

Rhododendrons of Bhutan and Tibet collected by Ludlow and Sherriff

BY

J. M. COWAN.

In the course of their expedition to Tibet in 1936 Messrs. Ludlow and Sherriff travelled north from Dewangiri in Assam to explore parts of Bhutan and Tibet, near the eastern boundary of Bhutan; and then they continued their journey in a north-easterly direction through Tibet and explored little-known country to the south of the Tsangpo River. Their botanical collections come mainly from two regions: first from parts of Bhutan and Tibet between latitudes $27^{\circ} 15'$ and $28^{\circ} 15'$ N. and longitudes $91^{\circ} 30'$ and $92^{\circ} 30'$ E., but more especially from the part of Tibet which lies between latitudes $28^{\circ} 20'$ and 29° N. and longitudes $92^{\circ} 30'$ and 94° E.

The following account describes the Rhododendrons collected by them in the course of this expedition.

The Rhododendron flora of Bhutan and of the Eastern Himalayas, of Upper Burma, Yunnan, and the adjoining parts of S.E. Tibet, and of the Tsangpo Valley in Tibet, to the east, west and north of the regions visited by Ludlow and Sherriff, is fairly well known; but from the intermediate tract now explored only a few species had previously been collected. As we might expect, and as Ward has recorded, there is in this intervening country a mingling of the Himalayan and of the Chinese floras.

One surprising feature of the area is the predominance of the Himalayan over the Chinese element in the Rhododendron flora, and another fact to notice is the occurrence of certain species which were supposed to have a more restricted distribution in western China.

Of characteristic Himalayan species 29 were found, rather more than a third of all the species which are known to occur in Sikkim and Bhutan; *Rh. barbatum*, *Rh. Falconeri*, and *Rh. Maddenii* are the most noteworthy Himalayan species which are missing from Ludlow and Sherriff's collection. From S.E. Tibet, Upper Burma, and S.W. Yunnan some 230 distinct species have been described, but of all these only 16 were discovered by Ludlow and Sherriff, a very small proportion. Some 40 species are already known from the vicinity of the Tsangpo River, and nine of these are recorded. The total number of species in the present collection is 69, and among these 13 are new; also there are two new varieties.

[Notes, R.B.G., Edin., No. XCIV, October 1937.]

Ludlow and Sherriff are to be congratulated upon having made an exceedingly important contribution to our knowledge of the scope and distribution of the species of *Rhododendron*, and their field labels give information which ought to be recorded; accordingly this is given, except for the commoner species.

Their expedition was undertaken under the auspices of the British Museum. My thanks are due not only to Captain Sherriff, who looked over the material with me, but also to Mr. J. Ramsbottom, Keeper of Botany, Natural History Museum, South Kensington, who has been good enough to put the collection at my disposal, and equally to Mr. Edwin Sills, of the Royal Botanic Garden, Edinburgh, who has taken a full share in its identification.

ANTHOPOGON SERIES.

Rh. anthropogon D. Don, a small aromatic shrub, which is burnt as incense in the Tibetan monasteries, occurs throughout the whole of the Himalayan Chain and not infrequently in Tibet. Over a great part of this tract, but especially in Sikkim, at elevations above the tree limit, *Rh. anthropogon* is probably the commonest dwarf shrub. Ludlow and Sherriff found it frequently on the edge of *Rhododendron* and *Juniper* forest, with flowers pure white or pink, or sometimes white with a pink tinge only at the base of the corolla tube. It is represented by Nos. 1565, 1606, 1653, 2824, and 2828.

Rhododendron laudandum Cowan. Sp. nov.

Species notabilis aspectu *Rh. rufescentis* Franch. sed corollae tubo utrinque et piloso et lepidoto inter alia discrepat; ob ovarium dense pilosum cum nulla specie gregis *Anthopogonis* adhuc descripta congruit.

Suffrutex vix 1 m. altus, ramis plurimis, foliis coriaceis supra atro-viridibus subtus atro-rubidis. Ramuli juniores circ. 2 mm. diam. squamis spadaceis peltatis obtecti et squamarum decapitatarum stipitibus quasi setulosi, vetustiores grisei, saepe nigricantes mox decorticantes. Alabastrorum elongato-ovoideorum perulae mox deciduae externae ovatae apicem versus subcarinatae extra dense lepidotae, circ. 4 mm. longae, 3 mm. latae, interiores oblongae ad 6 mm. longae 2 mm. latae. Folia petiolata ad 2 cm. longa; lamina ovalis vel oblongo-ovalis ad 1.5 cm. longa, 8 mm. lata, apice obtusa corneomucronata margine revoluta basi late cuneata supra atro-viridis rugulosa primo lepidota deinde quasi floccoso-setulosa squamarum decapitatarum stipitibus obtecta, costa media sulcata, caeteroquin reticulo occulto, subtus atro-rubida subspongiosa squamis contiguis inaequaliter stipitatis agglutinatis porriginosa, costa media straminea elevata, nervis primariis occultis; petiolus 3-4 mm. longus furfuraceo-lepidotus. Flores pallide roseo-albi in umbellas capituliformes multifloras rachi circa 8 mm. longa breviter racemosim dispositi; bracteae

coriaceae late ovatae vel rotundatae carinatae abrupte acutae vel rotundatae extra lepidotae plus minusve pubescentes margine ciliatae ad 1 cm. longae; bracteolae spathulatae ramentaceae 5-8 mm. longae 1.5 mm. latae extra et lepidotae et pubescentes margine praecipue ad apicem longe ciliatae; pedicelli 5-6 mm. longi dense lepidoti. Calyx rubido-viridis circ. 5 mm. longus dense peltato-lepidotus fere ad basim vel vix ad medium irregulariter 5-fissus, lobis inaequalibus membranaceis margine dense ciliatis. Corollae carnosulae tubus obliquus brevis circ. 5 mm. longus utrinque dense pilosus extra squamis nonnullis praeditus; lobi 5 rotundati explanati circ. 5 mm. longi imbricati paullo crenulati. Stamina 5 inclusa circ. 4 mm. longa, filamentis deorsum vix dilatatis glabris, antheris rufescentibus oblongis circ. 1 mm. longis. Gynaeceum circ. 3 mm. longum disco glabro; ovarium late ovoideum circ. 2 mm. longum et latum, et squamis parvis lepidotum et pilis longis albidis subsetosis dense obtectum; stylus brevis vix 1 mm. longus glaber, stigmatem 5-lobato coronatus.

"SOUTHERN TIBET.—Tsari, Lapu. Alt. 15,000 ft. Common on hillside, mostly on north and east aspects. Shrub 2 ft. Corolla palest pink, almost white; calyx reddish green; filaments white; anthers brown; ovary green; style rose; stigma very pale green. 16th June 1936." Ludlow and Sherriff, No. 2160. Type in Herb. Brit. Mus.

While resembling *Rh. anthopogon* D. Don in a general way, this plant is a particularly interesting one, because it exhibits well-marked characteristics, which hitherto have not been observed in the group to which it belongs. The shape and size of the flower and of the truss and of the leaf suggest that it should be placed in the *Anthopogon* Series. It comes nearest to *Rh. rufescens* Franch., which also has only five stamens and, like *Rh. laudandum*, has a somewhat spongy covering of dark reddish chocolate-coloured overlapping scales on the undersides of the leaves.

The flowers of *Rh. laudandum* are a very pale shade of pink or are almost white, and are remarkable in that the corolla tube is densely covered with rather long whitish hairs not only in the inside, as in other species, but also on the outside. Moreover, the small thick-set ovary, besides having a typical covering of scales, is provided with a covering of rather long, stout, closely set hairs. There is no other known species either in the *Anthopogon* Series or in the *Cephalanthum* Series with a hairy ovary. *Rh. laudandum* is represented in Sherriff's collection by only one number, and probably no seed was collected.

***Rh. tsarongense* Balf. f. et Forrest.**

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 14,500 ft. On open hillside above the tree zone. Shrub 2-3 ft. Corolla pure white, pink tinge at base of tube. 9th June 1936." Ludlow and Sherriff, No. 1796.

This species, closely related to *Rh. anthopogon* D. Don, was frequently collected by Forrest farther west in S.E. Tibet.

ARBOREUM SERIES.

Rh. arboreum Sm.

The well-known and widely distributed species *Rh. arboreum* Sm. is common in Southern Tibet and is represented by Ludlow and Sherriff's Nos. 1261, 1276, 1281, 1305, 1307, 1308, 2825, 2893; it was found also in Eastern Bhutan at Gamri Chu, above Takhtoo, in Rhododendron forest at 8,500 ft. No. 1185.

"SOUTHERN TIBET.—Nyam Jang Chu, between Pangchen and Le La. Alt. 7,500 ft. A well-branched tree, 20–30 ft., in Rhododendron and Oak forest. Flowers deep pink. 4th April 1936." Ludlow and Sherriff, No. 1276.

This specimen represents an unusual small-leaved form, which hitherto I have seen only in Sir George Watt's herbarium and in the Calcutta herbarium, from Khasia and the Naga Hills. Watt considered it to be a distinctive alpine form, but it has never been given a definite name, and is perhaps scarcely worthy of distinction. It somewhat resembles *Rh. peramoenum* Balf. f. et Forrest, the narrow-leaved form of *Rh. arboreum* found in Western Yunnan, but has much shorter leaves.

Rh. arboreum Sm. subspecies **Windsori** Nutt.

"EASTERN BHUTAN.—Gamri Chu, between Sakden and Takhtoo. Alt. 8,500 ft. On a south aspect, in Rhododendron and Evergreen forest. Shrub 12–15 ft. Flowers bright rose, spotted chiefly on upper half with dark rose. 15th March 1936." Ludlow and Sherriff, No. 1184.

There is little doubt that this plant is Nuttall's *Rh. Windsorii*, now rightly regarded as a subspecies or variety of *Rh. arboreum* Sm. The plant which Nuttall described in the Botanical Magazine (No. 5008) was raised from seed collected by Booth in Bhutan, on the slopes of Roophyra, at an elevation of 7,000–9,000 ft. It flowered in the garden at Nutgrove, Rainhill, in June 1857, and since this date has not been reintroduced.

BARBATUM SERIES.

Rh. argioplum Balf. f. et Cooper.

"SOUTHERN TIBET.—Nyam Jang Chu, Lepo. Alt. 10,000 ft. In Rhododendron forest, common, flowers bright rose. Shrub 8–15 ft. 5th April 1936." Ludlow and Sherriff, No. 1282.

"SOUTHERN TIBET.—Nyam Jang Chu, Trimo. Alt. 10,500 ft. In Rhododendron forest on a south aspect. Shrub 10 ft. Flowers very deep pink, no spots. 10th April 1936." Ludlow and Sherriff, No. 1304.

From *Rh. barbatum* Wall., this species differs by having a persistent whitish indumentum on the underside of the leaf. First described from specimens collected by Cooper in Bhutan, it has been found in Sikkim and also in Tibet near the Assam frontier by Ward. Ludlow and Sherriff record that the flowers are deep pink or bright rose, a

feature which further distinguishes this species from *Rh. barbatum*. These are the first herbarium specimens with well-preserved flowers.

Rhododendron erosum Cowan. Sp. nov.

Species ad seriem *Rh. barbati* Hook. f. *pertinens*, *Rh. exasperato* Tagg proxima sed alabastrorum perulis mox deciduis, foliis subtus indumento esetoso lanato evanescente indutis, costa media estrigosa, petiolis longioribus, calycis lobis brevibus recedens.

Frutex robustus vel arbor parva 3-7 m. alta. Ramuli juniores albidogrisei nitentes circ. 3 mm. diam., et glandulis numerosis rubidis stipitatis et hic illic indumenti vestigiis notati, seniores leves minii decorticantes. Alabastra oblongo-conoidea acuta circ. 2 cm. longa perulis exterioribus crustaceis ovatis acuminato-apiculatis carinatis rugulosis interioribus pubescentibus fere ecarinatis apice rotundatis nunc emarginatis nunc breviter apiculatis margine membranaceis ciliatis. Folia coriacea ad 18 cm. longa petiolata; lamina ovalis vel oblongo-ovalis vel obovata magnitudine variabilis interdum ad 16.5 cm. longa, 9 cm. lata, nunc circ. 8 cm. longa, 3 cm. lata, apice obtusa vel late rotundata corneo-mucronulata margine subplana basi rotundata vel subcordata vel nunc cordata supra olivacea fere glabra, costa media sulcata basim versus pilis floccosis obsita, venuloso-reticulata rugulosa, subtus indumento lanato eroso evanescente canescente vel flavido-brunneo (e pilis ramosis longioribus glandulisque stipitatis intermixtis composito) induta, costa media elevata, nervis primariis utrinsecus 10-16-paribus; petiolus robustus 1-2 cm. longus strigoso-glandulosus. Flores kermesini in umbellas terminales 12-15-floras rachi puberula circ. 1.5 cm. longa dispositi; bracteae 1.5-2.2 cm. longae, crustaceae rufo-brunneae spathulatae pubescentes; bracteolae subulatae vel lineares sericeo-pilosae; pedicelli circ. 1 cm. longi glandulis longe stipitatis oblecti. Calyx rubidus ultra medium in lobos 5 subaequales fissus stipitato-glandulosus, cupula crateriformi, lobis carnosulis circ. 4 mm. longis 3 mm. latis margine membranaceis glanduloso-ciliatis. Corolla intense rosea emaculata circ. 3 cm. longa; tubus extra glaber intus ad basim sparse puberulus; lobi rotundati circ. 1 cm. longi, 1.5 cm. lati apice profunde emarginati. Stamina 10 corolla breviora inaequalia, longiora circ. 2.5 cm. longa breviora 2 cm. longa, filamentis planatis glabris, antheris parvis nigrescentibus circ. 2 mm. longis. Gynaecium circ. 2.7 cm. longum; ovarium oblongum circ. 5 mm. longum densissime stipitato-glandulosum; stylus circ. 2.2 cm. longus glaber; stigma paullum lobulatum. Capsula fusca oblonga recta 1.5-2 cm. longa, 6 mm. diam. basi calyce adpresso inclusa.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 12,000 ft. In Bamboo and Rhododendron forest. North aspect. Tree 20-30 ft. Corolla deep crimson; filaments and style white; anthers black; stigma dark green. 29th April 1936." Ludlow and Sherriff, No. 1387.

"SOUTHERN TIBET.—Chayul Chu, Natrampa, Kashong La. Alt.

12,500 ft. In thick Rhododendron forest among Firs. Transition zone. Tree 15-20 ft. Corolla a fine shade of rose pink; filaments and style white; anthers dark brown; stigma and calyx rosy. 2nd May 1936." Ludlow and Sherriff, No. 1541. Type in Herb. Brit. Mus.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 10,000-12,000 ft. In Rhododendron and Fir forest. Tree 10-20 ft. Flowers very deep crimson; calyx deep pink, very irregular; filaments and style white; anthers dark brown; stigma rose. 21st May 1936." Ludlow and Sherriff, No. 1629.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 10,500 ft. Common on north aspects in Rhododendron and Birch forest. Wet zone. Flower over. Seed collected. 25th October 1936." Ludlow and Sherriff, No. 2755.

A species in the Barbatum Series akin to *Rh. exasperatum* Tagg with similar broad, rounded leaves, which distinguish it from *Rh. barbatum* Wall. A striking plant in flower and foliage, *Rh. erosum* differs from *Rh. exasperatum* in several ways: the bud-scales do not persist; the indumentum on the underside of the leaves is softly woolly and by no means bristly; as the leaf gets older this covering disappears; the midrib is not barbate nor strigose towards the base; the petiole is longer; the calyx lobes are short.

BOOTHII SERIES.

Rhododendron Dekatanum Cowan. Sp. nov.

Species bene distincta *Rh. theichroo* Balf. f. et W. W. Sm. affinis sed foliis subtus squamis diversis (majoribus paucioribus minoribus dense dispositis) in lamina haud sepultis indutis, nervis primariis paucis (utrinsecus 7-9-paribus), calycis lobis elepidotis recognoscenda.

Fruticulus ad 1.5 m. altus. Ramuli hornotini olivacei spadiceo-lepidoti circ. 2 mm. diam., annotini fulvidi nigro-punctati, tandem grisei decorticantes. Alabastrorum parvorum circ. 1.5 cm. longorum oblongo-ovoideorum perulae exteriores ovatae vel suborbiculares extra lepidotae margine breviter sericeo-ciliatae interiores obovatae subalbidae dorso lepidotae apice emarginatae margine minute puberulae. Folia petiolata coriacea ad 6.5 cm. longa; lamina late oblonga vel oblongo-ovata 3-6 cm. longa, 2-3.5 cm. lata apice late rotundata mucrone parvo terminata margine leviter revoluta basi obtusa vel late cuneata supra olivacea opaca praesertim ad costam mediam vix sulcatam lepidota subtus laete brunnea squamis concavis peltatis biformibus vix contiguis persistentibus punctata; petiolus 5-6 mm. longus squamis furfuraceus. Flores lutei in umbellam terminalem 3-floram dispositi; pedicelli breves 6-8 mm. longi dense lepidoti. Calyx circ. 8 mm. longus fere ad basim 5-lobatus lobis aequalibus oblongo-rotundatis chartaceis dorso lepidotis margine eciliatis. Corolla circ. 2.5 cm. longa, late et breve campanulata extra lepidota intus

glabra, lobis 5 late rotundatis circ. 5 mm. longis, ad 1.8 cm. latis margine undulatis. Stamina 10, corolla breviora filamentis deorsum dilatatis nisi ad apicem albo-villosis, antheris rubidis etiam ad 5 mm. longis. Gynaeceum circ. 1.4 cm. longum; ovarium truncato-ovoideum circ. 4 mm. longum, 3 mm. latum dense aureo-lepidotum; stylus nisi ad imam basim pauci-lepidotus glaber corolla staminibusque brevior; stigma expanso-lobulatum.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. In Rhododendron and Bamboo forest. Transition zone. Bush 2-4 ft. Flowers bright lemon yellow; calyx slightly tinted pink brown; filaments and style cream yellow; anthers rich brown; stigma lemon green. 27th April 1936." Ludlow and Sherriff, No. 1360. Type in Herb. Brit. Mus.

An interesting plant with bright lemon-yellow flowers, in the Boothi Series, differing from the Yunnan species *Rh. theiochrom* Balf. f. et Smith, to which it is akin, in having larger leaves with fewer nerves; on the underside the nerves are very prominent, and scales are of two kinds, markedly different in size; scales are absent from the calyx lobes. At Captain Sherriff's request I have named this plant after Mrs. de Kat, his sister.

***Rh. megeratum* Balf. f. et Forrest.**

"SOUTHERN TIBET.—Chayul Chu. Alt. 11,500 ft. On rock face among other small Rhododendrons. Flowers pale lemon yellow. Shrub 1-2 ft. 27th April 1936." Ludlow and Sherriff, No. 1361.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 10,000 ft. On tree trunks in mixed jungle. Flowers creamy white spotted orange. Shrub 2 ft. 23rd May 1936." Ludlow and Sherriff, No. 1666.

First found by Forrest in Yunnan on the Kari Pass, this species is now known to extend to N.E. Upper Burma (Farrer), to the Assam Frontier Tract (Ward), and to S.E. Tibet (Rock and Sherriff). In addition to the numbers already quoted, Nos. 2505, 2759, and 2761 (all foliage or with fruit only) are probably this species.

CAMELLIAEFLOREM SERIES.

***Rh. camelliaeflorum* Hook. f.**

This curious plant, first found in Sikkim by Sir Joseph Hooker and described and figured in "Rhododendrons of the Sikkim Himalaya" in 1849 (t. xxviii), and later in the Botanical Magazine in 1856 (t. 4932), is widely distributed in Bhutan, where it was first collected by Griffith. Ludlow and Sherriff's records, which are as follows, extend the known distribution of the species.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,000 ft. In dense Rhododendron forest on steep rocky hillside. Shrub 5-6 ft. Seed collected. 27th October 1936." Ludlow and Sherriff, No. 2760.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,000 ft. On steep rocky slopes among other small Rhododendrons, close to Bamboo forest. Shrub 2-3 ft. Seed collected. 27th October 1936." Ludlow and Sherriff, No. 2765.

"N.E. BHUTAN.—Nyingsangla, north side Sakden. Alt. 10,500 ft. Growing on moss-covered rocks in Rhododendron and Conifer forest. Shrub 2-4 ft. Seed collected. 13th November 1936." Ludlow and Sherriff, No. 2845.

"N.E. BHUTAN.—Nyingsangla Sakden. Alt. 12,500 ft. In dense Rhododendron forest near top of the Conifer zone. Shrub 10-15 ft. Seed collected. 13th November 1936." Ludlow and Sherriff, No. 2849.

"N.E. BHUTAN.—Sakden. Alt. 11,000 ft. In Rhododendron and Conifer forest. Shrub 3-4 ft., growing on Oak trees. 13th April 1936." Ludlow and Sherriff, No. 2852.

"N.E. BHUTAN.—Sakden. Alt. 9,500 ft. Growing on a Holly-Oak tree, wet zone. Shrub 2-4 ft. Seed collected. 14th November 1936." Ludlow and Sherriff, No. 2853.

"EASTERN BHUTAN.—Nyuksangla Sakden. Alt. 11,000 ft. In open Rhododendron and Abies forest. Shrub 6-8 ft. Seed collected." Ludlow and Sherriff, No. 2855.

CAMPANULATUM SERIES.

Rh. campanulatum D. Don, which is common throughout the Himalayas from Kashmir to Bhutan, was collected by Ludlow and Sherriff in Southern Tibet on the Nyam Jang Chu, Trimo, at an altitude of 10,500 ft., Nos. 1296 and 1302.

Rh. fulgens Hook. f.

"SOUTHERN TIBET.—Trimo. Alt. 11,000 feet. In Rhododendron jungle among Fir and Larch. Flowers deep scarlet. Shrub 8-15 ft. 9th April 1936." Ludlow and Sherriff, No. 1297.

"N.E. BHUTAN.—Nyingsangla, Sakden. Alt. 12,500 ft. In dense Rhododendron forest, near top of Conifer zone. Common. Shrub 8-12 ft. Flowers over. Seed collected. 13th November 1936." Ludlow and Sherriff, No. 2846.

"N.E. BHUTAN.—Me La, Shingbe. Alt. 13,000 ft. In fruit. In Rhododendron and Abies forest. Shrub. Seed collected. 24th November 1936." Ludlow and Sherriff, No. 2915.

Rh. lanatum Hook. f.

A common species both in Bhutan and in Southern Tibet collected under Nos. 1389, 1557, 1558, 1608, 1610, and 1762.

Rh. lanatum Hook. f. var. **luciferum** Cowan. Var. nov.

A typo foliis elliptico-oblongis haud obovatis apice acutis vel breviter acuminatis recedens.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 11,500 ft. In Bamboo and Rhododendron forest, north aspect. Tree 15–20 ft. Corolla palest cream lemon, spotted magenta on upper petal; filaments white; anthers brown; style cream; stigma green. 29th April 1936." Ludlow and Sherriff, No. 1389.

"SOUTHERN TIBET.—Chayul to Charme Road, Le La. Alt. 13,000 ft. In Rhododendron and Abies forest, north aspect. Tree or shrub 8–12 ft. Flowers very pale lemon cream, brightly spotted rose; filaments white; anthers rich brown; ovary, style, and stigma lemon. 8th May 1936." Ludlow and Sherriff, No. 1557.

"SOUTHERN TIBET.—Chayul to Charme Road, Le La. Alt. 13,000 ft. In Rhododendron and Abies forest, north aspect. Tree 8–15 ft. Flowers pale lemon yellow, lobes all rosy, very few spots; filaments white; anthers rich brown; ovary and style lemon cream; stigma green. 8th May 1936." Ludlow and Sherriff, No. 1558.

"SOUTHERN TIBET.—Tsari Chu, Sanguti. Alt. 13,000 ft. Open position in Rhododendron and Abies forest. Tree 20–25 ft. Corolla lemon yellow, with a few red spots. 17th May 1936." Ludlow and Sherriff, No. 1608.

"SOUTHERN TIBET.—Tsari Chu, Yarpap. Alt. 12,500 ft. Rhododendron and Abies forest. Tree or shrub 15–25 ft. Corolla cream with bright red spotting; filaments and style white; anthers brown; stigma green. 18th May 1936." Ludlow and Sherriff, No. 1610.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 14,500 feet. In Rhododendron jungle above Abies forest. Tree 10–15 ft. Flowers lemon yellow, spotted rose; filaments and style palest lemon; anthers brown; stigma green. Indumentum of dried leaf is skinned off and rolled up and sold as wicks for butter lamps and called 'Bane.' 3rd June 1936." Ludlow and Sherriff, No. 1762. Type of var. in Herb. Brit. Mus.

The narrower oblong leaf with pointed apex separates this variety from the type. It may perhaps represent a distinct species. Captain Sherriff tells me that the indumentum of the dried leaves is skinned off and rolled up and sold by the Tibetans as wicks for their butter lamps; on this account I have named the variety *luciferum*, "bringing light." Captain Sherriff is of the opinion that this variety alone produces the wicks and that the indumentum of the leaf of typical *Rh. lanatum* is not used in this way.

Rhododendron miniatum Cowan. Sp. nov.

Species *Rh. fulgenti* Hook. f. forsan similis sed foliis multo minoribus, inflorescentia laxiore 4–6-flora, calyce multo majore recedens.

Frutex 2–5 m. altus ramis deorsum efoliatis. Ramuli juniores circ. 3 mm. diam. sordide grisei hic et illic pilis floccosis nigrescentibus vestiti, vetustiores pallide rubidi decorticantes. Alabastrorum oblongorum ad 2 cm. longorum apice attenuatorum perulae exteriores crustaceo-

brunneae late ovatae vel rotundatae nunc mucronulatae floccosae margine minute ciliatae circ. 2.5 mm. longae et latae, interiores longe obovatae vel spathulatae membranaceae circ. 1 cm. longae 4 mm. latae extra sericeo-puberulae margine ciliatae. Folia ad 6 cm. longa petiolata; lamina crasse coriacea 3.5-5.5 cm. longa, 2.5-3 cm. lata, oblonga vel oblongo-ovata apice obtusa mucronulata margine planata vel paullo revoluta basi cordulata vel rotundata supra viridis opaca, glabra nisi costa media sulcata pilis floccosis dense obsita, venis primariis haud conspicuis 6-10-paribus, subtus fulva lanato-tomentosa, indumento e pilis ramosis dense compactis composito, costa media elevata, nervis primariis occultis; petiolus robustus 6-8 mm. longus tomentosus deinde glabrescens. Flores kermesini in umbellam 4-6-floram dispositi rachi circ. 5 mm. longa tomentosa; bracteae oblongae circ. 1.2 cm. longae, 3 mm. latae crustaceo-brunneae sericeo-pilosae apice rotundatae mox deciduae; bracteolae non visae; pedicelli 5-6 mm. longi sparse floccosi vel glabri sub calyce paullo dilatati. Calyx grandis carnosulus kermesinus ad 1.3 cm. longus glaber fere ad basim in lobos irregulariter fissus, lobis inaequalibus ad 1 cm. longis, 1.2 cm. latis margine undulatis. Corolla circ. 3.5 cm. longa infundibulari-campanulata extra intusque glabra in limbum circ. 1 cm. longum expansa lobis 5 rotundatis circ. 1.2 cm. latis emarginatis. Stamina 10 inaequalia corolla breviora 1.2-2.5 cm. longa, filamentis deorsum paullo dilatatis glabris, antheris 2 mm. longis atro-purpureis. Gynaeceum 3 cm. longum; ovarium oblongum glabrum vel nunc sparsissime floccosum; stylus circ. 2.5 cm. longus glaber.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 10,500 ft. In Rhododendron and Fir forest. Tree or shrub 8-15 ft. Flowers very deep fleshy rose; calyx small, same colour; filaments white; anthers dark brown; ovary and style rose; stigma deep rose. 21st May 1936." Ludlow and Sherriff, No. 1627.

"Tsari Chu, Migyitun. Alt. 12,000 ft. Growing beside cliffs on the edge of the Rhododendron zone. Shrub 5-7 ft. Flowers deep fleshy crimson, with deep magenta patches at base; calyx irregular, large, same colour, and also fleshy; style and filaments white; anthers red brown; stigma deep red. 26th May 1936." Ludlow and Sherriff, No. 1710. Type in Herb. Brit. Mus.

A plant somewhat resembling *Rh. fulgens* Hook. f. but with a very large, rather irregular, fleshy calyx, recalling the calyx of *Rh. diphrocalyx* Balf. f. and of some forms of *Rh. neriiflorum* Franch. I prefer to place this species in the Campanulatum Series rather than in the Neriiflorum Series, although the comparatively loose few-flowered truss, and the leaf with its woolly indumentum on the underside, suggest a linkage with the Haematodes subseries. However, in all the different subsections of the Neriiflorum Series the ovary is densely hairy, or glandular, or hairy and glandular, never glabrous as in *Rh. fulgens* and in *Rh. miniatum*, and never sparsely floccose.

Rhododendron Sherriffii Cowan. Sp. nov.

Species distinctissima aspectu *Rh. fulgentis* Hook. f. sed indumento molli (e pilis planatis radiatim ramosis dense conglomeratis composito) omnino diversa; *Rh. Thomsonii* Hook. f. ejusque sociis etiam similis sed ob foliorum indumentum in seriem illam haud ponenda; interim prope seriem Campanulatum allocata.

Frutex 2-4 m. altus. Ramuli annui breves ad 1 cm. longi hornotini circ. 3 mm. diam. tomento sparso furfuraceo glandulisque clavatis rubiginosis intermixtis obsiti, vetustiores cortice griseo decorticante tomenti vestigiis glandulisque verruculosis nigrescentibus notato obtecti. Alabastra ignota. Folia petiolata ad 7.5 cm. longa; lamina subcoriacea oblongo-elliptica vel oblongo-ovalis, 4.5-6 cm. longa, 2.5-4 cm. lata, apice rotundata vel obtusa distincte mucronata, margine cartilaginea paullo recurva basi rotundata supra viridis maturitate glabra, costa media venisque primariis adscendentibus utrinsecus 7-10 vix sulcatis, subtus spadicea indumento mollissimo facile eraso e pilis complanatis inter se laxè commissis atque pilis radiatim ramosis (ramis turgide fusiformibus) intermixtis composito dense induta, costa media paullo elevata paginae apicem versus obscura, venis primariis omnino opertis; petiolus sanguineo-viridis ad 1.5 cm. longus glaber. Umbella terminalis 4-6-flora; pedicelli glabri 1-2 cm. longi. Calyx ad 5 mm. longus atro-kermesinus extra glaber basi cupularis margine undulatus, lobis 5 subaequalibus sublunatis ad 5 mm. longis et latis. Corolla carnosula intense kermesina infundibuliformi-campanulata, circ. 4 cm. longa, tubo sursum in limbum 5-lobatum expanso, lobis rotundatis circ. 6 mm. longis 1.5 cm. latis emarginatis subcrenulatis. Stamina 10, inaequalia corollae tubum vix aequantia filamentis deorsum dilatatis glabris, antheris parvis circ. 2 mm. longis. Gynaeceum circ. 4.3 cm. longum; ovarium circ. 5 mm. longum, conoideum sulcatum ex toto glabrum; stylus glaber sub stigmate parvo atro-purpureo lobato paullo expansus. Capsula glauco-nigrescens recta circ. 1.3 cm. longa, 7 mm. lata, basi calyce adpresso inclusa.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 12,500 ft. In Rhododendron forest above the Bamboo zone. Tree 15-20 ft. Corolla fleshy; a most beautiful rich deep carmine, small deep magenta patches at the base of each petal; calyx carmine; filaments basal half deep rose, turning to white; anthers deep crimson; style carmine; stigma deep carmine. 29th April 1936." Ludlow and Sherriff, No. 1390. Type in Herb. Brit. Mus.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 11,500 ft. In the Rhododendron zone, near the edge of the Fir and Larch zone, on steep hillsides. Tree or shrub 6-12 ft. Flowers over. Seed collected. 23rd October 1936." Ludlow and Sherriff, No. 2751.

I have named this fine species after Captain Sherriff. The beautiful deep crimson flowers are remarkable even in the dried herbarium material, and besides, the calyx is crimson, with a fine glaucous bloom.

Seed was obtained and has been distributed. This is a plant noteworthy not only for beauty of flower but also for unusual botanical characteristics. So distinctive is it that it does not fit well into any recognised series and should perhaps be placed alone in a new series. The indumentum on the underside of the leaf is quite distinctive, unlike that of any other known species; it is soft and easily removed, composed of closely packed flattened hairs, mixed with stellately branched hairs, the latter somewhat like those which are so characteristic of *Rh. Traillianum*, and yet the indumentum is by no means a typical "Lacteam Series indumentum." If no thick indumentum were present on the leaf, the shape would suggest that *Rh. Sherriffii* might well be placed in the Thomsonii Series. For the present, *Rh. Sherriffii* is perhaps best placed in the variable Campanulatum Series, near *Rh. fulgens*, which has a glabrous ovary, thick indumentum, and dark carmine flowers.

***Rhododendron tsariense* Cowan. Sp. nov.**

Species *Rh. lanato* Hook. f. affinis, sed foliis minoribus plerumque elliptico-ovatis nec obovatis, floribus in umbellam 1-5-floram dispositis, corolla pallide rosea vel albidia recedens.

Frutex 1-3 m. altus. Ramuli juniores circ. 4 mm. diam. fulvidi densissime lanato-tomentosi seniores grisei tomenti vestigiis notati deinde fere glabri decorticantes erubescens. Alabastrorum ovoideorum circ. 1 cm. longorum perulae extra dense lanato-tomentosae intus glabrae, exteriores late ovatae vel triangulares acutae circ. 8 mm. longae, 6 mm. latae, interiores angustiores apice plus minusve cucullatae. Folia petiolata ad 7 cm. longa; lamina crasse coriacea elliptico-oblonga vel nunc elliptico-obovata 2.2-6.2 cm. longa, 1-3 cm. lata apice obtusa vel rotundata abrupte et brevissime acuminata margine paulo revoluta basi rotundata vel subcordulata supra viridis vix rugulosa nunc praesertim ad costam mediam sulcatam tomenti vestigiis notata deinde glabra venis primariis utrinsecus ad 10 haud conspicuis, subtus tomento lanato fulvo omnino oblecta, indumento ex pilis longis ramosis crispulis composito; petiolus 5-8 mm. longus dense tomentosus. Flores in racemo-umbellae terminales 3-4-floras dispositi rachi 3-4 mm. longa dense puberula; bracteae oblongo-spathulatae chartaceae apice rotundatae tomentosae circ. 1.4 cm. longae 4 mm. latae; bracteolae lineares dense sericeo-pilosae circ. 5 mm. longae vix 1 mm. latae; pedicelli circ. 1 cm. longi tomentosi. Calyx parvus 1-2 mm. longus extra tomentosus lobis 5 minutis triangularibus. Corolla campanulata 3-3.5 cm. longa rosea vel roseo-alba postice rubro-maculata extra glabra intus basim versus pubescens lobis 5 rotundatis emarginatis circ. 1 cm. longis, 1.6 cm. latis. Stamina 10, inaequalia longiora ad 2 cm. longa breviora circ. 1.5 cm. longa, filamentis basi puberulis, antheris parvis circ. 2 mm. longis nigrescentibus. Gynaecium circ. 3.2 cm. longum; ovarium ovoideum 5 mm. longum, dense tomentosum;

stylus albidus glaber staminibus longior sub stigmatе lobulato paulo expanso ampliatus. Capsula cinnamomeo-tomentosa, cylindrica sub-falcata parum sulcata circ. 2 cm. longa 5 mm. lata valvis 5 ab apice dehiscens.

"SOUTHERN TIBET.—Nyam Jang Chu, Trimo. Alt. 10,500 ft. In Rhododendron forest on the south face. Shrub 8–12 ft. Flowers pale rose pink, buds a deeper pink; spotted deep rose on upper half. 10th April 1936." Ludlow and Sherriff, No. 1303.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. In Rhododendron and Bamboo forest. Transition zone. Shrub 3–4 ft. Flowers pale blush pink, deeper pink on upper petals, upper three petals spotted rose, spots showing through the petals; filaments white; anthers dark brown; style rich cream; stigma pale brown. 27th April 1936." Ludlow and Sherriff, No. 1364.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 11,000 ft. On cliff edges and among rocks. Shrub 4–6 ft. Flowers cream, tinged pink, boldly spotted red; filaments white; anthers brown; style lemon; stigma lemon. 21st May 1936." Ludlow and Sherriff, No. 1636. Type in Herb. Brit. Mus.

"SOUTHERN TIBET.—Tsari, Karkyu La. Alt. 14,500 ft. In mixed Abies and Rhododendron forest. Shrub 6–10 ft. Corolla white; filaments white; anthers rich brown. 24th June 1936." Ludlow and Sherriff, No. 2210.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,000 ft. Common on rocky steep hillside among other small Rhododendrons, close to Bamboo forest. Back of leaves bright brown red. Shrub 2–5 ft. Flower over. Seed collected. 27th October 1936." Ludlow and Sherriff, No. 2766.

"EASTERN BHUTAN.—Nyuksangla, Sakden. Alt. 14,000 ft. Common among Rhododendrons above the Conifer zone. Shrub 8–10 ft. Flower over. Seed collected. 15th November 1936." Ludlow and Sherriff, No. 2858.

"SOUTHERN TIBET.—Nyam Jang Chu, Trimo. Alt. 11,000 ft. In Rhododendron and Fir forest. Shrub. Seed collected. 17th November 1936." Ludlow and Sherriff, No. 2894.

This species is nearer to *Rh. lanatum* Hook. f. than to any other described species; the leaves are small, rounded, or sometimes almost cordulate at the base, and the petiole is very short. The flowers are pink or white sprinkled with pink spots on the posterior side; those of *Rh. lanatum* Hook. f. are sulphur yellow.

Rh. Wallichii Hook. f.

Like *Rh. camelliaeflorum* Hook. f., this species was first discovered in Sikkim and was described and figured by Hooker in "Rhododendrons of the Sikkim Himalaya" in 1849 (t. 5). It is now known to occur in Bhutan and Tibet.

"SOUTHERN TIBET.—Nyam Jang Chu, Trimo. Alt. 11,000 ft. In Rhododendron and Conifer forest. Shrub. Seed collected. 17th November 1936." Ludlow and Sherriff, No. 2895.

CAMPYLOGYNUM SERIES.

Rh. campylogynum Franch.

"SOUTHERN TIBET.—Near Molo, Lo La Chu valley, Singo Sambo. Alt. 13,500–14,000 ft. Open rocky hillsides (north aspect). Shrub 2 ft. Young leaves green, mature leaves dark purplish green. Flowers like a muscatel raisin in colour, anthers orange. 29th June 1936." Ludlow and Sherriff, No. 1882.

CINNABARINUM SERIES.

Rh. cinnabarinum Hook. f.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 10,000 ft. A most beautiful Rhododendron, common here, in Rhododendron and Bamboo forest. Transition zone. Shrub 8–12 ft. Flowers bright pinkish mauve; filaments ditto; anthers and stigma yellow brown; style deep pink. 27th April 1936." Ludlow and Sherriff, No. 1354.

"SOUTHERN TIBET.—Chayul-Charne Road, Kyimpu. Alt. 11,000–12,500 ft. In Abies and Rhododendron forest. Shrub 6–12 ft. Flowers fleshy pinkish mauve; filaments and style same; anthers fawn; calyx reddish. 11th May 1936." Ludlow and Sherriff, No. 1575.

"S.E. TIBET.—Pachakshiri, Lo La. Alt. 13,000 ft. Rocky ground; north face. Flowers fleshy orange pink; filaments paler; anthers brown. Shrub 5 ft. 2nd July 1936." Ludlow and Sherriff, No. 1894.

"SOUTHERN TIBET.—Lo La Chu, Singo Sambo. Alt. 12,000 ft. In mixed forest of Abies and Rhododendron. Shrub 6–9 ft. Corolla pinkish purple. 2nd October 1936." Ludlow and Sherriff, No. 2643.

"SOUTHERN TIBET.—Chayul Chu. Alt. 12,500 ft. Many of these Rhododendrons are just coming into flower. In mixed forest on edge of wet zone. Shrub 6–10 ft. Corolla bright fleshy pink, with a touch of mauve; calyx reddish green; pedicels rosy; filaments and style palest pink; anthers very pale yellow; stigma red. 8th October 1937." Ludlow and Sherriff, No. 2727.

Two distinct colour forms of *Rh. cinnabarinum* Hook. f. were collected, one with purplish mauve flowers, near var. *Roylei*, the other with rather short orange pink flowers.

Rh. concatenans Hutch.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 12,500 feet. Very common in the valley leading to Bimbi La. In Abies and Rhododendron forest. Flowers a very pretty fleshy pink mauve; filaments pale mauve at base, to white at top; anthers pale brown; style rosy; stigma green. 3rd June 1936." Ludlow and Sherriff, No. 1757.

Sherriff's No. 1757 agrees closely with *Rh. concatenans* Hutch., a species described from a specimen raised by Colonel Messel, Nymans, Handcross, Sussex, from Ward's seed.

Rhododendron igneum Cowan. Sp. nov.

Species *Rh. Keysii* Nutt. valde affinis forsanque illius varietas, foliis membranaceis latioribus, squamis laxioribus, floribus majoribus, calycis lobis longioribus lepidotis diversa.

Frutex 3-4 m. altus sub tegmine silvarum pluvialium profundo innascens. Ramuli flexuosi paucifolii, annotini flavido-virides tenues ad 5 cm. longi, circ. 2 mm. diam. sulcati squamis peltatis adpressis laxae induti, hornotini ferruginei squamis perpaucis lepidoti, seniores sordide grisei corrugati mox decorticantes. Alabastrorum ovoideorum parvorum perulae ovatae spadiceae flavido-lepidotae. Folia petiolata chartacea ad 8 cm. longa; lamina elliptica vel late elliptica nunc subobovata, 3-7.5 cm. longa, 2-3.5 cm. lata, apice acuta vel obtusa nonnunquam subrotundata conspicue apiculato-mucronata margine anguste cartilaginea plana basi obtusa vel subattenuata supra viridis opaca bene reticulata squamis persistentibus albidis uniformibus laxae oblecta, subtus pallide olivacea squamis peltatis discontiguis (spatium diametro suo duplo vel majus distantibus) ex umbone parvo institaque multo latiore membranacea aedificatis plerumque secretione resinosa scintillante impletis induta, costa media supra angusta paullo canaliculata subtus haud prominente, venis primariis utrinsecus 10-12 satis conspicuis; petiolus 5-6 mm. longus dense lepidotus. Inflorescentiae 2-3-florae subterminales ad ramulorum annotinorum apices versus dispositae, ramulis hornotinis foliosis superatae; flores e virgis lateralibus brevibus (efoliatis sed et perularum delapsarum cicatricibus suberosis et squamis peltatis discontiguis notatis) provenientes. Calyx parvus circ. 1.5 cm. longus, basi cupularis imbricato-lepidotus usque ad medium 5-lobatus, lobis aequalibus vel subaequalibus membranaceis margine pilis irregulariter ciliatis squamisque circumcirca indutis. Corolla tubulosa colore igneo fulgens, tubo circ. 2 cm. longo cylindrico, lobis rectis 5-6 triangularibus vel subovatis circ. 4 mm. longis. Stamina 10 vel 12 corolla paullulum longiora 2-2.5 cm. longa, antheris parvis circ. 1 mm. longis, filamentis supra basim complanatis ibique sparse villosis. Gynaeceum circ. 3 cm. longum; ovarium circ. 4 mm. longum squamis peltatis imbricatis dense obtectum; stylus ex ore corollae longe exsertus ad basim pilosus caeteroquin glaber sub stigmathe aequilato haud amplius.

"SOUTHERN TIBET.—Chayul Chu, Lung (4 miles below). Alt. 8,500 ft. In dense mixed forest, inside the wet zone. Shrub 8-12 ft., with rather few leaves. Corolla bright salmon, deeper at base than lobes. Calyx green, except posterior lobes which are salmon; filaments and style almost white, tinged faint salmon; anthers brown; stigma

green; ovary green. 10th July 1936." Ludlow and Sherriff, No. 2334. Type in Herb. Brit. Mus.

A species very closely allied to the Bhutan plant *Rh. Keysii* Nutt., with broader leaves, with fewer scales below. The flowers are similar to those of *Rh. Keysii* but larger; the calyx lobes are also larger and, moreover, lepidote.

Rh. Keysii Nutt.

"S.E. Tibet, Pachakshiri, Lo La. Alt. 12,000 feet. In *Abies* forest. Shrub up to 12 feet. Flowers fleshy, pinkish red. 3rd July 1936." Ludlow and Sherriff, No. 1904.

EDGEWORTHII SERIES.

Rh. Edgeworthii Hook. f.

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 8,000 ft. Growing on rocks. Shrub 5–8 ft. Flower not seen. 31st March 1936." Ludlow and Sherriff, No. 1251.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 8,500 ft. Common on steep hillside in mixed forest. Wet zone. Shrub 3–5 ft. Seed collected. 22nd October 1936." Ludlow and Sherriff, No. 2745.

"SOUTHERN TIBET.—Muktur Tawang Chu. Alt. 8,000 ft. Growing with Nos. 2833 and 2835. Common in *Rhododendron* and deciduous forest. Wet zone. Seed collected. 12th November 1936." Ludlow and Sherriff, No. 2836.

It is interesting to note the extended distribution of this plant.

Rh. pendulum Hook. f.

"SOUTHERN TIBET.—Nyam Jang Chu, Trimo. Alt. 10,500 ft. In *Rhododendron* forest. South aspect. Shrub straggling along the ground. Flower not seen. 10th April 1936." Ludlow and Sherriff, No. 1309.

Rh. pendulum, formerly recorded from Sikkim and Bhutan, is found also in Southern Tibet. Although this specimen is of foliage only, there is little doubt about its identity.

FALCONERI SERIES.

Rh. arizelum Balf. f. et Forrest.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. Rocky and very steep slopes in *Rhododendron* forest. Not common. Tree 12–15 ft. Flowers very bright rose pink. 27th April 1936." Ludlow and Sherriff, No. 1358.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 9,500 feet. In *Rhododendron* forest. Flowers bluish pink with a bright magenta blotch at base. Tree 20 ft. 28th April 1936." Ludlow and Sherriff, No. 1380.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 11,000 ft. In mixed Conifer and Rhododendron forest. Wet zone. Tree 20–25 ft. Seed collected. 23rd October 1936." Ludlow and Sherriff, No. 2753.

First discovered by Forrest in Western Yunnan this species was later found by Ward in the Delei Valley in Assam, and by Rock and Forrest in Tibet. Ludlow and Sherriff's records confirm its wide distribution, and it is to be noted that they found the pink-flowered form. The occurrence of this species and of the next, the typically Himalayan *Rh. Hodgsonii*, in the same region is noteworthy.

***Rh. Hodgsonii* Hook. f.**

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 12,000 ft. In Rhododendron forest, just about the upper limit of Bamboo. North aspect. Tree 30–40 ft., with few branches. Flowers pale blush pink, deeper pink where lobes join, with a bright magenta patch at base of upper half of corolla; filaments and ovary white; anthers brown; style tinged rose; stigma lemon green. 29th April 1936." Ludlow and Sherriff, No. 1385.

FORTUNEI SERIES.

***Rh. Griffithianum* Wight.**

"SOUTHERN TIBET.—Tawang Chu, Muktur. Alt. 8,000 ft. In Rhododendron and deciduous forest. Wet zone. Fairly common. Tree 10–15 ft. Girth of trunk about 18 in. Flowers over. Seed collected. 12th November 1936." Ludlow and Sherriff, No. 2835.

The predominance of Himalayan Rhododendrons in the region visited by Ludlow and Sherriff is emphasised by the presence of *Rh. Griffithianum*, the only Himalayan species in the Fortunei Series, and the entire absence of the many Chinese species in the series.

FULVUM SERIES.

***Rh. fulvum* Balf. f. et W. W. Sm.**

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. In Rhododendron and Bamboo forest. Transition zone. Tree 15–20 ft. Flowers blush pink with strips of deeper pink down centre of petals, and with a small magenta patch at base of upper petal inside; filaments and style white; anthers brown; stigma palest brown. 21st April 1936." Ludlow and Sherriff, No. 1357.

Nos. 1381, 1383, 1384, and 1542, also from the Chayul Chu, are again *Rh. fulvum* Balf. f. et W. W. Sm.

GLAUCUM SERIES.

***Rh. glaucum* Hook. f.**

Ludlow and Sherriff, No. 2764 in foliage only is probably this species.

Rh. micromeres Tagg.

"SOUTHERN TIBET.—Migyitun, Tsari. Alt. 10,000 ft. Sometimes epiphytic on trees, in dense mixed forest. Shrub 4-6 ft. Corolla lemon yellow. 2nd June 1936." Ludlow and Sherriff, No. 1751.

"SOUTHERN TIBET.—Tsari. Alt. 10,000 ft. In mixed forest. Flowers lemon yellow. Shrub 4-5 ft. 10th June 1936." Ludlow and Sherriff, No. 2108.

"EASTERN BHUTAN.—Alt. 9,500 ft. On steep hillsides in Rhododendron and Abies forest. Shrub 10-12 ft. Seed collected. 15th November 1936." Ludlow and Sherriff, No. 2857.

Described in 1931 from material found by Forrest in S.E. Tibet, *Rh. micromeres* Tagg was subsequently collected by Rock, Ward and Sherriff.

Rh. pruniflorum Hutch. et Ward.

"SOUTHERN TIBET.—Natrampa. Alt. 10,000-11,000 ft. Transition zone. Shrub 1 ft. high with branches 3-4 ft. long. Flowers pink. 27th April 1936." Ludlow and Sherriff, No. 1355.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 11,500 ft. On rocky hillside among scrub. Flowers fleshy pink. Shrub 3-5 ft. 22nd May 1936." Ludlow and Sherriff, No. 1647.

GRANDE SERIES.**Rh. grande** Wight.

Sherriff gathered typical specimens both in Bhutan and in Tibet. Nos. 1186, 1208, and 1235 appear to represent a narrow-leaved form.

"S.E. BHUTAN.—Yonpu La. Alt. 8,000 ft. In Evergreen and Rhododendron forest. Tree 20-30 ft. Flowers creamy yellow; lobes tinged rose, base of corolla deep purple; style deep red. 1st March 1936." Ludlow and Sherriff, No. 1148.

"Gamri Chu, Takhtoo. Alt. 7,500 ft. In Evergreen forest. Tree 30 ft. Flowers rose, with a deep purple rose patch at base of corolla, spotted dark rose inside; style and filaments white. 15th March 1936." Ludlow and Sherriff, No. 1186.

"EASTERN BHUTAN.—Gamri Chu, Takhtoo. Alt. 7,500 ft. In Evergreen forest; a much branched tree. Seeds collected. 10th March 1936." Ludlow and Sherriff, No. 1208.

"SOUTHERN TIBET.—Nyam Jang Chu, Shakti. Alt. 7,250 ft. In Rhododendron and Evergreen forest. Tree 25-30 ft. Flowers blush pink, spotted chiefly on upper half and with a deep magenta patch at base. Flowers nearly over. 25th March 1936." Ludlow and Sherriff, No. 1235.

"SOUTHERN TIBET.—Nyam Jang Chu, Panchen. Alt. 8,000 ft. In Bamboo and Rhododendron jungle. Tree 30 ft. Flowers white, lobes tinged pink, base deep magenta. 1st April 1936." Ludlow and Sherriff, No. 1258.

Rhododendron pudorosum Cowan. Sp. nov.

Species arborea *Rh. grandi* Wight affinis, sed ramulis alabastrorum perulis per annos 2-3 persistentibus dense obtectis, foliorum forma, lamina crasse coriacea, venis primariis 12-15-paribus nec supra valde impressis nec subtus bene elevatis, petiolis brevioribus floccosis, floribus intense roseis notata.

Arbor ad 12 m. alta pauciramosa. Ramuli ultimi crassi 1 cm. diam. juniores alabastrorum perulis persistentibus ceu pannis dense vestiti, vetustiores sordide grisei tomenti vestigiis obtecti. Perulae extimae crustaceae brunneae ovatae vel nunc rotundatae caudatae, extra plus minusve cinereo-pubescentes eglandulosae intimae late ligulato-spathulatae breviter apiculatae extra pubescentes intusque ad apicem villosae plerumque reflexae vel ad medium patentem et ultra medium divergentes. Folia magna petiolata ad 25 cm. longa; lamina coriacea 8-22 cm. longa, 3-7 cm. lata, oblanceolata vel oblonga apice obtusa vel rotundata mucronulata margine vix revoluta basi rotundata fere cordulata nunc late cuneata, supra viridis opaca levis costa media vix sulcata venis primariis utrinsecus ad 16 haud conspicuis subtus argentea deinde olivacea sed haud glabra indumento evanescente e pilis intricatim ramosis adpressis et glandulis minutis ovoideis aedificato induta; petiolus robustus, 2.5-3 cm. longus subcylindricus tomentosus-canescens. Flores terminales plurimi (16-24) in umbellam veram vel brevissimam racemosam dispositi rachi ad 3 cm. longa plus minusve floccosi; bractae interiores membranaceae fulvidae obovato-spathulatae ad 3.5 cm. longae 1 cm. latae utrinque cinereo-pilosae apice acuminatae vix cucullatae; bracteolae lineares ramentaceae vix 1 cm. longae sericeo-pilosae; pedicelli 2-3 cm. longi plus minusve dense fulvido-floccosi. Calyx glaber subobsoletus cupularis angustus carnosulus vix 2 mm. longus margine undulatus vel lobulatus. Corolla ventricosocampanulata rosea basi atro-kermesino-maculata subgibbosa, 3-3.5 cm. longa, extra intusque sparsim floccoso-pilosa vel glabrescens lobis 6-8 rotundatis emarginatis circ. 1 cm. longis, 1.5 cm. latis. Stamina 16, inaequalia longiora circ. 2.5 cm. longa breviora circ. 1.5 cm. longa antheris brunneis parvis circ. 2 mm. longis, filamentis tenuibus glabris. Gynaeceum circ. 3 cm. longum corolla paullo brevius staminibus longius; ovarium oblongo-ovoideum circ. 5 mm. longum, 4 mm. latum sulcatum albido-tomentosum eglandulosum; stylus validus glaber circ. 2.5 cm. longus sub stigmate late lobulato curvatus et dilatatus.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 12,500 ft. About the upper limit of Bamboo on a north aspect. Tree 30-40 ft. Little branched. Corolla mauve pink; deep magenta patch at base of upper petal; bright rose pink before fully open. Ovary, filaments, and style white; anthers brown; stigma very pale green. Fragrant. 29th April 1936." Ludlow and Sherriff, No. 1386. Type in Herb. Brit. Mus.

"SOUTHERN TIBET.—Tsari Chu, Yarap. Alt. 12,500 ft. Usually a

shady position on a north aspect among *Abies* and *Rhododendron*. Tree 30 ft., rather straggling. Flowers very bright pink, deep magenta basal patch. Ovary and basal half of filaments pale pink; anthers pale brown; style rosy; stigma lemon yellow. Fragrant. 18th May 1936." Ludlow and Sherriff, No. 1612.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 11,000 ft. In mixed Fir and *Rhododendron* forest. Tree 20–25 ft. Corolla bright pink, with magenta basal patch; style pink; stigma green. This *Rhododendron* was seen in several places, now coming into flower. Seed collected. 23rd October 1936." Ludlow and Sherriff, No. 2752.

A species which will be very easily recognised by the large bud-scales, which have a marked tendency to persist for several years. The younger stems are clothed by bud-scales as in the *Roxieanum* Series, but here the bud-scales are much larger. In no other species in the Grande Series do the bud-scales persist and give the stems a shaggy appearance.

IRRORATUM SERIES.

***Rh. epapillatum* Balf. f. et Cooper.**

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 8,000 ft. In *Rhododendron* and *Magnolia* forest. Tree 12–15 ft. Flowers pink, very heavily spotted dark magenta. Only one flower seen here. 31st March 1936." Ludlow and Sherriff, No. 1252.

There is very little material available under this number, but, so far as one can judge, the plant seems to match other gatherings of this species.

***Rh. Kendrickii* Nutt.**

"EASTERN BHUTAN.—Gamri Chu, Takhtoo. Alt. 7,500 ft. On the edge of marsh. Shrub 6–12 ft. Flowers deep rose pink. 9th March 1936." Ludlow and Sherriff, No. 1206.

***Rh. ombrochares* Balf. f. et Ward.**

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 8,000 ft. In *Rhododendron* and Bamboo forest. Tree 20–30 ft. Flowers pink, spotted chiefly on upper three petals, extreme base of upper petal with a small deep magenta patch. 1st April 1936." Ludlow and Sherriff, No. 1260.

Sherriff's plant scarcely differs from typical specimens from N.E. Upper Burma.

***Rh. pankimense* Cowan.**

"SOUTHERN TIBET.—Gyipu. Alt. 8,500 ft. In dense *Rhododendron* forest. Flowers deep rose spotted. Tree 12–25 ft. 24th March 1936." Ludlow and Sherriff, No. 1227.

"SOUTHERN TIBET.—Nyam Jang Chu, between Le and Lepo. Alt.

9,000 ft. In Rhododendron and Bamboo jungle. Flowers rose, spotted chiefly on upper half. 5th April 1936." Ludlow and Sherriff, No. 1280.

"Lung (4 miles below). Alt. 8,500 ft. In dense mixed forest. Shrub or tree 5-15 ft. Flower over. Seed collected. 22nd October 1936." Ludlow and Sherriff, No. 2748.

This species was first collected by Ward at Pankim on the Assam frontier, and was described in 1936. It is allied to *Rh. Kendrickii* Nutt., but has much thinner leaves with fewer nerves and fewer flowers to a truss; the ovary is hairy but not glandular.

LACTEUM SERIES.

Rhododendron dignabile Cowan. Sp. nov.

Species eximia forsan in serie *Rh. lactei* Franch. optime ponenda, *Rh. Wightii* Hook. f. affinis, sed a *Rh. campanulato* D. Don haud longe distans, ab illis ovario sparse floccoso facile distinguitur.

Frutex vel arbor parva 3-7 m. alta. Ramuli hornotini crassi circ. 5-8 mm. diam. pallide virides sparsissime floccosi deinde glabrescentes, alabastrorum parvorum circ. 1.2 cm. longorum ovoideorum perulae exteriores plus minusve persistentes late ovatae vel rotundatae extra sparse pubescentes valde glutinosae interiores ovatae margine plus minusve ciliatae. Folia petiolata ad 1.5 cm. longa; lamina coriacea oblongo-elliptica nunc oblongo-obovata 8-15 cm. longa 3-6 cm. lata apice obtusa vel subacuta basi late cuneata vel rotundata vel subcordata supra viridis levis hic et illic pilorum juvenilium vestigiis induta costa media angusta sulcata venis primariis utrinsecus ad 16 obscuris paullulo impressis subtus pallidior sub oculo glabra sed pilis sparsis minutissimis rosulatis (e ramulis tumidis constructis) glandulisque paucis intermixtis vestita, costa media elevata. Flores plurimi (12-15) in umbellam veram vel brevissime racemosam dispositi rachi floccosa; bractae interiores submembranaceae fulvae obovato-spathulatae ad 3 cm. longae, 8 mm. latae apice cucullatae acutae extra intusque sericeo-pilosae; bracteolae lineares circ. 1 cm. longae dense pilosae; pedicelli ad 2 cm. longi floccoso-pilosi. Calyx minutus circ. 1-1.5 mm. longus floccosus vel glabrescens lobulis 5 late triangularibus margine submembranaceis undulato-incisis. Corolla campanulata ad 4 cm. longa rosea vel pallide lutea nunc postice maculis parvulis paucis notata nunc basi kermesino-maculata, utrinque glabra, lobis 5 rotundatis .5-1 cm. longis, 1.5-2 cm. latis undulato-crenatis nonnunquam emarginatis. Stamina 10, inaequalia, longiora circ. 1.5 cm. longa minora circ. 2.5 cm. longa, antheris 2 mm. longis, filamentis infra dilatatis dense pubescentibus. Gynaeceum 3-3.5 cm. longum staminibus longius corolla brevius; ovarium conoideum 6 mm. longum, 3 mm. latum, nigricans pilis floccosis sparse vestitum; stylus glaber sub stigmate lobulato vix latiore haud ampliatus.

"SOUTHERN TIBET.—Chayul-Charne Road, Le La (Kyimpu). Alt. 13,000 ft. In *Abies* and *Rhododendron* forest. North aspect. Tree 12–20 ft. Corolla pale pink, lobes blush pink, with a small magenta patch at base, boldly spotted magenta; calyx lemon green; filaments white; anthers rich brown; ovary green; style lemon; stigma deep rose. 9th May 1936." Ludlow and Sherriff, No. 1564. Type in Herb. Brit. Mus.

"SOUTHERN TIBET.—Chayul-Charne Road, Le La (Kyimpu). Alt. 13,000 ft. In *Rhododendron* and *Abies* forest. Corolla cream, large bright magenta patch at base; filaments white; anthers brown; ovary green; style lemon; stigma lemon green. 9th May 1936." Ludlow and Sherriff, No. 1566.

"SOUTHERN TIBET.—Tsari Chu, Sanguti. Alt. 14,000 ft. Shrub 8–15 ft. Flowers pale pink; filaments white; anthers brown; style green; stigma dark green. 17th May 1936." Ludlow and Sherriff, No. 1607.

"SOUTHERN TIBET.—Tsari Chu, Yarap. Alt. 12,500 ft. In *Rhododendron* and *Abies* forest. Flowers lemon yellow, tinged pink, magenta patch at base; filaments white; style lemon; stigma dark red; ovary green. 19th May 1936." Ludlow and Sherriff, No. 1619.

Rh. dignabile, nearest to *Rh. Wightii* Hook. f., and with the sticky buds of this species, is perhaps best placed along with it in the *Lacteam* Series, but it would be almost equally well placed in the *Campanulatum* Series. Neither *Rh. Wightii* nor *Rh. dignabile* has the characteristic "*Lacteam* Series indumentum." The leaves of *Rh. dignabile* closely resemble those of *Rh. Beesianum* Diels in shape; in having a very sparse indumentum on the underside they are similar to those of *Rh. Wallichii* Hook. f. *Rh. dignabile* is easily distinguished from *Rh. Wightii* and from *Rh. campanulatum* by the floccose or sparsely floccose ovary. There are two forms of this species, one with yellow, the other with pink flowers.

LAPPONICUM SERIES.

Rh. paludosum Hutch. et Ward.

"SOUTHERN TIBET.—North of Sanga Chöling, Cha La. Alt. 15,500 ft. On bare open valley bed, among shale. Shrub 1–2 ft. Flowers pinkish purple. 15th May 1936." Ludlow and Sherriff, No. 1598.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 15,000 ft. Open hillside above all but dwarf *Rhododendrons*. Shrub 1 ft. Flowers plum to pinkish purple; filaments same colour; anthers pale brown; style red; stigma dark rose. 5th June 1936." Ludlow and Sherriff, No. 1779.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 14,000 ft. On open hillsides among dwarf *Rhododendrons*. Shrub 1 ft. Corolla pinkish purple, fragrant; filaments same as corolla; anthers brown; style

deep red; stigma deep red brown. 7th June 1936." Ludlow and Sherriff, No. 1788.

"SOUTHERN TIBET.—Chayul Chu, Le La. Alt. 14,000 ft. On open hillside among dwarf Juniper and Rhododendrons. Flowers bright deep pink. Shrub 2 ft. 5th July 1936." Ludlow and Sherriff, No. 2300.

Rh. telmateium Balf. f. et W. W. Sm.

"SOUTHERN TIBET.—Kyim Dong, Dzong. Alt. 12,000 ft. Dry zone. On open hillside. Shrub 3-4 ft. Corolla purple pink. 20th September 1936." Ludlow and Sherriff, No. 2622.

Although Sherriff's plant is not identical with *Rh. telmateium* Balf. f. et W. W. Sm., which is a Yunnan plant from the Chungtien Plateau, its affinity is with this species, and it seems scarcely distinct enough to merit another name.

LEPIDOTUM SERIES.

Rh. elaeagnoides Hook. f.

"SOUTHERN TIBET.—Takar La, Tsari. Alt. 13,500 ft. Flowers pale lemon shaded, pink spotted. Shrub 1 ft. 27th June 1936." Ludlow and Sherriff, No. 2225.

Rhododendron Ludlowii Cowan. Sp. nov.

Species nana ex affinitate *Rh. pumili* Hook. f. sed floribus flavidis facile recognoscitur; etiam calycis lobis majoribus styloque corollam aequante vel nunc superante diversa.

Suffrutex humilis circ. 30 cm. altus. Ramuli tenues, hornotini circ. 2 mm. diam. leviter striati squamis laxis peltatis stipitatis ex umbone parvo institaque carnosula constructis obtecti, annotinigrisei squamarum vestigiis notati deinde decorticantes. Alabastrorum oblongorum parvorum perulae exteriores ovatae rufo-brunneae nitentes, nisi margine ciliata glabrae, interiores similes sed apice late emarginatae extraque ad costam mediam impressam pilis canis brevibus indutae. Folia brevissime petiolata 8-15 mm. longa; lamina rigide coriacea ad 1.4 cm. longa, 1 cm. lata obovata apice rotundata mucrone parvo robusto obtuso praedita margine cartilaginea leviter crenato-undulata basi obtusa, supra atro-viridis nitens squamis peltatis distantibus nigro-punctata, subtus squamis brunneo-scintillantibus vel nigrescentibus (spatium diametro suo duplo vel majus distantibus) lepidota, costa media supra paullulo sulcata nisi basim versus obscura, infra elevata conspicua; petiolus complanatus 1-2 mm. longus lepidotus. Flores 1-2 ad apices ramorum dispositi; pedicelli ad 2.5 cm. longi perspicue lepidoti ad basim bracteis convolutis cincti. Calyx foliaceus viridinitens circ. 5 mm. longus ultra medium 5-fissus, lobis rotundatis, squamis peltatis plurimis notatus. Corolla late tubulosa 1.5-2.5 cm. longa extra et molliter sericeo-pubescent et lepidota; tubus intus ad

basim puberulus brunneo-maculatus ; lobi rotundati 1-1.5 cm. longi et lati. Stamina 10, corolla breviora ; antherae circ. 2 mm. longae ; filamenta paullo supra basim pilis flaccidis longis circumventa caeterum glabra. Gynaeceum circ. 2 cm. longum ; ovarium parvum subglobosum circ. 3 mm. longum dense lepidotum ; stylus staminibus longior glaber.

"S.E. TIBET.—Lo La, Pachakshiri. Alt. 13,500 ft. Open rocky hillside, north face. Shrub 12 ft. Flowers primrose yellow, spotted reddish brown inside tube. 2nd July 1936." Ludlow and Sherriff, No. 1895. Type in Herb. Brit. Mus.

A species closely allied to *Rh. pumilum*, but taller in habit, easily distinguished by its large yellow flowers, with longer calyx lobes, and style about as long or longer than the corolla.

***Rh. lepidotum* Wall.**

Sherriff has a photograph of a particularly fine colour form of this species ; he records that the colour of the flowers varies in different plants from almost white to deep wine red. Nos. 1855, 1870, 2244, 2447, 2818.

***Rh. pumilum* Hook. f.**

"SOUTHERN TIBET.—Tsari, Yarap, 1 mile above Chickchar. Alt. 14,000 ft. Flowers dull pink. Shrub growing only 6 in. high, but sprawling over rocks with branches 3-4 ft. long. 20th May 1936." Ludlow and Sherriff, No. 1624.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 11,500 ft. On bare hillside beside snow. Shrub 4-6 in. Flowers pale wine pink. 21st May 1936." Ludlow and Sherriff, No. 1634.

"SOUTHERN TIBET.—Tsari, Migyitun. Alt. 13,500 ft. Flowers pale grape purple ; calyx green, red on margins ; stigma rosy. On rocky, open hillside among *Rhododendron* scrub. 30th May 1936." Ludlow and Sherriff, No. 1741.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 12,500-13,500 ft. On open hillside above *Abies* forest. Shrub 6 in.-1 ft. Corolla and calyx wine red ; filaments white ; anthers brown ; style pale rose ; stigma rose. 5th June 1936." Ludlow and Sherriff, No. 1773.

"S.E. TIBET.—Lo La Chu Valley. Alt. 13,500-14,000 ft. On open rocky hill slopes. Flowers pale purplish pink. 1st July 1936." Ludlow and Sherriff, No. 1889.

"SOUTHERN TIBET.—Chayne Chu (Kashong La, Chang La). Alt. 14,500 ft. Growing on open rocky hillside, wet zone. Shrub 4-8 in. Corolla purplish pink ; filaments white ; anthers brown ; style and stigma bright rose ; calyx rose red. 17th July 1936." Ludlow and Sherriff, No. 2378.

***Rh. thyodocum* Balf. f. et Cooper.**

"SOUTHERN TIBET.—Nyam Jang Chu, Lepo. Alt. 11,000 ft. On rocky hillside, above Conifers, south face. Shrub 2-3 ft. Flower not

seen. Seeds taken. 7th April 1936." Ludlow and Sherriff, No. 1285.

"SOUTHERN TIBET.—Nyam Jang Chu, Trimo. Alt. 11,000 ft. In Rhododendron forest. Shrub. Seed collected. 17th November 1936." Ludlow and Sherriff, No. 2896.

A small shrub with reddish purple flowers, previously collected by Cooper in Bhutan and now recorded from Tibet.

MADDENII SERIES.

Rhododendron amandum Cowan. Sp. nov.

Species nova *Rh. ciliato* Hook. f. affinis ramulis haud setosis, floris colore, corolla extra lepidota satis divergit.

Frutex 1-2 m. altus. Ramuli hornotini tenues, circ. 3 mm. diam. flavido-virides esetosi squamis peltatis adpressis sparsis sed hic illic confertis brunneo-punctati. Alabastra foliorum ignota. Folia breve petiolata ad 9 cm. longa; lamina subcoriacea elliptica vel elliptico-oblonga 5-8.5 cm. longa, 2-3.5 cm. lata, apice obtusa vel rotundata mucrone conspicuo corniculata margine longe ciliata deinde glabrescens basi late cuneata supra olivacea subrugulosa vix nitens fere elepidota basim versus et praesertim ad costam mediam vix impressam longe setosa caeteroquin glabra, subtus pallidior costa media prominente venisque primariis vix elevatis 6-10-paribus ubique squamis peltatis inaequalibus partim brunneo-coloratis partim aureo-scintillantibus (spatium diametro suo minus distantibus) lepidota inter squamas papillosa; petiolus circ. 5 mm. longus crassus dense lepidotus et strigosus. Flores in umbellas terminales 2-3-floras aggregati; bracteae mox deciduae; bracteolae lanceolatae cucullatae circ. 1.2 cm. longae extra pubescentes margine ciliata apice pilis albidis longioribus confertis cristatae; pedicelli ad 1 cm. longi imbricato-lepidoti. Calyx foliaceus circ. 1 cm. longus ad medium vel ultra 5-lobatus extra squamis brunneis vel albidis indutus intus dense sericeo-pilosus, lobis late ovatis rotundatis margine setoso-ciliatis. Corolla pallide flava ad 3 cm. longa, infundibuliformi-campanulata, extra squamis albidis distantibus conspicue notata lobis rotundatis emarginatis circ. 1 cm. longis, 2 cm. latis. Stamina 10, inaequalia corolla breviora, filamentis complanatis ad basim villosis. Gynaeceum staminibus longius corolla brevius; ovarium sulcatum circ. 5 mm. longum, 4 mm. diam. squamulis succulentis dense lepidotum; stylus circ. 2 cm. longus, glaber, stigmate disciformi lobulato coronatus. Capsula non visa.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. On steep rocks, among other small Rhododendrons. Transition zone. Shrub 4-5 ft. Flowers pale lemon yellow; filaments white; anthers brown; style rosy; stigma green. 27th April 1936." Ludlow and Sherriff, No. 1365. Type in Herb. Brit. Mus.

A new species in the Ciliicalyx subseries, akin to *Rh. ciliatum* Hook.

f., from which it differs, having lemon yellow flowers, with scales on the outside of the corolla. There are no bristly hairs on the stem.

Rh. ciliatum Hook. f.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. Transition zone. A straggling shrub 4-5 ft., growing on rocks. Corolla white, upper petal tinged blush pink, more so at base of corolla; filaments white; anthers pale brown; style pale pink; stigma palest brown. 27th April 1936." Ludlow and Sherriff, No. 1356.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 10,500 ft. On steep rocky hillside. Shrub 2 ft. Flower over. Seed collected. 17th October 1936." Ludlow and Sherriff, No. 2739.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 10,500 ft. On edge of cliffs and very steep hillside, among other Rhododendrons. Shrub 1-4 ft. Flowers over. Seed collected. A few flowers were coming into bloom and appeared to be pink. 27th October 1936." Ludlow and Sherriff, No. 2757.

This well-known Sikkim Rhododendron does not seem to have previously been collected in Tibet.

Rh. crassum Franch.

"SOUTHERN TIBET.—Chayul Chu, 4 miles below Lung. Alt. 8,500 ft. In dense mixed forest, just inside the wet zone. Shrub 8-12 ft. Corolla palest blush pink, lobes rather pinker; posterior part of tube more or less suffused pale golden, with a rosy basal patch; calyx pale rose; extremely fragrant. Ovary green; filaments white; anthers pale brown; style pale green; stigma green. 10th July 1936." Ludlow and Sherriff, No. 2332.

"SOUTHERN TIBET.—Chayul Chu. Alt. 8,500 ft. In dense mixed forest in wet zone. Flowers white with faint tinge of pink. Shrub 5-8 ft. 10th July 1936." Ludlow and Sherriff, No. 2338.

Rh. crassum Franch. is widely distributed in Yunnan, Upper Burma, and Tibet.

Rh. Lindleyi T. Moore.

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 8,000 ft. Shrub 8-10 ft. Flower not yet fully open. At present corolla appears creamy green, tipped rose. Bracts white or cream, tipped purple rose. 2nd April 1936." Ludlow and Sherriff, No. 1266.

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 7,000 ft. Corolla pure white with a golden patch at base inside; lobes sometimes with a faint pink tinge; fragrant; calyx green, spotted and striated rose; filaments 10, cream; anthers brown; style green at base, reddish at upper end. Inflorescence 3-4-flowered. A beautiful Rhododendron, only seen on big rocks, isolated from others, making a wonderful show. 4th April 1936." Ludlow and Sherriff, No. 1269.

"SOUTHERN TIBET.—Tsari Chu, Migyitun (5 miles below). Alt.

8,500 ft. Only one shrub was seen and this was about $2\frac{1}{2}$ ft. high. In dense mixed forest. Corolla pure white, with an orange yellow basal patch; calyx green; filaments white; anthers light brown; style and stigma green. 26th May 1936." Ludlow and Sherriff, No. 1702.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 8,500 ft. (See No. 1702.) Just below where 1702 was collected, this *Rhododendron* is common. A shrub of 4–15 ft., sometimes epiphytic on trees, usually hanging over cliffs on river banks. Very fragrant. Corolla white with an orange patch at base; calyx green; filaments white; anthers brown; style and stigma green. Flowers are mostly over now. 28th May 1936." Ludlow and Sherriff, No. 1715.

In the collection there are some magnificent specimens of this handsome *Rhododendron*, which does not appear previously to have been recorded from Tibet.

***Rh. rhabdotum* Balf. f. et Cooper.**

"SOUTHERN TIBET.—Tawang Chu, Muktur. Alt. 8,000 ft. Wet zone. Growing with Nos. 2833, 2835 and 2836, in *Rhododendron* and deciduous forest. This particular specimen is an epiphytic shrub about 5 ft., growing on an Oak. Probably this is *Rhododendron rhabdotum*, which is common here, both by itself and epiphytic. No ripe seed was found. 12th November 1936." Ludlow and Sherriff, No. 2837.

"SOUTH TIBET.—Muktur. Alt. 8,000 ft. In *Rhododendron* and Oak forest. Shrub 6–7 ft. No ripe seed. 13th November 1936." Ludlow and Sherriff, No. 2843.

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 7,000 ft. On isolated rocks in wet valley. Shrub 6–10 ft. (See No. 1269.) Seeds not yet ripe. 15th November 1936." Ludlow and Sherriff, No. 2891.

"Nyam Jang Chu, Pangchen. Alt. 7,000 ft. Habitat not known. Shrub. Seeds collected but not fully ripe. 15th November 1936." Ludlow and Sherriff, No. 2917.

All the above-mentioned numbers are fruiting specimens, and an ample supply of seed was gathered, although some was not fully ripe. Sherriff was able to verify Nos. 2837 and 2843 as *Rh. rhabdotum*, the only *Rhododendron* with red lines along the back of the corolla lobes. There is little doubt, however, that the other numbers mentioned are also this same species, first collected by Cooper in Bhutan, and much admired as a garden plant.

NERIIFLORUM SERIES.

FORRESTII SUBSERIES.

***Rh. repens* Balf. f. et Forrest.**

"SOUTHERN TIBET.—Lo La. Alt. 13,500 ft. Shrub creeping over rocks on open hillside. Seed collected. 3rd October 1936." Ludlow and Sherriff, No. 2653.

NERIIFLORUM SUBSERIES.

Rh. neriiflorum Franch.

"SOUTHERN TIBET.—Nyam Jang Chu, Pangchen. Alt. 8,000 ft. In an open position among rocks in damp ground. Shrub 3-4 ft. Flower not seen. 1st April 1936." Ludlow and Sherriff, No. 1257.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 10,000 ft. In Rhododendron and Holly forest. Transition zone. Shrub 6-10 ft. Flowers crimson; filaments and style white; anthers black brown; stigma deep pink. 27th April 1936." Ludlow and Sherriff, No. 1352.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 10,000 ft. In thick mixed forest. Shrubs 4-8 ft. Flowers rich fleshy crimson; filaments and style white; anthers dark red brown; stigma rosy brown. 23rd May 1936." Ludlow and Sherriff, No. 1676.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 10,000 ft. In dense mixed jungle. Flowers rich fleshy rose, with basal partitions; calyx pinkish green; style and filaments white; anthers almost black; stigma rose. 23rd May 1936." Ludlow and Sherriff, No. 1677.

Rh. neriiflorum Franch. has evidently a very much wider distribution than is suggested in "The Species of Rhododendron." Typically a Yunnan plant, it has been found in Szechuan, in Burma, and in the Delei Valley near the Assam frontier, and it is now recorded from Tibet.

Rh. phaedropum Balf. f. et Farrer.

"S.E. TIBET.—Near Molo, Le La Chu, Singo Sambo. Alt. 12,000 ft. In Conifer forest. Shrub 6-10 ft. Flowers bright rose, fleshy white at base, with dark purple blotches inside; filaments white; anthers dark brown. 27th June 1936." Ludlow and Sherriff, No. 1873.

Recently *Rh. phaedropum* Balf. f. et Farrer has been considered to be a subspecies of *Rh. neriiflorum* Franch.; none the less, having a glandular ovary instead of a hairy ovary as in *Rh. neriiflorum*, it may well be considered to be a distinct species, for this character has been taken as fundamental, not only in other sections of this series, but also in many other series. Moreover, the flowers of paler colour and the texture of the leaves distinguish *Rh. phaedropum* from *Rh. neriiflorum*. In No. 1720 the leaves are of a thin texture, rounded at the apex, the pedicels are setose glandular, and in these respects this plant differs from the typical plant from N.E. Upper Burma.

SALUENENSE SERIES.

Rh. fragariflorum Ward.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 12,500 ft. On open rocky hillside. Flowers plum to pinkish purple; calyx dull red; filaments as corolla; anthers brown; stigma almost black. 5th June 1936." Ludlow and Sherriff, No. 1772.

Rh. riparium Ward.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 11,500 ft. Stony open hillside among other scrub. Shrub 3 ft. Flowers pale grape purple; calyx dull greenish red; filaments same colour; anthers brown; style deep crimson; stigma dark red brown. 22nd May 1936." Ludlow and Sherriff, No. 1649.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 13,500 ft. A small epiphytic shrub on another Rhododendron, growing about 1 ft. high. Corolla pinkish purple; calyx greenish rose; filaments same as corolla; anthers brown; style bright rose red; stigma dusky rose. 4th June 1936." Ludlow and Sherriff, No. 1771.

TALIENSE SERIES.**Rh. aganniphum** Balf. f. et Ward.

"SOUTHERN TIBET.—Le La (Kyimpu). Alt. 12,000 feet. In Rhododendron and Abies forest. Flowers pink, spotted magenta. Tree or shrub 8–15 ft. 9th May 1936." Ludlow and Sherriff, No. 1567.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 12,500 ft. In Abies and Rhododendron forest. Shrub 8–12 ft. Flowers deep pink, spotted magenta; calyx deep rose; ovary brown red; filaments white; anthers pale fawn; style rosy; stigma brown red. 3rd June 1936." Ludlow and Sherriff, No. 1760.

Rh. agglutinatum Balf. f. et Forrest forma.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 14,500 ft. In Rhododendron jungle above the Conifer zone. Shrub 4–5 ft. Flowers lemon yellow, magenta basal patch and spots; filaments white; anthers very pale brown; style pale lemon green; stigma dull green. 3rd June 1936." Ludlow and Sherriff, No. 1761.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 14,000 ft. In dense Rhododendron forest, above the Abies zone. Shrub 4–6 ft. Corolla pale lemon cream, with small bright red basal patch and spots; filaments white; anthers pale brown; ovary green; stigma and style pale green. 4th June 1936." Ludlow and Sherriff, No. 1770.

The typical plant is from the Muli mountains in S.W. Szechuan, but various forms of the species are widely distributed in Southern Tibet.

Rh. velleureum Hutch. was found frequently in mixed Rhododendron and Conifer forest at altitudes 10,500–13,500 ft. Nos. 1342, 1392, 1397, 1549, 1555, 1559, and 1860.

THOMSONII SERIES.**CAMPYLOCARPUM SUBSERIES.****Rh. caloxanthum** Balf. f. et Farrer.

"SOUTHERN TIBET.—Tsari Chu. Alt. 11,000 ft. Flowers deep lemon yellow tinged pink. Shrub or tree? 22nd May 1936." Ludlow and Sherriff, No. 1656.

Rh. campylocarpum Hook. f.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 10,000–12,500 ft. In Rhododendron and Fir forest. Tree 10–20 ft. Flowers rich lemon yellow tinged pink, with bright magenta basal patch, pink in bud; calyx green red; filaments white; anthers red; style lemon; stigma deep rose. 21st May 1936." Ludlow and Sherriff, No. 1628.

"S.E. TIBET.—Pachakshiri, Lo La. Alt. 13,000 ft. On north face of rocky hill slope. Shrub 5 ft. Flowers pale lemon yellow; filaments ditto; anthers dark brown. No purple disk. Pedicels red. 2nd July 1936." Ludlow and Sherriff, No. 1893.

"SOUTHERN TIBET.—W. Tsari, Yüto. Alt. 13,000 ft. On open hillside among dwarf Juniper. Shrub 2 ft. Buds rose, corolla lemon yellow, rosy at base inside; calyx and pedicel deepest carmine; filaments as corolla; anthers pale brown; style greenish yellow; stigma yellowish brown. 16th August 1936." Ludlow and Sherriff, No. 2085.

The first two numbers quoted represent quite typical plants. No. 2085 may prove to be a new species, differing from *Rh. campylocarpum* by its dwarf habit and by having glands not only near the base of the style but along its whole length. The glandular style suggests affinity with species in the Souliei subseries, but in shape the flower is nearer *Rh. campylocarpum*.

THOMSONII SUBSERIES.**Rhododendron Lopsangianum** Cowan. Sp. nov.

Species suffruticosa ad seriem *Rh. Thomsonii* Hook. f. pertinens sed habitu, foliis minoribus subtus glaucis papillis cereis valentibus conspicue notatis, calycis lobis parvis haud in cupulam formatis distincta.

Suffrutex 1–2 m. altus tenuiter ramosus ramis strictis. Ramuli hornotini circ. 2 mm. diam. flavido-virides leviter striati fere glabri seniores albido-grisei. Alabastrorum terminalium fusiformium circ. 1 cm. longorum 4 mm. diam. perulae flavae crustaceae apicem versus carinatae acutae dense pubescentes. Folia petiolata ad 7 cm. longa; lamina sub-coriacea oblongo-elliptica vel oblongo-ovalis vel ovalis ad 6 cm. longa, 4 cm. lata apice obtusa vel subrotundata tuberculo-mucronata margine cartilaginea vix recurva basi cordulata vel latiuscule rotundata, supra olivacea ad costam mediam nunc glandularum vestigiis nigris punctata caeteroquin glabra, venis primariis utrinsecus ad 9 haud conspicuis subtus glauca papillis cereis praelongis nonnullis erectis sed plurimis (eisque praecipue supra dorsum venularum paullulum elevatarum dispositis) inclinatissimis vel fere prostratis praeterea glandulis perpaucis erubescens intermixtis dense vestita, costa media elevata nisi ad basim glanduloso-punctatam glabra, venis primariis occultis; petiolus ad 1 cm. longus glandulis breviter stipitatis dense indutus. Flores in umbellam 3–5-floram terminalem dispositi. Alabastrorum perulae late rotundatae glutinosae puberulae paullum persistentes.

Pedicelli ad 2 cm. longi glabri sub calyce paullo expansi. Calyx cupuliformis circ. 3 mm. longus carnosulus kermesinus glaber nunc irregulariter undulato-lobatus nunc margine fimbriatus. Corolla coccineokermesina campanulata vel campanulato-infundibularis circ. 3.5 cm. longa utrinque glabra, lobis 5 circ. 6 mm. longis 1.5 cm. latis rotundatis emarginatis. Stamina 10, inaequalia longiora circ. 2.5 cm. longa breviora circ. 2 cm. filamentis deorsum latioribus glabris vel nunc puberulis antheris parvis circ. 2 mm. longis. Gynaeceum circ. 3.8 cm. longum; ovarium truncato-conoideum circ. 6 mm. longum 3 mm. latum glandulis elevatis breviter stipitatis sparse obtectum nonnunquam omnino glabrum; stylus corollae partem integram aequans ex toto glaber; stigma parvum lobulatum. Capsula oblonga atro-purpurea glaucescens circ. 1.5 cm. longa, 5 mm. lata.

"SOUTHERN TIBET.—Tsari Chu, Podzö Sumdo. Alt. 11,000 ft. On open stony hillside. Shrub 2-4 ft. Flowers fleshy, very deep crimson, with five small dark blotches at base; calyx rosy; filaments basal half rose, upper half white; anthers dark red brown; style lemon; stigma lemon green. 22nd May 1936." Ludlow and Sherriff, No. 1651.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 8,500 ft. On rocky hillsides and hanging over cliff edges. Shrub 4-6 ft. Flower deep fleshy crimson; calyx same colour; filaments basal half deep rose, upper half white; anthers deep brown; style white. 28th May 1936." Ludlow and Sherriff, No. 1718. Type in Herb. Brit. Mus.

"SOUTHERN TIBET.—Tsari, Bimbi La. Alt. 13,500 ft. Compact low shrub 2-3 ft., growing on open hillsides beside other Rhododendrons. Flowers fleshy, deep crimson; calyx same, fleshy; filaments basal half rose, upper half white; style and stigma green. 5th June 1936." Ludlow and Sherriff, No. 1776.

"SOUTHERN TIBET.—Chayul Chu, Kashong La. Alt. 14,000 ft. Growing mostly on steep rocky banks, usually on north or east faces. Flowers over. Seed collected. Shrub 2-4 ft. 13th October 1936." Ludlow and Sherriff, No. 2736.

A remarkable species named *Rh. Lopsangianum* in honour of Nga-Wang Lopsang Tup-Den Gyatso, the late Dalai Lama of Tibet. No one will confuse *Rh. Lopsangianum* with *Rh. Thomsonii* Hook. f., although the shape of the leaf and the flower colour are similar. In *Rh. Lopsangianum* the undersides of the leaves are covered with very long conspicuous waxy pegs. The calyx is small and does not form a distinct cup.

Rhododendron populare Cowan. Sp. nov.

Species ex affinitate *Rh. cerasini* Tagg a qua calycis lobis multo longioribus, ovario fere glabro pilis floccosis sparsis basi solum (et praecipue supra discum) notato, stylo glabro nec ex toto glanduloso inter alia differt.

Frutex 1-5 m. altus. Ramuli hornotini flavidi breves circ. 2 mm. diam. fere glabri annotini sordide grisei mox decorticantes seniores leves erubescens; alabastra ignota. Folia coriacea petiolata ad 8.5 cm. longa; lamina elliptica vel elliptico-oblonga 3.5-8 cm. longa, 1.5-3.5 cm. lata apice obtusa mucrone longo terminata margine vix revoluta basi rotundata vel subcordulata supra olivacea opaca levis costa media paullo sulcato parum floccosa caeteroquin glabra subtus cinnamomea sparsissime floccosa vel glabra papillis ceriferis oblecta costa media elevata nunc pilis floccosis notata nervis primariis 8-12-paribus; petiolus rugulosus sparse floccosus 5-7 mm. longus. Flores in umbellam veram terminalem 3-5-floram rachi pilosa congesti; bracteae mox deciduae; bracteolae lineares dense sericeo-pilosae circ. 1 cm. longae, 1 mm. latae; pedicelli glabri .8-1.2 cm. longi. Calyx coccineus longitudine variabilis ad 1 cm. longus in lobos deciduos fere ad basim vel ultra medium irregulariter fissus lobis inaequalibus glabris. Corolla infundibulari-campanulata ad 3.5 cm. longa utrinque glabra atro-kermesina sursum maculis fuscis punctata ad basim nigromaculata, lobis 5 margine undulatis circ. 1 cm. longis, 1.5 cm. latis. Stamina 10, inaequalia, longiora 2.5 cm. longa breviora 1.5 cm., filamentis basi dilatatis glabris antheris parvis nigris circ. 2 mm. longis. Gynaeceum 3.5 cm. longum disco floccoso-piloso; ovarium ovoideum 4 mm. longum 3 mm. latum glabrum; stylus 2.5 cm. longus glaber; stigma lobulatum.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 11,500 ft. In Rhododendron and Bamboo forest. Transition zone. Bush 3-4 ft. Flowers deep crimson, with deep magenta patches at base of each petal; filaments and style white, upper third of style red; anthers and stigma black brown. 27th April 1936." Ludlow and Sherriff, No. 1359.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 12,000 ft. In Rhododendron forest, north face, in a narrow side valley. Tree or shrub 8-15 ft. Corolla and calyx crimson, spotted deeper on upper half; filaments white; anthers almost black; style cream; stigma pale brown. 29th April 1936." Ludlow and Sherriff, No. 1391. Type in Herb. Brit. Mus.

Rh. cerasinum Tagg has been placed in the Thomsonii Series, although the leaves are not of the typical shape, and I have placed *Rh. populare* in the Thomsonii Series because it is akin to *Rh. cerasinum*. At the same time, neither of these two species appears to be far removed from *Rh. dimitrium* Balf. f. et Forrest, an aberrant species of the Irroratum Series, and again, having traces of bristles on the young shoots, they are not very far apart from *Rh. diphrocalyx* Balf. f. in the Barbatum Series.

Rhododendron Thomsonii Hook. f.

"SOUTHERN TIBET.—Nyam Jang Chu, Lepo. Alt. 10,000 ft. In Rhododendron forest. A common shrub 6-12 ft. Flowers very deep carmine. 5th June 1936." Ludlow and Sherriff, No. 1283.

Rhododendron Thomsonii Hook. f. var. **pallidum** Cowan. Var. nov.

Varietas nova a typo floribus pallidis, calyce membranaceo ad medium irregulariter fisso, ovario glanduloso differt; e varietate *candelabro* Hook. f. calyce multo majore divergit. Ab *Rh. cyanocarpum* Franch. ejusque varietate *eriphyllum* Balf. f. haud longe distans sed ab illa ovario glanduloso ab ambabus foliis vere orbicularibus tenuioribus basi cordatis, petiolo multo graciliore facile distinguenda.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 11,000 ft. In open Rhododendron forest. Shrub 6–10 ft. Flowers rose pink, with magenta patches at base; calyx green, rose at margins; filaments and style white; anthers brown; stigma rose. 29th May 1936." Ludlow and Sherriff, No. 1728.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 11,000 ft. Open Rhododendron forest. Shrub 6–8 ft. Flowers bluish pink, with magenta patches at base; calyx very large and irregular, same colour, fleshy; filaments and style white. 29th May 1936." Ludlow and Sherriff, No. 1730. Type of var. in Herb. Brit. Mus.

This variety is a pale flowered form of *Rh. Thomsonii* Hook. f. with a typical leaf but with a large membranous irregularly shaped calyx and with a glandular ovary. Except in leaf, it is not unlike the glandular form of *Rh. cyanocarpum*, which has been called *Rh. eriphyllum* Balf. f. MS. but is now listed as a variety.

TRICHOCLADUM SERIES.

Rhododendron mekongense Franch.

"S.E. TIBET.—Near Molo, Lo La Valley, Singo Sambo. Alt. 13,000–14,000 ft. Open rocky hill slopes. Shrub 12–20 in. Flowers golden fleshy yellow with a pink tinge; outer surface of petals with minute black spots; filaments and style yellow; anthers brown; stigma green. Leaves dark green, edged russet red. 1st July 1936." Ludlow and Sherriff, No. 1890.

"S.E. TIBET.—Pachakshiri, Lo La. Alt. 13,500 ft. On rocky ground. Flowers fleshy yellow, no markings inside the tube; small brown scales outside; filaments, style, stigma green; anthers brown; pedicels green. Shrub 12 ft. 2nd July 1936." Ludlow and Sherriff, No. 1896.

Rhododendron trichocladum Franch.

"SOUTHERN TIBET.—Tsari, Podzö Sumdo. Alt. 11,000 ft. A small shrub about 2 ft. high growing on rock among scrub and thin deciduous forest. Corolla greenish yellow, spotted green; calyx dull green; filaments and style pale greenish yellow; anthers red brown; stigma green. 10th June 1936." Ludlow and Sherriff, No. 2109.

"SOUTHERN TIBET.—Chayul Chu, Lung. Alt. 9,500 ft. On open stony hillside, on edge of scrub jungle. Shrub 1–2 ft. Corolla pale

golden yellow; filaments pale green; anthers brown; style pinkish green; stigma green. 10th July 1936." Ludlow and Sherriff, No. 2335.

TRIFLORUM SERIES.

Rhododendron triflorum Hook. f.

"SOUTHERN TIBET.—Chayul Chu, Natrampa. Alt. 10,000 ft. In Rhododendron and Holly forest. Transition zone. Shrub 4-6 ft. Flowers pale golden yellow, greenish yellow at base outside; upper petal spotted greenish colour; filaments and style greenish yellow; anthers palest brown; stigma green. 27th April 1936." Ludlow and Sherriff, No. 1353.

"SOUTHERN TIBET.—Tsari Chu, Migyitun. Alt. 9,500-10,500 ft. In Rhododendron and Mixed forest. Shrub 4-8 ft. Flowers lemon yellow, spotted green yellow; filaments and style rosy yellow; anthers brown; stigma green. 23rd May 1936." Ludlow and Sherriff, No. 1675.

"S.E. TIBET.—Lilung Chu, Molo. Alt. 12,500 ft. On open hill slopes. Shrub 1 ft. high. Flowers yellow; vermilion red on under surfaces of petals, and spotted red inside tube. 24th June 1936." Ludlow and Sherriff, No. 1863.

It is an interesting and noteworthy fact that the only species of the large Triflorum Series which Ludlow and Sherriff collected is the Himalayan *Rh. triflorum* Hook. f. It may not be correct to assume that the Chinese species are absent from this part of Tibet, but it is probable that they do not occur in large numbers.

VIRGATUM SERIES.

Rhododendron virgatum Hook. f. was found by Sherriff, and is represented by Nos. 1279, 1366, and 2770.