

Rhododendron Update - 4

INTRODUCTION

This is the fourth part of our Rhododendron species update and contains 4 Near Threatened (NT) species, all almost meeting the IUCN criteria for Vulnerable, and three new vireyas recently described. It also includes a range of other vireyas recently elevated from subspecies to species status by the late Lyn Craven.

Our methods are described in the July newsletter but are summarized in Appendix 1.

For these threatened species we have searched on line to determine whether it is in cultivation and where. Our major sources were the Global Survey of Ex situ Rhododendron Collections (BGCI 2011), the Multisite Search page of the Royal Botanic Garden Edinburgh (MSEBG 2014) and the Database of Asian Plants in Cultivation (DAPC 2014)

SPECIES ACCOUNTS

In the following accounts the species name and author is given followed by the journal reference for the original description. Then follows a small account of the species. More detailed descriptions can be found in the references with each account.

Part 1 Near Threatened Species

Rhododendron longesquamatum C.K. Schneid.

1909. Ill. Handb. Laubholzk. 2: 483

Subgenus Hymenanthès, Section Ponticum, Subsection Maculifera

This is a large shrub or small tree up to 6m tall with grey bark and dense shaggy young shoots. The leaf is leathery, oblong-oblongate to narrowly obovate, 5.5-15.5 × 2-4.5 cm with a rounded base and recurved margins, dark green above and paler below and a shaggy midrib. The pink to rosy-red, open-campanulate flowers have a deep crimson blotch and are born on 6-12 flowered inflorescences. It usually grows in fir forests, sometimes on cliffs, at 2300-3400 m in a few localities in western Sichuan. It is grown in gardens overseas and is available in nursery catalogues in the USA and Europe.

Rhododendron papillatum Balf. f. & R.E. Cooper

1922. Notes Roy. Bot. Gard. Edinburgh 13: 282

Subgenus Hymenanthès, Section Ponticum, Subsection Irrorata

A shrub or small tree 2- 5 m tall with somewhat leathery leaves 8-13 × 2-4 cm with round to wedge shaped bases and recurved margins and a very thin indumentum. The inflorescence bears 5 to 9-flowered campanulate flowers, pale cream to pink, with purple flecks and blotched at the base. The species occurs in Bhutan, China (Xizang) and north east India in fir forests and rhododendron thickets.

It is sometimes considered a subspecies of *R. forrestii* and is recorded as such in Fang et al. (2011) and Cox and Cox (1997). Although McQuire and Robinson (2009) say it is in cultivation and Cox and Cox (1997) mention two clones in captivity, it does not appear to be available for sale on the net.

***Rhododendron riparioides* (Cullen) Cubey**

2005. Fl. China 14: 297

Subgenus *Rhododendron*, Section *Rhododendron*, Subsection *Saluenensia*

These are upright shrubs to 1.5 m tall with densely scaly young shoots. The leaves are elliptic to ovate-elliptic, 1.2-3.8 × 0.6-2 cm with a generally acute apex and the undersides with dense overlapping orange-pink scales arranged in to 3 tiers; the upper surface is greenish blue-grey and matt. The inflorescence is terminal with up to 5 flowers. The corolla is open funnel-campanulate, bright purple, with darker flecks. The capsule is not known according to the Flora of China. This species has a narrow distribution in northwest Yunnan between 3600 and 4800 m in fir forests and open habitats, including rocky areas above the tree line. A picture is available on the webpage of the Danish chapter of the ARS (<http://www.rhododendron.dk/riparioides.html>).

It is sometimes treated as a subspecies or variety of *R. calostrotum* but Cubey (2003) reported in Gibbs *et al.* (2011) "... has shown that *R. calostrotum* var. (or subsp.) *riparioides* is consistently tetraploid (2n = 52) and is therefore genetically isolated from the diploid *R. calostrotum* and its var. *calciphilum* (2n = 26)". It may not be in cultivation.

***Rhododendron tsoi* Merr.**

1934. Lingnan Sci. J. 13(1): 42

Subgenus *Tsutsusi*, Section *Tsutsusi*

A small semi evergreen shrub to 1m tall young shoots densely covered is short stiff chestnut brown hairs and with different summer and winter leaves. The leaf is leathery, elliptic or obovate to broadly elliptic, 0.5–1.4 × 0.4–0.9 cm with recurved margins and an often pointed tip. The leaf under surface is covered in dense stiff hairs especially on the midrib while the upper surface is sparsely hairy only. The flowers are born in 3–5-flowered inflorescences. The flower is narrowly funnellform, rose, ca. 1 cm with a tube 3–4 mm long and the lobes 5-6

× 3-4 mm. The flower stalk and the inside of the flower are coated in stiff chestnut brown hairs. It is a low altitude species found in S Guangdong, C and SW Guangxi between 700 and 1600 m in open forests, arid mountains and meadows.

Part 2 New Vireyas

***Rhododendron torajaense* Craven**

Subgenus Vireya, Section Euvireya

2014. Journal of the Adelaide Botanic Gardens 27: 30.

This species was described from near Mt Sesean on Sulawesi where it was growing on a roadside bank. It is a small shrub to 1 m tall with leaves in whorls of 4 to 6, narrowly elliptical to ovate, 85–170 × 35–75 mm, and slightly recurved margins. Both surfaces bear moderately dense sessile scales with irregular rims and raised centres. The flowers are born on 7–8-flowered inflorescences, short-salverform, 45–50 mm long including the lobes, white, weakly sweet-fragrant, tube 28–30 mm long, lobes 17–20 mm long and spreading at right angles to the tube, sparsely scaly outside and with or without pubescent hairs on the very proximal region of the tube. It differs from *R. rhodopus* Sleumer in the leaf, being weakly scented; size of the flower and anthers.

Craven suggests it should be classified as Vulnerable but the species has not been formally included in the IUCN list as yet and more would need to be known of its ecology before it could be. The fact it was found on a road embankment suggests it is a good coloniser. It occurs in collections in Australia.

***Rhododendron gumineense* Craven**

Subgenus Vireya, Section Phaeovireya

2014. Journal of the Adelaide Botanic Gardens 27: 31.

This species was described from cultivated material growing in the glasshouse of ARSVic member Andrew Rouse. However the original plant is known to have come from Gumine, Chimbu Province in the highlands of PNG in 1971. It's ecology is completely unknown. It occurs in collections in Australia.

Like many vireyas it is a small red flowered shrub and is similar to the widespread *R. beyerinckianum* Koord. The features that distinguish them are given in Table 1.

Table 1 Distinguishing features between *R. gumineense* and *R. beyerinckianum*.

Feature	gumineense	beyerinckianum
Form	Very small shrub to 40 cm high.	Shrub or tree 1—5 m high.
Leaf blade	Narrowly elliptic to elliptic, 22–35 x 7–16 mm	Narrowly ovate, to broadly elliptic, obovate or subcircular, 30–60 x 10–35 mm
Leaf base	Wedge shaped and often very narrowly so	Broadly tapering or rounded
Anthers	1.2–1.6 mm long	2–2.5 mm long
Ovary	Subcylindrical and tapering to the style	Elongate conical or subovoid, usually abruptly tapering distally

***Rhododendron dissilistellatum* Craven**

Subgenus *Vireya*, Section *Solenovireya*

2014. *Journal of the Adelaide Botanic Gardens* 27: 33.

A lax shrubs to 70 cm. tall with moderately densely scaly branchlets which also have moderately dense short hairs. The leaves occur in pseudowhorls of 5 to 10 and are narrowly elliptic to narrowly obovate, 25–64 × 7–19 mm with wedge shaped to obtuse bases and slightly recurved margins. The inflorescence is a 7–15-flowered umbel and the flowers are in a more or less spreading band. The flower is white, salverform, 59–79 mm long including the lobes with a long straight tube 50–67 mm long and 2–3 mm in diameter and lobes 9–12 mm long. The inside of the flower is hairy to about $\frac{3}{4}$ to the apex.

It is most similar to *R. radians* J. J. Sm. (see table 2) and occurs in lower montane rainforest on Sulawesi on the western lower-mid slopes of the Mount Sojol complex between 1153–1344 m. It occurs in collections in Australia.

Table 2 Distinguishing features between *R. dissilistellatum* and *R. radians*.

Feature	<i>dissilistellatum</i>	<i>radians</i>
Leaf blade	Narrowly elliptic to narrowly	Ovate to ovate-oblong with the base
Leaf base	Wedge shaped to obtuse	Heart shaped
Outer perulae	Elliptic to broadly elliptic	Ovate- acuminate
Style	Hairy to within c. 2 mm of the apex	Hairy in the proximal 5/6 of the style

Part 3 Change in status for some Vireyas

Craven (2014) has separated all the subspecies of *R. javanicum* into species as follows.

***R. brookeanum* H.Low ex Lindl.**

Subgenus *Vireya*, Section *Euvireya*

J. Hort. Soc. London 3: 823 (1848).

Formerly *R. javanicum* subsp. *brookeanum* (H.Low ex Lindl.) Argent & Phillipps, Bot. J. Linn. Soc. 85: 15 (1982).

May be distinguished from *R. javanicum* by the puckered leaf blade; the ovate subacuminate, glabrous outer perulae; and the ovary more or less abruptly tapering to the style. It occurs in collections in Australia.

***R. cladotrichum* (Sleumer) Craven, comb. et stat. nov.**

Subgenus *Vireya*, Section *Euvireya*

2014. Journal of the Adelaide Botanic Gardens 27: 28.

Formerly *R. javanicum* subsp. *cladotrichum* (Sleumer) Argent, Rhododendrons of subgenus *Vireya* 247 (2006).

Separable from *R. brookeanum* by the branchlets being hairy and the leaf lamina midrib being densely short-hairy on both surfaces compared with being glabrous in *R. brookeanum*.

***R. cockburnii* (Argent, A.Lamb & Phillipps) Craven, comb. et stat. nov.**

Subgenus *Vireya*, Section *Euvireya*

2014. Journal of the Adelaide Botanic Gardens 27: 28.

Formerly *R. javanicum* subsp. *cockburnii* Argent, A.Lamb & Phillipps, Notes Roy. Bot. Gard. Edinburgh, 42: 113 (1984). — *R. brookeanum* subsp. *cockburnii* (Argent, A.Lamb & Phillipps) Argent, Edinburgh J. Bot. 52: 364 (1995).

The pseudowhorled leaves, the subfleshy and puckered leaf lamina and the corolla with a constricted tube are diagnostic.

***R. extraneum* (Sleumer) Craven, comb. et stat. nov.**

Subgenus Vireya, Section Euvireya

2014. Journal of the Adelaide Botanic Gardens 27: 28.

Formerly *R. brookeanum* var. *extraneum* Sleumer, Reinwardtia 5: 225 (1960).

R. extraneum occurs on Sumatra whereas the other three of the four infraspecific taxa of *R. brookeanum* sensu Sleumer (1966) are from Borneo. It supposedly differs from *R. gracile* (as var. *gracile*) by the leaf blade being narrowly ovate-oblong and the corolla 4 - 5 cm long compared with the leaf blade being narrowly ovate and the corolla 5 to 6 cm long compared with in *R. gracile*.

***R. gracile* H.Low ex Lindl.**

Subgenus Vireya, Section Euvireya

J. Hort. Soc. London 3: 84, fig. (1848).

Formerly *R. brookeanum* var. *gracile* (H.Low ex Lindl.) Henslow, J. Roy. Hort. Soc. 13: 261, f. 42 (fol.), 43a (fl.) (1891). — *R. javanicum* subsp. *gracile* (H. Low ex Lindl.) Argent, A. Lamb & Phillipps, Notes Roy. Bot. Gard. Edinburgh, 42: 114 (1984). — *R. brookeanum* subsp. *gracile* (H.Low ex Lindl.) Argent, Edinburgh J. Bot. 52: 364 (1995).

The species is shown in Argent (2006) p. 247.

***R. kinabaluense* (Argent, A.Lamb & Phillipps) Craven, comb. et stat. nov.**

Subgenus Vireya, Section Euvireya

2014. Journal of the Adelaide Botanic Gardens 27: 29.

Formerly *R. javanicum* var. *kinabaluense* Argent, A.Lamb & Phillipps, Notes Roy. Bot. Gard. Edinburgh, 42: 113 (1984). — *R. brookeanum* var. *kinabaluense* (Argent, A.Lamb & Phillipps) Argent, Edinburgh J. Bot. 52: 363 (1995). — *R. javanicum* subsp. *kinabaluense* (Argent, A.Lamb & Phillipps) Argent, Rhododendrons of subgenus Vireya 248 (2006).

R. kinabaluense is characterised by its dispersed leaves, puckered leaf lamina, and appressed and often emarginate outer perulae. It occurs in collections in Australia.

***R. moultonii* Ridl.**

Subgenus *Vireya*, Section *Euvireya*

Ridl. J. Straits Br. Roy. As. Soc. 63: 61 (1912).

Formerly *R. javanicum* subsp. *moultonii* (Ridl.) Argent, Bot. J. Linn. Soc. 85: 16 (1982). — *R. brookeanum* var. *moultonii* (Ridl.) Argent, Edinburgh J. Bot. 52: 364 (1995).

This species is characterised by the intermediate, dispersed-pseudowhorled arrangement of its leaves, the puckered leaf lamina, and the ovary abruptly tapering to the style.

***R. palawanense* (Argent) Craven, comb. et stat. nov.**

Subgenus *Vireya*, Section *Euvireya*

2014. Journal of the Adelaide Botanic Gardens 27: 29.

Formerly *R. javanicum* subsp. *palawanense* Argent, Gard. Bull. Singapore 56: 90 (2004).

R. palawanense is characterised by the dispersed leaves, flat leaf lamina, acute (never emarginate) outer perulae, and grey pollen.

***R. schadenbergii* Warb.**

Subgenus *Vireya*, Section *Euvireya*

In Perkins, Fragm. Fl. Philippines 172 (1905).

Formerly *R. javanicum* var. *schadenbergii* (Warb.) Sleumer, Reinwardtia 5: 195 (1960). — *R. javanicum* subsp. *schadenbergii* (Warb.) Argent, Edinburgh J. Bot. 52: 364 (1995).

R. schadenbergii is characterised by the dispersed leaves, apparently flat leaf lamina, and cream pollen. Argent (1995) comments that this plant “warrants at least subspecific status”.

***R. teysmannii* Miq.**

Subgenus *Vireya*, Section *Euvireya*

Fl. Ned. Ind., Eerste Bijv. 3: 585 (1861).

Formerly *R. javanicum* var. *teysmannii* (Miq.) King & Gamble, J. As. Soc. Bengal 74: 75 (1905). — *R. javanicum* subsp. *teysmannii* (Miq.) Argent, Rhododendrons of subgenus Vireya 249 (2006).

This species is characterised by the flat leaf lamina, the very commonly hairy pedicels, and the more or less densely pubescent ovary.

***Rhododendron biappendiculatum* Craven, nom. et stat. nov.**

Subgenus Vireya, Section Euvireya

2014. Journal of the Adelaide Botanic Gardens 27: 31.

Replaced synonym: *R. seranicum* J.J.Sm. subsp. *sparsihirtum* Argent, Rhododendrons, camellias and magnolias 2013, 127 (2013) (as *sparsihirtus*).

R. seranicum subsp. *sparsihirtum* was distinguished from subsp. *seranicum* on the basis of it having hairs at the base of the filaments, on the disk and inside the corolla towards the base (Argent 2013). It occurs in collections in Australia.

References

- Botanic Gardens Conservation International (BGCI). 2012. Global Survey of Ex situ Rhododendron Collections. Available at http://www.bgci.org/ourwork/rhododendron_survey/
- Cox, P. A. and Cox, K. N. E. 1997. *The Encyclopedia of Rhododendron species*. Glendoik Publishing, Perth, Scotland.
- Craven, L. A. 2014. Three new species of, and realignments in, Rhododendron sect. Schistanthe (Ericaceae). *Journal of the Adelaide Botanic Gardens* 27: 25–34.
- Cubey, J. C. 2003. A cytological and morphological taxonomic study of *Rhododendron* L. subsection Saluenensia. PhD thesis, University of Liverpool.
- Database of Asian Plants in Cultivation (DAPC). Accessed July 2014. <http://researcharchive.calacademy.org/research/botany/quarryhill/>
- Gibbs, D., Chamberlain, D. and Argent, G. 2011. The Red List of Rhododendrons. BGCI, FFI, GTC, IUCN, SSC, RBGE.
- McQuire, J. F. J. and Robinson, M. L. A. 2009. Pocket guide to Rhododendron Species. Kew Publishing, Royal Botanic Gardens, Kew, U.K.
- Multisite Search page of the Royal Botanic Garden Edinburgh (MSEBG). Accessed July 2014. www.rbgweb2.rbge.org.uk/multisite/multisite3.php

APPENDIX 1

Basically we had a six-step process.

1. We extracted all “accepted” names of *Rhododendron* that were not synonyms from “The Plant List”, an online working list of all known plant species, produced by the Royal Botanic Gardens, Kew and the Missouri Botanical Garden.¹
2. We then removed species that were on the ICON² list of *Rhododendrons* whose seed can be legally imported into Australia.
3. We then removed species that Simon Begg had already determined were not on the ICON list and that await submissions to be prepared for their inclusion on the ICON list. These species are mostly from Argent (2006) and Cox and Cox (1997).
4. This left approximately 70 ‘missed’ *Rhododendrons* i.e. species not yet permitted for import and not on Simon’s list of species awaiting submissions to ICON, mostly species described since 1997.
5. These missed species were then cross-checked in two other on-line databases – The International Plant Names Index (IPNI)³ and Tropicos⁴.
6. We then consulted the Red List of *Rhododendrons* (Gibbs et al. 2011) for their conservation status and checked other databases, *Rhododendron* society websites and primary scientific literature to discover more about each species.

¹ <http://www.theplantlist.org>. The List combines multiple checklist data sets held by these institutions and others and provides the accepted Latin name for most species, and synonyms by which that species has been known. "Around 20% of names are Unresolved indicating that the data sources included provided no evidence or view as to whether the name should be treated as accepted or not, or there were conflicting opinions that could not be readily resolved."

² ICON is the Commonwealth Department of Agriculture’s import conditions database

³ IPNI is a database of the names and associated basic bibliographical details of plants developed by the Royal Botanic Gardens Kew, the Harvard University Herbaria, and THE Australian National Herbarium.

⁴ Tropicos® contains all the nomenclatural, bibliographic, and specimen data in the Missouri Botanic Garden’s databases - there are over 1.2 million scientific names and 4.0 million specimen records. It is a common source for other databases.