

A new Record of *Vaccinium carneolum* (Ericaceae) in Indonesian New Guinea

WENDY A. MUSTAQIM

Plant Biology Programe-Graduate School, Department of Biology, Faculty of Mathematics and Natural Sciences, Bogor Agricultural University, Dramaga, Jawa Barat.

Diterima: 9 September 2018 – Disetujui: 6 Februari 2019
© 2019 Jurusan Biologi FMIPA Universitas Cenderawasih

ABSTRACT

Vaccinium carneolum (Ericaceae), previously known only from Papua New Guinea, has been recently collected from Arfak Mountains, Papua Barat Province. It represents the first record of this species in Indonesian New Guinea. A description and illustration, as well as a brief discussion, are provided.

Key words: Ericaceae, New Guinea, plant taxonomy.

INTRODUCTION

The Ericaceae consisting of about 124 genera and 4250 species (Christenhusz & Byng, 2016). It has a wide distribution in most parts of the world (Sleumer, 1966). This plant family is also diversifying in Malesia, particularly the genus *Rhododendron* (Argent, 2014), *Vaccinium* (Sleumer, 1967), and an almost Malesian exclusive *Diplycosia* (Argent, 2014).

New Guinea is also a center of diversity for Ericaceae in Malesia. About half or probably more of the species are endemic to this island (Sleumer, 1967; Argent, 2014). New species are constantly found in this areas even in recent times (Danet, 2005a; 2005b; 2010; 2012; 2015; Argent, 2014; Danet & Chaumeret, 2016; Conlon, 2015).

Records for Indonesian part of New Guinea for the plants previously known only from PNG's side are available, such as Juswara & Schuiteman

(2016). Such discovery is not surprising since Takeuchi (2006) has mentioned that the Indonesian part of this island is botanically less explored compared to the neighboring region. In this paper, we report the occurrence of previously Papua New Guinean endemic *Vaccinium carneolum* in the Arfak Mountains.

TAXONOMIC TREATMENT

Vaccinium carneolum Sleum. Bot. Jahrb. 72: 262 (1942); Blumea 11: 70 (1961); Flora Malesiana I, 6(5): 831. (Figure 1).

Taxonomic description. Large shrubs to c. 6 m tall. Branchlets red, glabrous, longitudinally striated when young, subangular, becoming terete to age. Leaves laxly arranged, lanceolate or elliptic-lanceolate, 4.8–7.8 × 1.3–2.3 cm, coriaceous, glabrous, shining above, apex acuminate, rarely attenuate, base attenuate into petiole, basal gland 1 pair, near the apex of petiole, upper one not seen, margin entire, slightly revolute, usually not so in apical part, midrib slightly prominent above, rarely sub-impressed, obtusely raised in the lower part, gradually narrowing and less prominent

* Corresponding author:
Plant Biology Programe-Graduate School, Department of
Biology, Faculty of Mathematic and Natural Sciences,
Bogor Agricultural University, Dramaga, Jawa Barat.
16680. E-mail: wendyachmmadm@gmail.com



Figure 1. Inflorescences of *Vaccinium carneolum* (Photo: Wendy A. Mustaqim).

toward the apex, 7-plinerved, usually outer two very close to the margin, few upper nerves often arisen from the midrib, faintly raised on both sides, reticulation slightly raised on both surfaces; petioles red, 7–9 mm long by 0.8–1.1 mm wide. Inflorescence racemes, borne from the upper 3 to 6 upper axils, suberect or spreading, bearing about 16 to 18 flowers, rachis glabrous, rather slender, eperulate at anthesis, 2.8–3.5 cm long, eperulate at anthesis. Pedicels slender, 6 mm, usually with few glandular or clavate glands especially at the apex, bracteoles not seen. Calyx campanulate, base truncate, clad with glands at the base, upward glabrous, limb deeply 5-lobed, ovate, apex rounded or obtuse, sometimes acute, apical gland conspicuous, dorsal surfaces glabrous, margin densely ciliate. Corolla glabrous on both sides, elongate, c. 9 mm long, c. 3 mm wide, white or greenish white, slightly pinkish at the base, tube

distally attenuate, for c. 2 mm, lobes ovate, c. 1.5 mm long, obtuse, margin papillate or ciliate, sometimes with few hairs at apex. Filaments subulate from a distinctly dilated base, slightly S-shaped, densely hairy, c. 2 mm long, anther cells echinulate, oblong, c. 1 mm long, dorsal spur absent, tubule as broad as the cells, c. 0.4 mm long, at an angle with the cells, obliquely cut apically, back of the walls with bifid bristle, apically glandular. Disc glabrous except small hair observed. Ovary glabrous. Style slender, cylindrical, c. 7.5 mm long, glabrous except minute hair at the base, papillose at the thickened part near the stigma. Fruit globose, immature green.

Distribution. Endemic to New Guinea (Sleumer 1967). In Indonesia so far only in Arfak Mountains (Figure 2).

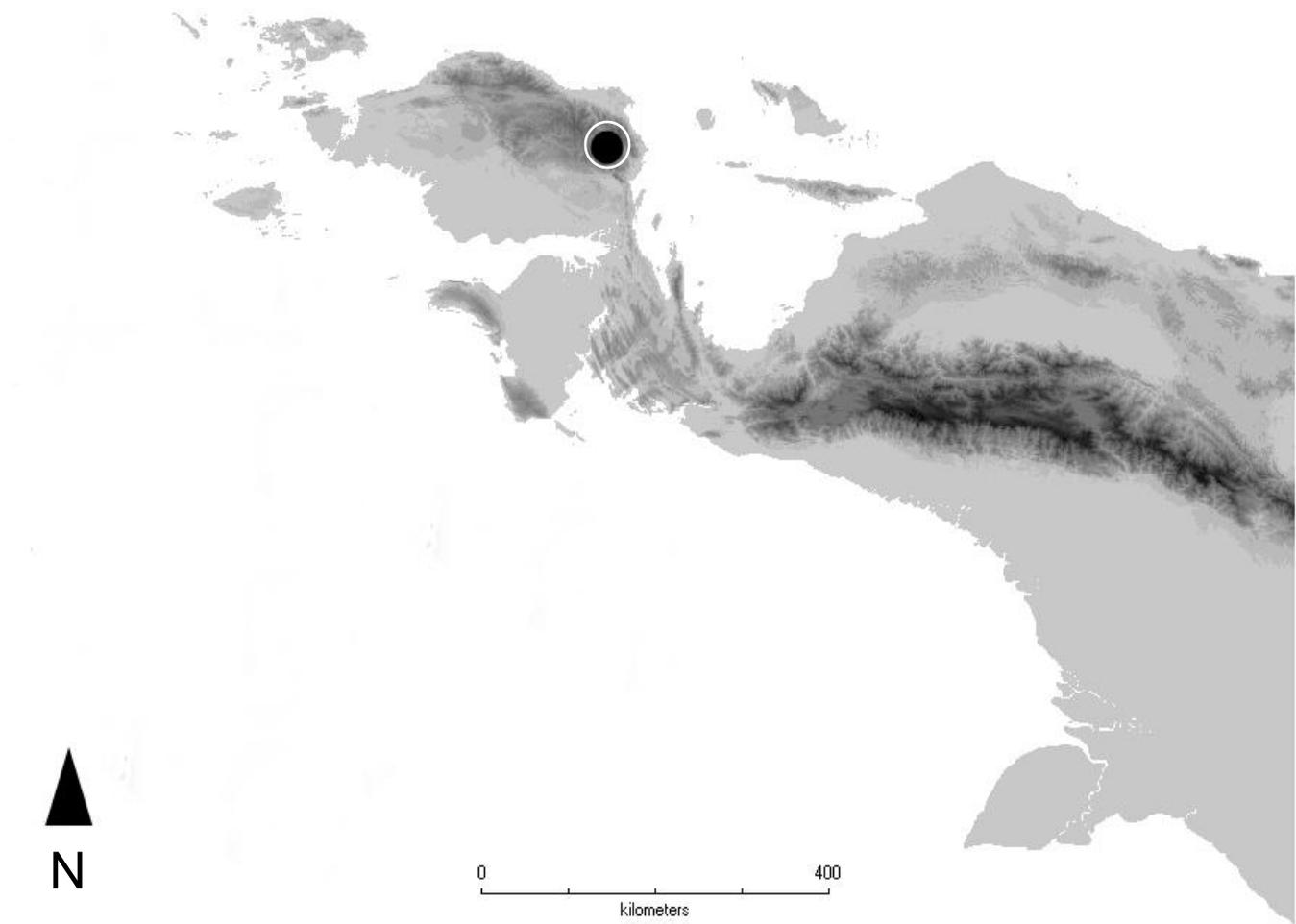


Figure 2. Distribution of *Vaccinium carneolum* in Indonesian New Guinea.

Habitat and ecology. In Arfak Mountains, this species grown on a scrub with scattered trees, open situations, near the margin of Lakes Anggi Gigi. It was recorded from an elevation of about 1.750 m asl.

Notes. The description above is only from recently collected materials. It differs in the hairiness of inner corolla surfaces, which is entirely glabrous, not laxly hairy as mentioned in Sleumer (1967). Based on Sleumer's classification, our specimen belongs to the typical variety, var. *carneolum*. The current record makes this species is now disjunct, considering that no record is present from the

Central range, such as the Weyland, Jayawijaya to Star Mountains.

Based on Sleumer (1967), this species is similar to *Vaccinium acutissimum* var. *acutissimum*. It is also a species endemic to PNG. The latter can be recognized, in part, by its smaller leaves, which is only 2-3 cm long and 1-1.7 cm wide, red and shorter corolla (5-6 mm) and inflorescence with fewer flowers (usually 5 to 8).

Specimen examined. Indonesia. Papua Barat Province, Pegunungan Arfak Regency, Anggi District, Arfak Mountains, near road to Irbos, (S

01° 20' 12.5" E 133° 52' 34.8"), 1750 m asl, 15 April 2016, WA *Mustaqim* 1887 (BO, MAN).

ACKNOWLEDGMENTS

The author thanks Major General M. Herindra, chief commander of Ekspedisi NKRI Papua Barat 2016, who support the field exploration. Also to Major Bram Pramudia for all kindness and support for the trip. Special thanks to Srg. Edo Sugar, Srg. Philip Titaley, Srg. Arya Wicaksana, Ashar, Ekram, Dadang, Srg. Mushal J. Tuahuns and Semeru Nusabakti for help in the field.

REFERENCES

- Argent, G. 2014. *Vaccinium utteridgei* (Ericaceae), a new species (sect. *Bracteata*) from Indonesian New Guinea. *Edinburgh Journal of Botany*. 71(2): 189-192. doi: 10.1017/S0960428614000080.
- Christenhusz, M.J.M., and J.W. Byng. 2016. The number of known plants species in the world and its annual increase. *Phytotaxa*. 261 (3): 201-217.
- Conlon, T. 2015. *Diplycosia* Blume - a little known genus of the Ericaceae from South-East Asia cultivated under the glass at the Royal Botanic Garden Edinburgh. *Sibbaldia*. 8: 45-61.
- Danet, F. 2005a. Trois nouvelles espèces et un nouvel hybride naturel de *Rhododendron* (Ericaceae) de Nouvelle-Guinée. *Adansonia*. 27(2): 267-280.
- Danet, F. 2005b. Une espèce et une variété nouvelles de *Vaccinium* (Ericaceae) de Nouvelle-Guinée. *Adansonia*. 27(2): 281-285.
- Danet, F. 2010. *Rhododendron heterolepis* (Ericaceae), une espèce nouvelle de Papouasie. *Adansonia*. 32(1): 135-139.
- Danet, F. 2012. Deux nouvelles espèces de *Rhododendron* L. section *Schistante* Schltr. (Ericaceae) de Nouvelle-Guinée. *Adansonia*. 34(2): 343-351.
- Danet, F. 2015. The genus *Rhododendron* L. (Ericaceae) in New Guinea: a new neotype for *R. gardenia* Schltr. and a new species, *Rhododendron cravenii* Danet, sp. nov. *The Rhododendron*. 55: 12-26.
- Danet, F., and A.M. Chaumeret. 2016. *Rhododendron x helodes* Sleumer (Ericaceae) in New Guinea: an amphistomatous hybrid of *R. saxifragoides* J.J.Sm. *The Rhododendron*. 56: 14-25.
- Juswara, L., and A. Schuiteman. 2016. *Dendrobium armeniacum* P.J.Cribb, a new record for Indonesian New Guinea. *Telopea*. 19: 131-135.
- Sleumer, H. 1966. Ericaceae. *Flora Malesiana* I. 6(4): 469-668.
- Sleumer, H. 1967. Ericaceae. *Flora Malesiana* I. 6(5): 669-914.
- Takeuchi, W. 2006. Introduction to the flora of Papua. In: Marshall, A.J., and B.M. Beehler (eds.). *The ecology of Papua*. Periplus. Singapore. pp 269-302.