

NOTES RELATING TO THE FLORA OF BHUTAN: XIII

Ericaceae

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ABSTRACT. Two new species of *Rhododendron* endemic to Bhutan are described: *R. bhutanense* Long & Bowes Lyon, *sp. nov.*, and *R. kesangiae* Long & Rushforth, *sp. nov.* A new subspecies *R. glaucophyllum* Rehder subsp. *tubiforme* (Cowan & Davidian) Long, *stat. nov.* is proposed; *R. micromeres* Tagg is shown to be a synonym of *R. leptocarpum* Nuttall, and *R. basfordii* Davidian to be a synonym of *R. cinnabarinum* Hook. f. Two new varietal taxa are described in *Gaultheria*, *G. sinensis* Anthony var. *layaensis* Rae & Long, *var. nov.* endemic to Bhutan, and *G. trichophylla* Royle var. *eciliata* Rae & Long, *var. nov.* from Bhutan and Yunnan. A lectotype is proposed for *Agapetes hookeri* (Clarke) Sleumer.

Rhododendron

Rhododendron bhutanense* Long & Bowes Lyon, *sp. nov. (subgen. *Hymenanthes*, sect. *Ponticum*, subsect. *Taliensia*). Plate 1.

R. wightii Hook. f. simile sed frutice minori 0.6-3m, foliis basi subcordatis, petiolis brevioribus, 3-10mm, pedicellis brevioribus 8-13mm, corolla rosea, filamentis ovarioque glabris.

Type: Bhutan, Punakha district, Tang Chu, Ritang, 4270m, 7 vi 1937, 'Shrub 4-6 feet. Buds bright pink. Corolla very pale pink, lobes deeper pink. Large magenta basal patch and spots. Ovary, style and filaments glabrous; ovary dark red. Calyx glabrous, very small, lobes rosy. Leaves upper surface dull green, glabrous; lower surface with coarse brown tomentum covering midrib. The highest growing *Rhododendron*, except the dwarfs, on open rocky hillside.', Ludlow & Sherriff 3218 (holo. E; iso. BM, E).

Shrub 0.6-3m, branchlets stout, closely greyish or whitish floccose when young. Leaves coriaceous, elliptic or elliptic-obovate, 6-12.5 x 3-5cm, acute or subacute, base subcordate sometimes narrowly so, dark green and glabrous above except on impressed midrib with greyish closely matted floccose hairs towards leaf base, hairs sometimes extending to mid-leaf or beyond; lower leaf surface closely appressed brown tomentose with dense, radiate hairs, moderately soft to touch; petiole short, stout, 3-10mm, greyish floccose above, thinly brownish tomentose beneath. Racemes subglobose, 6-9cm diameter, dense, 8-15(-22)-flowered. Peduncle conical, 1.5-2cm; pedicels slender, 8-13mm, glabrous or puberulous. Calyx minute, 5-lobed, c.1mm, glabrous. Corolla campanulate, deep pink in bud, when open pale pink (rarely almost white) with a dark magenta basal blotch and red spots on upper side, 2.5-3.5cm long, 5-lobed; nectar pouches absent. Stamens 10; filaments glabrous throughout. Ovary ovoid, 4-5 x 3mm, glabrous; style glabrous; stigma capitate. Fruit cylindric, almost straight, c.15 x 5mm, glabrous.

Additional specimens seen:

BHUTAN: Punakha district: Tang Chu, Ritang, 4270m, 10 vi 1937, Ludlow & Sherriff 3243 (E). Tongsa district: Yato [= Yuto] La ridge, 3960m, vii 1915, Cooper 4102 (E); Dungshinggang, Black Mountain, 4115m, v 1937, Ludlow & Sherriff 3081 (E); Thampe La, E slope, 4270m, vi 1969, Bowes Lyon 15051 (BM). Bumthang and Mongar districts: summit of Rudong La, 4145m, v 1987, Rushforth 1221 (E), Boscawen 220 (herb. Boscawen).

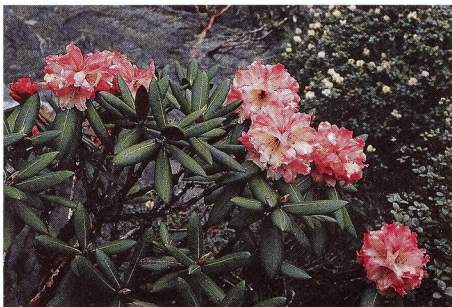


PLATE 1. *Rhododendron bhutanense* photographed at Thampela, Tongsa district, Bhutan, June 1969. (Bowes Lyon 15051). Photo.: S. Bowes Lyon.



PLATE 2. *Rhododendron kesangiae* photographed west of Pele La, Punakha district, Bhutan, April 1987. (Rushforth 1100). Photo.: K. Rushforth.

Sakden district: Merak, 3660m, vi 1985, *Bowes Lyon* 9092 (E). Upper Mangde Chu district: Saga La, 4570m, vii 1949, *Ludlow, Sherriff & Hicks* 16851 (BM, E). Upper Bumthang Chu district: Pangothang, Tsampa, 3960m, v 1949, *Ludlow, Sherriff & Hicks* 18966 (E); Kantanang, Tsampa, 3960–4270m, vi 1949, *Ludlow, Sherriff & Hicks* 19039 (E), 19071 (E). Upper Kuru Chu district: Narim Thang, Kurted, 4270m, viii 1915, *Cooper* 4286 (E). Upper Kulong Chu district: Shingbe, Me La, 3870m, v 1949, *Ludlow, Sherriff & Hicks* 20286 (E).

Rhododendron bhutanense is a distinctive new species endemic to Bhutan, having remained overlooked in herbaria under several different names for many years. It was first collected by R. E. Cooper in 1915 and identified with *R. campanulatum* D. Don. Between 1937 and 1949 it was collected in seven new localities by F. Ludlow and G. Sherriff, identified variously with *R. agglutinatum* Balfour f. & Forrest (now *R. phaeochrysum* Balf. f. & W. W. Smith var. *agglutinatum* (Balf. f. & W. W. Smith) Chamberlain), *R. campanulatum* D. Don and *R. wightii* Hook. f. More recently it has been rediscovered in eastern Bhutan by S. Bowes Lyon who suggested it was probably an undescribed species, and again by K. Rushforth.

The Cooper and Ludlow & Sherriff specimens were studied by D. F. Chamberlain in 1979 and their unusual combination of glabrous ovary and radiate leaf indumentum led to the conclusion that they were hybrids between *R. wightii* Hook. f. and *R. campanulatum* D. Don subsp. *aeruginosum* (Hook. f.) Chamberlain; they were treated as such by Chamberlain (1982: 373).

More detailed study of these specimens suggests that they represent a good species and are not of the above hybrid origin. Evidence for this is: (i) the specimens are uniform in most important characters such as leaf shape, indumentum, flower colour etc., both in the field (S. Bowes Lyon, *in litt.*) and in the herbarium; (ii) the geographical area is limited to mid and eastern Bhutan from 90°11' to 91°51'E, whereas both *R. wightii* and *R. campanulatum* subsp. *aeruginosum* occur together throughout the whole of northern Bhutan and Sikkim; (iii) *R. wightii* has yellow flowers, a colour not apparent in any specimen of *R. bhutanense*; (iv) both the putative 'parents' have filaments which are pubescent at the base, whereas in *R. bhutanense* they are glabrous.

R. bhutanense fits well within subsect. *Taliensia* Sleumer, as re-defined by Chamberlain (1982), and keys out close to *R. phaeochrysum* Balfour f. & W. W. Smith, a variable species from Yunnan, Szechwan and S E Tibet, and is probably a close, though disjunct, relative. *R. phaeochrysum* differs in its larger leaves which are usually rounded at the base, more sharply pointed, often shortly acuminate apex, midrib $\pm$ glabrous above, longer petioles 15–20mm, more thinly tomentose lower leaf surface, and filaments pubescent towards the base.

Other E Himalayan species which might be confused with *R. bhutanense* are *R. wallichii* Hook. f., *R. campanulatum* D. Don., *R. lanatum* Hook. f. and *R. flinckii* Davidian. *R. wallichii* differs in its non-cordate leaves, thinly tomentose beneath with stiff hairs which are rough to the touch, petioles glabrous or with a few long pilose hairs, lilac or pinkish mauve corollas, and filaments pubescent at base. *R. campanulatum* (including subsp. *aeruginosum* (Hook. f.) Chamberlain) differs in its glabrous petioles, leaves more thickly appressed fawn or pale brown tomentose beneath (soft and velvety to touch), longer pedicels 15–25mm,

and filaments puberulous at base. *R. lanatum* and *R. flinckii* differ in their leaves which are more thickly and softly tomentose beneath, petioles which are whitish to reddish-brown tomentose (not floccose), racemes with fewer (4–8) flowers, yellow corollas and filaments pubescent at base.

Distribution and Ecology. *R. bhutanense* is now known from twelve localities in central and northern Bhutan, from Ritang (90°11'E) to the border with Arunachal Pradesh (Merak, 91°51'E). It might be expected to occur in adjacent SE Tibet or Arunachal Pradesh. It is not known from west Bhutan.

R. bhutanense grows above the tree line between 3500 and 4300m, in juniper/rhododendron scrub and on open rocky hillsides. On two collections, it was described by Ludlow & Sherriff as 'The highest growing Rhododendron, except the dwarfs' and 'The commonest high altitude Rhododendron, other than dwarf spp.'. K. Rushforth reports that on the summit of the Rudong La it was common, growing with *R. wightii*. S. Bowes Lyon (*in litt.*) listed its associates at Merak as *R. wightii* Hook. f., '*R. campanulatum*' (probably *R. wallichii* Hook. f.) and *R. anthopogon* D. Don.

Cultivation. Fruiting plants of this species were collected by R. E. Cooper in 1915 but there is no record of plants under that number (4286) in cultivation. The species has now been introduced into cultivation by K. Rushforth from seed collected on the Rudong La (Rushforth 1219 and 1221) which has proved viable.

Rhododendron cinnabarinum Hook. f., Rhodo. Sikkim Himalaya t. 8 (1849).

Syn.: *R. basfordii* Davidian, Rhododendrons 1979–1980, 61 (1980).

Type: Bhutan, E side of Rudo [= Rudong] La, 2590m, x 1949, Ludlow, Sherriff & Hicks 19848 (holo. BM, iso. E).

The protologue of *R. basfordii* Davidian is based largely on flowering specimens cultivated in Scotland, supposedly grown from seed of Ludlow, Sherriff & Hicks 19848, collected in Bhutan in 1949.

However, the type specimen cited is the original wild voucher specimen from which seed was collected; this is clearly quite different from the cultivated plants described. The type disagrees with the protologue in having shorter elliptic-obovate leaves 3–4cm long, shorter petioles c.5mm long, shorter pedicels 9–12mm, and most significantly, a much smaller corolla, c.2.5cm long. The type specimen in fact belongs to *R. cinnabarinum*, a widespread species in Bhutan, and closely matches other fruiting specimens from Bhutan (e.g. Cooper 2922 and 4982, E).

The name *R. basfordii* can only apply to the type specimen and cannot be used for the cultivated plants which must originate from some other unknown source; these are, from Davidian's description, closely allied to *R. lindleyi* Moore.

Rhododendron glaucophyllum Rehder subsp. **tubiforme** (Cowan & Davidian) Long, stat. nov.

Basionym: *R. glaucophyllum* var. *tubiforme* Cowan & Davidian, Rhododendron Year Book 3, 86, 1948. Type: Assam, Manda La, Bali-para Frontier Tract, 10–11000ft, v 1935, Kingdon Ward 11463 (holo. E).

The two 'varieties' of *Rhododendron glaucophyllum* as delimited by Cowan & Davidian (1948) and Cullen (1980) show a strong geographical correlation with the main morphological criteria, namely corolla shape and style orientation; thus subspecific rank is more appropriate.

Subsp. *glaucophyllum* is known from E Nepal, Sikkim (type locality) and west Bhutan (east to 90°24'E). Subsp. *tubiforme* is known from E Bhutan (90°59'E to 91°53'E), Arunachal Pradesh and adjacent SE Tibet.

***Rhododendron kesangiae* Long & Rushforth, sp. nov.** (subgen. *Hymenanthus*, sect. *Ponticum*, subsect. *Grandia*). Plate 2.

R. grande Wight simile sed foliis late ellipticis vel obovatis 20–30 × 10–16 cm, venis lateralibus 12–15 jugis, corolla rosea, capsulis angustioribus 35–40 × 9–10 mm.

Type: Bhutan, Tongsa district, 1.3 km E of Pele La, 3350 m, 13 v 1984, 'Shrub or small tree 4–8 m tall, flowers pink', *Bruce Bartholomew* 1668 (holo. E).

Large shrub or tree 3–12 m; bark rough; branchlets closely whitish compacted-floccose. Bud scales rounded, outer ones cuspidate. Leaves broadly elliptic to obovate, (15–)20–30 × (7–)10–16 cm (to 50 × 30 cm on juvenile plants), apex rounded to almost truncate with short blunt mucro, base cuneate to rounded, lateral veins 12–15 pairs, strongly prominent beneath; lamina dark green and glabrous above; indumentum beneath of densely matted white or silvery hairs, with (or sometimes without) a sparse to dense floccose layer of whitish dendroid hairs; petioles stout not flattened, 2–3.5 cm, glabrous or whitish compacted-floccose. Racemes terminal, subglobose, 12–17 cm diameter, 20–25-flowered, aromatic. Pedicels 1.5–2.5 cm, glandular. Calyx a minute obscurely-lobed rim 1–2 mm high. Corolla funnel-campanulate, 3–4.7 cm long, (7–)8-lobed, pale to deep pink, with large purple blotch and nectar pouches at base. Stamens 15–16; filaments glabrous. Ovary densely glandular, with or without sparse eglandular tomentum. Capsules (*Cooper* 2088) 35–40 × 9–10 mm, curved.

Additional specimens seen:

BHUTAN: Chukka district: Takti Peak repeater station, 3400 m, v 1987, *Rushforth* 1308 (E). Thimphu district: Duke [= Dochong] La, 2800 m, v 1915, *Cooper* 3911 (E); Dochu [= Dochong] La, 3050 m, iv 1967, *Hara* et al. 4305 (E); summit of Dochu La, 3050 m, iv 1987, *Boscawen* 223 (herb. *Boscawen*); Dochong La, 3100 m, iv 1987, *Rushforth* 1091 (E). Punakha district: Pele La, 3200 m, vi 1915, *Cooper* 3969 (E); Pele La, 3200 m, iv 1967, *Kanai* et al. 2666 (BM, E), 12452 (BM, E); Pele La, 3450 m, v 1979, *Grierson & Long* 1085 (E, K); Pele La, 3300 m, vi 1979, *Grierson & Long* s.n. (E); west of Pele La, near crest, 3350 m, iv 1987, *Rushforth* 1100 (E). Tongsa district: above Tongsa, 3050 m, 1838, *Griffith* E.I.C. 2249 (K); Jirgang Chu, S ridge, 2740–3200 m, v 1937, *Ludlow & Sherriff* 2987 (BM, E); Lamse La, 3050–3660 m, v 1937, *Ludlow & Sherriff* 3047 (E); between Tongsa and Yuto La, 3060 m, v 1979, *Grierson & Long* 1170 (E), 1171 (E); Yotong [= Yuto] La, W side, 3475 m, v 1987, *Rushforth* 1130 (E). Bumthang district: Kiki La, 3050 m, ix 1914, *Cooper* 2088 (E); Bumthang, 3050 m, vii 1915, *Cooper* 4084 (E); Samdi Chu between Damphe and Phaph (Peipe) La, 3430 m, v 1987, *Rushforth* 1175 (E); Jakar to Ura road, 8 km E of Tangsibi, 16 km W of Ura, 3500 m, v 1987, *Rushforth* 1226 (E); Yotong [= Yuto] La, E side, 3550 m, v 1987, *Rushforth* 1136 (E). Mongar district: E side of Rudong La, 3050–3500 m, v 1949, *Ludlow, Sherriff & Hicks* 18884 (BM, E); below Rudo [= Rudong] La, x 1965, *Nishioka* s.n. (BM); W side of Donga La, 3200 m, iv 1949, *Ludlow, Sherriff & Hicks* 20182 (BM, E). Upper Kuru Chu district: Julu, Khoma Chu, 2900 m, iv 1949, *Ludlow, Sherriff & Hicks* 18801 (BM, E). Upper Kulong Chu district: Lao, 2890 m, v 1949, *Ludlow, Sherriff & Hicks* 20267 (BM, E).

R. kesangiae was not recognized as a distinct species until April 1987 when a party led by K. Rushforth observed and collected it in a number of localities throughout central Bhutan, noting its distinctive bark, leaf indumentum, flower colour and relatively uniform appearance, as well as its clear differences with *R. hodgsonii* and *R. falconeri*. It is largely from their specimens, observations and photographs that the evidence for describing it as a new species is now very convincing.

R. kesangiae has been collected by most botanists who have visited Bhutan from W. Griffith in 1838 and R. E. Cooper in 1914 and 1915, to the present day. Because of the large leaves and pink flowers many of these collections were named *R. hodgsonii*, although a few had been tentatively named as *R. magnificum* Kingdon Ward, a species endemic to Upper Burma.

Chamberlain (1982) in his revision of elepidote Rhododendrons, suggested that at least some of these collections were hybrids between *R. hodgsonii* and *R. falconeri*. Recent study of these plants in the herbarium, and by K. Rushforth in the field, clearly demonstrates that the plants belong neither to *R. hodgsonii* nor *R. hodgsonii* $\times$ *R. falconeri* of subsect. *Falconera* Sleumer, but to subsect. *Grandia* Sleumer. Evidence for this is the rough bark, the rounded (not long-acuminate) bud scales, complete lack of cup-shaped hairs on the leaves and presence of floral nectar pouches.

The only member of subsect. *Grandia* reported to date from Bhutan is *R. grande* Wight, which differs from *R. kesangiae* in several important respects, notably leaf shape, number of lateral veins, flower colour and capsule shape. However, to the east of Bhutan, in Assam, SE Tibet, NE Burma and W Yunnan several other pink-flowered members of subsect. *Grandia* have been described. All appear to be quite distinct from *R. kesangiae*: *R. wattii* Cowan differs in its much smaller leaves and 6-lobed corollas; *R. montroseanum* Davidian and *R. pudrosum* Cowan differ in their proportionately much narrower, oblanceolate leaves; *R. praestans* Balfour & W. W. Smith differs in its strongly flattened petioles; *R. protistum* Balfour & Forrest in its leaves glabrous beneath; and *R. magnificum* Kingdon Ward (possibly the closest relative) in its larger more obovate leaves with 18–20 pairs of veins, tomentose pedicels, larger corollas up to 6cm, and densely tomentose ovaries.

Several other, as yet unidentified, specimens from Assam, SE Tibet and N Burma show some affinities with *R. kesangiae*, e.g. *Kingdon Ward* 13646 (BM, E), 13647 (BM) and 13681 (BM and cult. Windsor), all from Poshing La, Assam, have similar leaves, except for the lateral veins which are less prominent beneath and the hairs which are stellate rather than dendroid. *Kingdon Ward* 9385 from the Adung Valley and *Ludlow, Sherriff & Elliott* 13568 from the Tsangpo gorge area, both identified, possibly wrongly, as *R. montroseanum*, are also related but have smaller leaves with stellate rather than dendroid hairs. Until further collections of pink-flowered plants of subsect. *Grandia* are made from this region, *R. kesangiae* remains unknown E of Bhutan.

Distribution and Ecology. *R. kesangiae* is at present known only from Bhutan, but is widely distributed throughout the central part of the country from 89°30'E to 91°20'E. The habitats reported for it are princi-

pally Fir (*Abies densa*) and Hemlock (*Tsuga dumosa*) forests where it grows as a large shrub or small tree, on the moist forested ridges between c.2900 and 3650m, in the zone immediately below and up to the tree line. Other recorded associates include bamboos (e.g. *Arundinaria maling*), *Rhododendron falconeri*, *R. hodgsonii*, *Magnolia campbellii* and *M. globosa*. Rushforth et al. (*in litt.*) noted that *R. falconeri* commonly grew with *R. kesangiae* at the bottom of the range of the latter, but that *R. hodgsonii* was normally at slightly higher altitudes, rarely growing alongside *R. kesangiae* at the top of its range. He did not observe *R. falconeri* and *R. hodgsonii* growing together or even near each other.

Cultivation. Plants considered to belong to *Rhododendron kesangiae* have been introduced into cultivation at St Pauls Walden Bury by S. Bowes Lyon, from seedlings presented to him in 1968 by Her Majesty the Queen Mother of Bhutan, Ashi Kesang. At his suggestion, this new species has been named in her honour, in recognition of her long interest in the plants and vegetation of Bhutan, and her close association with George and Betty Sherriff and Frank Ludlow during their botanical exploration of Bhutan. These plants have been distributed to gardens at Wakehurst Place, The Great Park, Windsor and Lochinch Castle. Foliage from plants at St Pauls Walden Bury, Wakehurst and Lochinch agrees closely with wild material of *R. kesangiae*. However, confirmation of their identity must await study of the flowers. Seedlings of *R. kesangiae* were collected in Bhutan in 1985 and 1987 and seed in 1987, by K. Rushforth and introduced to Britain.

Rhododendron leptocarpum Nuttall, Hooker's J.Bot. Kew Gard. Misc. 6:256 (1854).

Syn.: *R. pumilum* Nuttall, Hooker's J.Bot. Kew Gard. Misc. 5:354 (1853), *nom. illeg.* non Hook. f. (1849). Type: India, Arunachal Pradesh ['Bhotan'], on the high slopes of the Oola Mts and on the edges of ravines, together with *R. hookeri* and almost on the range of *R. falconeri*, 7–8000ft, Booth s.n. (holo. K).

R. micromeres Tagg, Notes RBG Edinb. 16:211 (1931). Type: SE Tibet, Tsarong, Salwin-Kiu Chiang divide W of Si-K'ai 27°48'N, 98°33'E, 2740–3050m, vi 1922, Forrest 21811 (holo. E).

In his revision of lepidote *Rhododendrons*, Cullen (1980: 170) treated *Rhododendron leptocarpum* Nuttall as a 'doubtful or imperfectly known taxon', because the type specimen could not be located at Kew. This specimen has now been re-found and demonstrates clearly that it is the same as the plant later described as *R. micromeres* Tagg.

Until recently *R. leptocarpum* was known to range from E Bhutan to W China, but it has recently been discovered much further west in Sikkim (above Choka, between Phedang and Bakhim, 3400m, vii 1983, AGSES 293 (E)), as reported by Starling (1984) as *R. micromeres*.

Agapetes

Agapetes hookeri (Clarke) Sleumer, Bot. Jahrb. 70:106 (1939).

Basionym: *Pentapterygium hookeri* Clarke, Fl. Brit. India 3:450 (1882).

Lectotype (selected here): India, W Bengal, Darjeeling, 2220m, 17 viii 1875, *Clarke* 27025 (K).

Syn.: *Agapetes incurvata* (Griff.) Sleumer var. *hookeri* (Clarke) Airy Shaw, Kew Bull. 13:486 (1959).

Study of collections of *A. incurvata* and *A. hookeri* from Sikkim, Bhutan, Arunachal Pradesh and Khasia shows that they are geographically isolated and differ consistently in flower colour: *A. hookeri* has pure yellow corollas, whereas *A. incurvata* has white or pale pink corollas with dark red or purplish markings. They are therefore considered to be good species.

In describing *Pentapterygium hookeri*, Clarke included several syntypes, one of which was collected in Arunachal Pradesh by Booth, and may belong to *A. incurvata*; some of those from the Darjeeling district did not include details of flower colour; a lectotype has therefore been chosen which bears the following annotation by the collector, C. B. Clarke: 'Corolla yellow, clear, slightly pilose without; tube with 5 sharp angles mouth small. Root large, epiphytic'.

A. hookeri is restricted to E Nepal, Sikkim and Darjeeling and western Bhutan, whereas *A. incurvata* is more widespread in E Bhutan, Arunachal Pradesh and the Khasia hills.

Gaultheria

Gaultheria sinensis Anthony, Notes RBG Edinb. 18:19 (1933).

var. ***layaensis*** S. J. Rae & Long, var. nov.

Var. *sinensis* similis sed foliis minoribus ovato-suborbiculatis, 3-4 × 2-3mm, apice subacuta vel obtusa, ciliata differt.

Type: Bhutan, Upper Mo Chu district, Laya [28°05'N, 89°41'E], 4270m, 9 vi 1949, 'Calyx red; corolla pale pink. Hab. cliff faces', Ludlow, Sherriff & Hicks 16465 (holo. BM, iso. E).

Differs from var. *sinensis* in its smaller, ovate-suborbicular leaves 3-4 × 2-3mm, apex subacute or obtuse, ciliate.

Var. *layaensis* is at present known only from a single collection from Bhutan, and is similar to *G. trichophylla* Royle in habit and in its ciliate leaf apex. However, it differs from the latter in leaf shape and in having 4, not 2, spurs on each anther.

G. thymifolia Stapf and *G. sinensis* var. *sinensis*, although sharing 4-spurred anthers, differ in their eciliate, larger, elliptic-oblongate leaves.

Gaultheria trichophylla Royle, Ill. Bot. Himal. 200, t. 63 a, e; f 3 (1835), 260 (1835).

var. ***eciliata*** S. J. Rae & Long, var. nov.

Var. *trichophyllae* similis sed foliis minoribus, ovatis, 2-5 × 0.5-3mm acutis, marginibus serrulatis, eciliatis, differt.

Type: Bhutan, Mongar district, Pung La [27°41'N, 91°12'E], 3660m, 9 vii 1949, 'Flowers white or pale pink. In moss or peaty soil on rocks', Ludlow, Sherriff & Hicks 20904 (holo. BM).

Differs from var. *trichophylla* in its smaller, ovate leaves 2.5-5 × 0.5-3mm, acute, margins serrulate, eciliate.

Other specimens seen:

CHINA, Yunnan: Kiukiang Valley (Clulung), S of Lungtsahmuru, 3900m, viii 1938, *Yu* 19877 (E); Mekong-Salwin Divide, Sila, 4200m, viii 1938, *Yu* 22292 (E); *ibidem* 4000m, viii 1938, *Yu* 22351 (E).

Var. *eciliata* is closely allied to typical var. *trichophylla* in its dwarf creeping habit, small leaves and anthers bearing only two spurs. Other related species such as *G. sinensis* Anthony and *G. thymifolia* Stapf differ in their anthers which bear four spurs. Var. *trichophylla* differs in its elliptic-oblongeolate leaves which always bear marginal cilia.

Further collections of *Gaultheria trichophylla* and allied taxa are needed from throughout the Sino-Himalayan region before the exact status of these varieties and their relatives can be established.

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