Style glabrous or with a few hairs at base.

Distribution – Papua New Guinea: Central Province, Mt Fala.

Habitat – Hummocks in marshy, subalpine grassland, 2785 m.

Collector's notes – Shrublet. Branches castaneous. Leaves erecto-patent, above dark green, shiny, below black-dotted (invisible i. s.). Flowers pendulous, white. Common.

Notes – Similar to *V. sororium* J.J. Smith, but there the margin of the blades has a distinct gland above the base, the flowers are reddish to pink, the filaments are dilated at base, muricate, and the style is hairy.

Named for its white flowers.

4. *Vaccinium* (§ *Bracteata*) *obedii* Veldk., *nom. et stat. nov.*

Vaccinium acutissimum F. Muell. var. *pilosistylum* Sleum., *Blumea* 11 (1961) 70; *Fl. Males.* I, 6 (1967) 831; Royen, *Alp. Fl. New Guinea* 3 (1982) 1842, t. 563. — Type: *Brass & Collins 31014* (K, holo, L, fragm.; CANB, LAE, US), Papua New Guinea, E Highlands Prov., Mt Otto, 5° 58' 37" S, 145° 39' 30" E, 3540 m, 12 August 1959.

Shrub, up to 3 m. Innovations grey puberulous. *Blades* (ovate-) elliptic, up to 20 by 12 mm, above dirty greyish olive (i. s.), below greenish to chocolate brown (i. s.), base rounded, margins entire, revolute, apex acuminate. *Inflorescence* patently grey puberulous. Floral bracts early caducous. *Calyx lobes* eglandular. *Corolla* obconical to oblong-urceolate, narrowed below the erect to revolute lobes, 6 by 3 mm, tube

glabrous, smooth, lobes c. 1 mm long, 0.2 times as long as the tube. *Filaments* hairy at base; anther cells c. 1 mm long; tubules c. 0.5 mm long, in bud with 1–few erect flat lobes at the upper margin, gone at anthesis. Disk glabrous. Style glabrous, in the lower part microscopically papillose.

Distribution – Papua New Guinea: E Highlands Province, Mt Otto.

Habitat – Subalpine scrub, c. 3500 m.

Collector's notes – Branches ascending. Leaves horizontal. Inflorescences erect, flowers horizontal. Corolla blood red. Frequent.

Notes – Sleumer (1961, 1967), followed by Van Royen (1982), regarded this taxon from the Eastern Highlands as a variety of *V. acutissimum* from the Central Prov., differing by the pilose disk and style base. Comparison of *Veldkamp & Obedi 8651* with the fragment of the type in L (not the basis of Van Royen's plate!) showed a good match, but an absence of the pilosity. The style at base has microscopic glands, but not hairs. The tubules have no glands at the apex, as should be present in *V. acutissimum*, but some flat appendages that have disappeared at anthesis. This, therefore, is a distinct species.

As the varietal epithet is misleading, it has not been retained at the specific level. It is now named after Mr. Simon Obedi of the Botanic Garden in Lae, whose company I enjoyed during a trip to Mt Otto in 1989.

ACKNOWLEDGEMENTS

These Field studies on Mt Fala, Mt. Otto, and Mt Yule in 1989 could not have been made without the facilities kindly extended by the Post & Telecommunications Corp., Papua New Guinea, the cooperation of the Forest Research Institute, Lae, and the Botany Department, University of Papua New Guinea, Port Moresby, which are gratefully acknowledged here.

REFERENCES

- ROYEN, P. van. 1982. *Alpine Flora of New Guinea* 3: 1842, t. 563. Vaduz.
SLEUMER, H. 1961. *Florae malesianae praecursores*. XXVIII. The genus *Vaccinium* in Malaysia. *Blumea* 11: 70.
SLEUMER, H. 1966–1967. *Ericaceae*. *Fl. Males. I*, 6: 831, 878–885, figs. 116–119.
STEVENS, P.F. 1973. Notes on the infrageneric classification of *Agapetes*, with four new taxa from New Guinea. *Notes Roy. Bot. Gard. Edinburgh* 32: 13–28.