

A New Tibetan *Rhododendron*

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It is sometimes stated that the taxonomy of *Rhododendron* (Ericaceae) is based on the flowers but a casual examination of any botanical treatment (e.g. Chamberlain, 1982; Cullen, 1997) shows that at best this is an over-simplification. *Rhododendron* is defined in the Ericaceae by characters of the capsule combined with the anthers opening by apical pores, whereas the principal subgenera *Rhododendron* and *Hymenanthes* are differentiated by the presence or absence of scales. The subsection *Falconera* Sleumer is separated from the rest of the subgenus *Hymenanthes* by the cup-shaped hairs on the leaf underside; in the above references, the species of subsection *Falconera* are keyed out using characters of the leaves and ovaries rather than the corollas.

In October 1999 on the south-west side of the Showa La in south-east Tibet (Xizang), a *Rhododendron* species was found which clearly belongs to the subsection *Falconera* on the basis of the cup-shaped leaf hairs. Whilst the form and colour of the corollas are unclear in the fruiting specimen, it is unique in the oblanceolate leaf lamina that is decurrent along the short, winged petiole. Thus it is here described as a new species.

Rhododendron heatheriae Rushforth sp.nov., *Rhododendron arizelo* similis sed foliis oblanceolatis, plus quam tres partes longis quam latis, basi anguste cuneata et lamina in petiolum brevum alatum angustata differt. Typus: Tibet, Showa La, between 29.50'37"N, 95.19'49"E and 29.50'36"N, 95.19'35"E, 3850m, tree 5 m, 6th October 1999, *Rushforth* 6158 (holo E).

Similar to *R. arizelum* but differing in the oblanceolate leaves which are more than three times as long as broad with the base narrowly cuneate and with the leaf blade narrowed into a short winged petiole.

DESCRIPTION. *Large shrub or small tree* to 8 m with a trunk up to 30 cm diameter at ground level. *Bark* flaking in thin scales, pinky brown. *Shoots* densely tomentose. *Leaves* oblanceolate, maximum dimensions on young sterile plants to 30 cm in length by 10 cm in width, but on mature plants less than 20 cm in length with a width of less than 5.5 cm, apex rounded, mucronate to slightly emarginate, base narrowly cuneate and decurrent, forming wings to the base of the short and rather indistinct petiole, upper surface nearly glabrous by autumn with circa 16 pairs of weakly defined veins, underside fawn to orange (in the RHS Colour Chart greyed-orange group 165C in first autumn and either 165B or orange-red 34A in second autumn), densely covered with fimbriated cup-shaped hairs. *Flowers* on a rachis circa 1 cm long, in shrivelled state corolla funnel-campanulate, c. 3 cm. *Pedicels* 2 cm long, finely tomentose. *Capsule* 1-2.5 cm by 0.7-1.2 cm, densely and persistently tomentose.

The strongly fimbriated cup-shaped hairs indicate a relationship with *R. arizelum* Balf. f. & Forrest but this has much broader leaves (1.5-2.1[- 2.5] times as long as broad) with the base of the leaf blade being broadly cuneate to rounded where it joins the thick terete petiole (which is usually 2-4 cm in length). Occasional specimens of *R. arizelum* are found at the bottom of the range of *R. heatheriae* and are clearly separable by these characters.

In the key to the subsection in Chamberlain (1982), the character of the winged petiole separates *R. heatheriae* from the majority of species in the subsection and places it with *R. rothschildii* Davidian, *R. semnoides* Tagg & Forrest and *R. basilicum* Balf. f. & W. W. Sm. Similarly, in the key to the group (treated as series *Falconeri*) in Davidian (1989), it is keyed out with these three species and part of the variation of *R. preptum* Balf. f. & Forrest. The leaves are much narrower than in these species; they are more than three times (up to 5.5 times) as long as broad, whereas in *R. rothschildii*, *R.*

semnoides, *R. basilicum* and *R. preptum* the length to breadth ratio is 2.1-2.8. It also differs from these species in the indistinct short petiole; and from *R. rothschildii* in the non-agglutinated indumentum, from *R. basilicum* in the strongly fimbriated cup-shaped hairs, and from *R. semnoides* and *R. preptum* in the colour of the leaf underside.

Although only known in the fruiting stage, shrivelled flowers indicate that the flower shape is funnel-campanulate, whereas *R. rothschildii*, *R. semnoides* and *R. basilicum* have flowers which are oblique-campanulate and *R. preptum* has ventricose campanulate flowers. Funnel-campanulate flowers are found in *R. coriaceum* Franchet and *R. hodgsonii* Hooker f; this may indicate a white to pink flower colour in *R. heatheriae*. The Showa La receives very heavy winter snowfall and is only open between late June and early October with limited and difficult access to the south-west side. The flowering period of subsection *Falconera* species is in the spring and thus flowering is likely to be over before it is possible to cross the pass or ascend from the south-west side to the altitude at which *R. heatheriae* grows to collect it in flower.

Currently *R. heatheriae* is only recorded from the ridge which runs south-west from the Showa La down towards the Lopa village of Doker, 3700-4050 m. Over this zone of 300 m in altitude and 2.5 km along the ridge, the species is uniform and is the dominant *Rhododendron*, forming very extensive thickets with trees up to 8 m and trunks to 30cm basal diameter. Although physically the dominant plant, the dominant tree (to 40 m but usually only half this height) is a species of the *Abies forrestii* C. C. Rogers aggregate (*Abies* section *Pseudopicea* Hickel emend Farjon & Rushforth subsection *Delavayanum* Farjon & Rushforth). Other rhododendrons present on the ridge are *R. dignabile* Cowan, which is found mainly above the *R. heatheriae* zone; *R. campylocarpum* Hook. f. subsp. *caloxanthum* (Balf. f. & Forrest) D. F. Chamberlain and *R. hirtipes* Tagg, which are scattered throughout the *R. heatheriae* zone; *R. wardii* W. W. Smith and *R. xanthocodon* Hutchinson, which are common and locally dominant; *R. tsariense* Cowan aff.,

very restricted at around 3900 m, a subsection *Glaucophyllum* species (uncommon; a section *Pogonanthum* species) occasional; and at the lower end of the *R. heatheriae* zone occasional *R. arizelum*, *R. faucium* D. F. Chamberlain, *R. phaedropum* (Balf. f. & Farrer) Tagg, *R. exasperatum* Tagg, *R. triflorum* Hook. f. and *R. cerasinum* Tagg aff., with *R. fulvum* Balf. f. & W. W. Sm. subsp. *fulvoides* (Balf. f. & Forrest) D. F. Chamberlain occurring below the zone.

Other plants growing with *R. heatheriae* are: at the top of its ranges a blue-foliaged *Festuca* sp, *Gentiana* sp, *Potentilla arbuscula* D. Don, *Rosa omeiensis* Rolfe, *Sorbus filipes* Hand.-Mazz. agg. and *S. cf. helenae* Koehne; at the bottom of its range, *Acer campbelli* Hook. f., *Betula utilis* D. Don, *Borinda* sp, *Euonymus* sp, *Ilex intricata* Hook. f., *Primula* sp, *Sorbus albopilosa* Yu and *S. longii* Rushforth.

Peter Cox (*pers. comm.*) has suggested that *R. heatheriae* may be the same species as a population of trees reported on the south-east side of the Doshong La (a pass approximately 58 km to the south-west at circa 29.29°N, 94.56°E, to the west of Namche Barwa. I have examined a specimen, *Muller* s.n., from this locality. This consists of only two detached leaves, possibly from different trees. These leaves are similar to *R. arizelum*; the larger leaf is mature and is elliptic with the blade 21 cm by 10 cm with a thin rufous indumentum, the smaller one is broader just above the middle of the blade, 14.5 cm by 5.5 cm with a dense pale fawn indumentum and is probably only partly grown. Both leaves are broadly cuneate at the base with short, slightly winged petioles. From *R. arizelum* they primarily differ in the winged and short petiole but otherwise have a fairly typical *R. arizelum* leaf blade; from *R. heatheriae* they differ in the less winged petiole and leaf blade being broadest at or only slightly above the middle and in the range 2.1-2.6 times as long as broad. The overall appearance of these two leaves does not match the material of *R. heatheriae* but indicates a plant much closer to *R. arizelum*. Kingdon Ward 5877 collected from this locality in 1924 is treated as *R. arizelum* in Chamberlain (1982) and Argent *et al* (1997).