

Some New *Rhododendrons*

BY

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***Rhododendron chlorops*** Cowan, sp. nov.; species seriei *Fortunei* ex affinitate *R. vernicosi* Franch., a quo floribus albidis atrokermesino-maculatis, tubo corollae intus basim versus pubescente, staminibus puberulis recedit.

*Frutex* robustus 2-3 m. altus; ramuli sub inflorescentia circa 7 mm. diam., glabri, cortice nitente. *Folia* petiolo 2.5-3.5 cm. longo suffulta; lamina coriacea, oblonga vel oblongo-elliptica, 7-12 cm. longa, 3-5 cm. lata, apice late obtusa vel rotundata breviter mucronata, basi rotundata vel subcordata nunc obliqua, supra atroviridis ceraceo-nitens, subtus pallide olivacea minutissime pubescens vel glabra, costa media elevata, venis 15-20-paribus; petiolus robustus 2.5-3.5 cm. longus, fere glaber. *Inflorescentia* laxo umbellata 6-8-flora, rhachi 7-10 mm. longa glabra vel sparsissime glandulosa, pedicellis 2-3.5 cm. longis paulo glandulosus. *Calyx* circa 5 mm. longus, in lobos 6-7 inaequales ovatos vel oblongos sparse glandulosos margine glandulosociliatos profunde fissus. *Corolla* aperte campanulata, circa 4 cm. longa, albida, basi maculis atrokermesinis notata, tubo basim versus pubescente, lobis 7 rotundatis emarginatis, circa 1.5 cm. longis, 2 cm. latis. *Stamina* 14, 1.5-2.5 cm. longa, filamentis ad basim puberulis. *Gynoecium* 3 cm. longum, ovario conoideo styloque glandulis stipitatis rubidis omnino dense indutis.

Described from plants in cultivation at the Royal Botanic Garden, Edinburgh, and at Lochinch. Type in Herb. Hort. Bot. Edin.

*R. chlorops* is a distinctive species belonging to the *Fortunei* series, having flowers of a pale yellow, tinged with green in the centre and marked with a basal purple blotch and purple spots. The name, which means "green eye," was given provisionally to a plant grown at the Royal Botanic Garden, Edinburgh, under Forrest's No. 16463 which flowered in 1930.

Presumably this is a Yunnan species, because, although there is no herbarium specimen from Forrest or any other collector which matches it, it appeared again under the same number at Lochinch, where Lord Stair had it flowering in 1931. In Forrest's herbarium No. 16463 is an *Acer*. *R. chlorops* is obviously closely allied to *R. vernicosum* Franch., but the corolla of the former is a shallow cup, whilst that of the latter is bell-shaped. The flower of *R. chlorops* is flatter than that of *R. decorum*, which differs also in having no blotch, and white, not reddish, glands on the style.

A beautiful truss of this attractive *Rhododendron* was shown by Lord Stair at the *Rhododendron* Show in May 1938.

*Shrub* of about 2-3 m.; branchlets below the inflorescences about 7 mm. in diameter. *Leaves* leathery, oblong to oblong-elliptic; lamina 7-12 cm. long, 3-5 cm. broad, apex broadly obtuse to rounded, shortly cuspidate with a distinct mucro, base broadly obtuse, rounded or semi-cordulate (the lamina often asymmetrical); upper surface deep green, smooth, shining, wax coated, under surface pale, with conspicuous lateral veins and reticulation, to the eye glabrous, but under magnification punctulate with minute hairs, lateral veins conspicuous, 15-20 on each side. *Petiole* 2.5-3.5 cm. long, rounded or slightly grooved above, rounded below, glabrous or minutely punctulate like the leaf underside. *Inflorescence* a lax umbel of 6-8 flowers; rhachi about 7-10 mm. long, glabrous or sparsely glandular. *Pedicels* 2-3.5 cm. long, sparsely glandular with sessile glands. *Calyx* about 5 mm. long, split

almost to the base into 6-7 unequal greenish lobes, ovate to ligulate, sparsely glandular on the back and fringed with subsessile glands. *Corolla* about 4 cm. long, somewhat fleshy, cream to pale yellow, greenish within at the base and there blotched, marked on the posterior side of the tube with rows of purplish spots, finely pubescent within at the base; lobes 7, rounded, emarginate, 1.5 cm. long, 2 cm. broad. *Stamens* 14, 1.5-2.5 cm. long; filaments white, puberulous at base; anthers 5 mm. long, buff coloured. *Gynoecium* 3 cm. long; ovary dome-shaped, densely glandular with short stalked glands; style glandular to the tip, glands subsessile reddish; stigma lobulate.

**Rhododendron trilectorum** Cowan, sp. nov.; species notabilis a *R. Forrestii* Balf. f. ex Diels et ejusdem var. *repente* (Balf. f. et Forrest) Cowan et Davidian, floribus pallide flavidis, ovario glabro inter alia recedens.

*Suffrutex* parvus, 20-30 cm. altus. *Ramuli* hornotini circ. 4 mm. diam., glabri, seniores alabastrorum perulis persistentibus induti. *Folia* subsessilia; lamina coriacea, obovata vel obovato-spathulata, 1-3.2 cm. longa, 0.6-1.8 cm. lata, apice rotundata, mucronata, margine recurvata, basi decurrente attenuata, supra atro-viridis, glabra, costa media sulcata, venis primariis utrinsecus 8-10 impressis, infra glabra nitens, costa media elevata, venis primariis prominulis; petiolus brevissimus lamina decurrente plus minusve alatus. *Umbella* terminalis 2-5- (praesertim 3-) flora; pedicelli 2-3 cm. longi, glabri. *Calyx* parvus 5-lobus, lobis 1-3 mm. longis, glabris. *Corolla* pallide flavida, infundibulari-campanulata, 3-4 cm. longa, lobis 5, 0.8-1 cm. longis 1.6-1.8 cm. latis emarginatis. *Stamina* 10, inaequalia, stylo breviora, 1.4-2.9 cm. longa, filamentis ad basim dense hirsutis. *Gynoecium* 2.4-3.3 cm. longum; ovarium conoideum, circ. 4 mm. longum, glabrum; stylus glaber.

S.E. TIBET. Kongbo Province, Tsari Sama, Langong, lat. N. 28° 49', long. E. 93° 52'; on rocks on open hillsides; alt. 4,110-4,260 m. (13,500-14,000 ft.); prostrate shrub, 1 ft.; corolla fleshy, palest yellow, flushed pale pink chiefly on adaxial side; filaments white, anthers brown; style pale rose at base, pale green above, ovary dull dark-greenish red; calyx green, lobes tinged red; leaves dark green above, pale below; 16 June 1938, F. Ludlow, G. Sherriff and G. Taylor No. 5582 (type in Herb. Brit. Mus.).

Tum La, Nayii, lat. N. 29° 02', long. E. 94° 48'; on open rocky hillsides; alt. 3656 m. (12,000 ft.); prostrate shrub, 9"-1 ft.; corolla fleshy, very pale lemon-yellow, lobes tinged pink; filaments and style white; ovary crimson; leaves green above, often suffused dark red, pale and shining below; 2-4 flowered, usually 3-flowered; 7 July 1938, F. Ludlow, G. Sherriff and G. Taylor No. 5782.

A species closely akin to *R. Forrestii* Balf. f. ex Diels and to the variety *repens* (Balf. f. et Forrest) Cowan et Davidian, but differing from both in that the leaf lamina is decurrent, the flowers are palest yellow, the ovary is glabrous, and moreover the pedicels are long and glabrous and the filaments are densely hairy at the base. The name commemorates the partnership of Ludlow, Sherriff and Taylor in their 1938 expedition to S.E. Tibet.

A prostrate shrub 20-30 cm. high, leaves clustered at the upper end of the branches, flower-bud scales persistent. *Branchlets* a year old about 4 mm. in diameter, reddish-brown, glabrous; older branchlets still bearing the leaf-bud scales which persist for several years. *Leaves* subsessile; lamina leathery, obovate or obovate-spathulate, 1-3.2 cm. long, 0.6-1.8 cm. broad, apex rounded conspicuously mucronate, margin sharply recurved, base decurrent,

upper surface dark green, glabrous, midrib deeply grooved, primary veins 8-10, impressed, under surface paler green, glabrous, shining, midrib raised, primary veins prominent; petiole very short, more or less winged by the decurrent lamina. *Inflorescence* 2-5- (usually 3-) flowered; pedicels 2-3 cm. long, glabrous. *Calyx* small, 5-lobed, lobes 1-3 mm. long, glabrous. *Corolla* funnel-campanulate, glabrous, yellow flushed pale pink, 3-4 cm. long, lobes 5, 0.8-1 cm. long, 1.6-1.8 cm. broad, emarginate. *Stamens* 10, unequal, shorter than the style, 1.4-2.9 cm. long; filaments white, densely puberulous towards the base; anthers small, brown. *Gynoecium* 2.4-3.3 cm. long; ovary conoid, about 4 mm. long, glabrous; style glabrous. Capsule not seen.

***Rhododendron luciferum* (Cowan) Cowan, comb. nov.**

Syn. *R. lanatum* Hook. f. var. *luciferum* Cowan in Notes R. B. G. Edin., xix, 228 (1937).

Species ad seriem *R. campanulati* Hook. f. *pertinens*, *R. lanato* Hook. f. proxima sed foliis elliptico-oblongis apice acutis, indumento flavido, inter alia diversa.

*Frutex* vel arbor parva 1.80-7.60 m. alta. *Ramuli* hornotini crassi, dense tomentosi, circa 4-8 mm. diam. *Folia* oblonga, oblongo-elliptica vel oblongo-lanceolata; lamina 8.6-14 cm. longa, 2-5 cm. lata, apice acuminata, basi rotundata vel late obtusa, supra glabra, costa media nonnunquam tomentosa, venis primariis utrinsecus 14-17 impressis, subtus indumento fulvo lanato dense et continue induta, costa elevata; petiolus 0.8-3 cm. longus dense tomentosus. *Flores* in racemo-umbellas terminales 8-10-floras dispositi, rachi circa 7 mm. longa lanata; pedicelli 1-1.8 cm. longi plus minusve dense tomentosi. *Calyx* minutus, 0.5 mm. longus, lobis 5 triangularibus vel rotundatis tomentosis vel glabris. *Corolla* infundibuli-campanulata 3.5-4.3 cm. longa, pallide lutea vel alba postice nonnunquam rubro-maculata, lobis 5, 1-1.3 cm. longis, 1.8-2.4 cm. latis, emarginatis. *Stamina* 10, inaequali 1.6-2.8 cm. longa, filamentis basim versus puberulis. *Gynoecium* 2.2-3 cm. longum; ovarium ovoideum 4-5 mm. longum, dense tomentosum; stylus glaber. *Capsula* non visa.

*Shrub or tree*, 1.80-7.60 m. high, branchlets densely tomentose, those below the inflorescences 4-8 mm. in diameter. *Leaves* oblong, elliptic-oblong or oblong-lanceolate; lamina 8.6-14 cm. long, 2-5 cm. broad, apex acuminate, base rounded or broadly obtuse; upper surface glabrous, midrib woolly or glabrous, primary veins 14-17 on each side, impressed; under surface covered with a thick continuous tawny or fawn tomentum, midrib raised; petiole 0.8-3 cm. long, densely tomentose with fawn or grey wool. *Inflorescence* a terminal racemose umbel of 8-10 flowers; rachis short, about 7 mm. long, woolly; pedicels 1-1.8 cm. long, densely tomentose. *Calyx* minute, 0.5 mm. long, with 5 triangular or rounded lobes, woolly or glabrous. *Corolla* funnel-campanulate, 3.5-4.3 cm. long, pale yellow or white, with or without a few red spots on posterior petal; lobes 5, 1-1.3 cm. long, 1.8-2.4 cm. broad, emarginate. *Stamens* 10, unequal, 1.6-2.8 cm. long, filaments puberulous towards the base. *Gynoecium* 2.2-3 cm. long; ovary ovoid, 4-5 mm. long, densely tomentose, style glabrous. Capsule not seen.

*R. luciferum* was discovered by Ludlow and Sherriff in 1936 in Southern Tibet, growing in *Rhododendron* and *Abies* forest at elevations of 11,500-14,500 ft.

It was at first described as a variety of *R. lanatum* Hook. f., but further investigation of more material shows that it merits specific status.

*R. luciferum* is akin to *R. lanatum* from which it is distinguished mainly by the narrower oblong leaf with pointed apex. It is also closely allied to certain species in the *Taliense* series and is probably best placed in this series to which some members of the *Campanulatum* series may perhaps be transferred.

SOUTHERN TIBET. Ludlow and Sherriff 1389, 1557, 1558, 1608, 1610, 1762—Type in Herb. Brit. Mus. (For full details of these specimens see Notes Roy. Bot. Gard. Edin., xix, 229: 1937.)

SOUTH-EAST TIBET. Sobhe La, nr. Tongyuk Dzong, Pome.; alt. 3,656 m. (12,000 ft.); corolla white, with a very few pink spots on posterior petal; filaments white; anthers brown; gynoeceum pale yellowish green, stigma dark brown; shrub 6 ft.; 21 May 1947, F. Ludlow, G. Sherriff and H. H. Elliot, No. 13746. Taku Pu La, Pe Tsangpo Valley, Kongbo; alt. 3,200 m. (10,500 ft.); calyx very small, reddish; corolla white, with pale pink on some petals; posterior petal faintly speckled red; filaments white; anthers brown; style white, stigma green; light brown, thick indumentum on leaves; tree 8 ft.—9 ft., among rocks; 14 May 1947; F. Ludlow, G. Sherriff and H. H. Elliot, No. 15006.

**Rhododendron pomense** Cowan et Davidian, sp. nov.; species ad seriem *R. lactei* Franch. pertinens, *R. dignabili* Cowan affinis, sed indumento continuo, calyce grandi, ovario dense tomentoso distinguitur.

*Frutex* 60 cm.—1.20 m. altus; ramuli hornotini crassi, circ. 6 mm. diam., glandulosi et floccosi. *Folia* petiolata ad 12 cm. longa; lamina oblongo-ovalis, 8.5–10 cm. longa, 3.6–4.7 cm. lata, apice rotundata mucrone inconspicuo corniculata, basi rotundata vel late obtusa, supra glabra, subtus indumento flavido-brunneo e pilis radiato-ramosis aedificato tenuiter obecta, venis primariis 12–16-paribus; petiolus 1.6–2 cm. longus, floccosus. *Inflorescentia* terminalis, breviter racemosa, circ. 5-flora, rhachi floccosa ad 5 mm. longa; pedicelli 1.3–2.4 cm. longi, dense tomentosi. *Calyx* grandis, cupularis, pallide kermesinus, lobis 5 inaequalibus rotundatis vel ovalibus, longioribus 1.2 cm. longis, brevioribus 0.5 cm., glabris vel basim versus hirsutis margine ciliatis. *Corolla* campanulata, 3.8 cm. longa, rosea, lobis 5, 1.5–1.8 cm. longis, 1.8–2.3 cm. latis, emarginatis. *Stamina* 10, inaequalia, 2–2.6 cm. longa, filamentis basi puberulis. *Gynoeceum* 3.2–3.5 cm. longum; ovarium conoideum, 4–5 mm. longum, dense tomentosum; stylus glaber.

S.E. TIBET. Pome: above Showa Dgory; alt. 3,350 m. (11,000 ft.); shrub 2–4 ft.; flowers pink; calyx pink; filaments white, anthers brown; style pink, stigma green; 18 June 1947, F. Ludlow, G. Sherriff and H. H. Elliot No. 13177 (type in Herb. Brit. Mus.).

A species in the Lacteam Series, akin to *R. dignabile* Cowan, from which it differs in its continuous indumentum on the lower surface of the leaves, in the large calyx, and in the densely tomentose ovary.

*Shrub*, 60 cm.—1.20 m. high; branchlets below the inflorescences about 6 mm. in diameter, glandular and floccose. *Leaves* oblong-oval; lamina 8.5–10 cm. long, 3.6–4.7 cm. broad, apex rounded and mucronate, base rounded or broadly obtuse; upper surface glabrous, midrib grooved, primary veins 12–16 on each side, impressed; lower surface covered with a thin continuous indumentum of brown hairs, midrib raised; petiole 1.6–2 cm. long, floccose. *Inflorescence* terminal, shortly racemose, about 5-flowered; rachis 5 mm. long, floccose; pedicels 1.3–2.4 cm. long, densely tomentose.

*Calyx* 5-lobed, lobes unequal, rounded or ovate, the longest 1.2 cm. the shortest 5 mm. long, glabrous or hairy at the base outside, margin ciliate. *Corolla* campanulate, 3.8 cm. long, pink; lobes 5, 1.5-1.8 cm. long, 1.8-2.3 cm. broad, emarginate. *Stamens* 10, unequal, 2-2.6 cm. long, filaments puberulous towards the base. *Gynoecium* 3.2-3.5 cm. long; ovary conoid, 4-5 mm. long, densely tomentose; style glabrous.

**Rhododendron glischrum** Balf. f. et W. W. Sm. var. **adenosum** Cowan et Davidian, var. nov. e typo et foliis minoribus infra glandulis setosis sparsim indutis et calyce multo brevioris facile distinguitur.

S. W. SZECHUAN: mountains of Kulu; alt. 3,540 m.; shrub 2-2.5 m. in spruce forest; Sept. 1929, J. F. Rock No. 18228 (type in Herb. Hort. Bot. Edin.)

This variety, distinguished by the short calyx and short bristly glands on the under surface of the leaves, which are usually smaller than in the species, has been in cultivation for some years. Rock's plants will not readily be confused with typical *R. glischrum*, which Forrest found on the Kari Pass on the Yangtze-Mekong Divide in 1914.

**Rhododendron uvarifolium** Diels var. **griseum** Cowan, var. nov. aspectu *R. uvarifolii* Diels sed foliis latioribus oblongo-obovalis, indumento griseo sericeo recedens.

S.E. TIBET: Kongbo; alt. 3,200 m. (10,500 ft.); shrub up to 10 ft.; indumentum grey; pedicels yellow-green or pink; corolla white with a pinkish tinge along ribs, posterior petal spotted purple at base; filaments white, anthers brown; style white, stigma pale yellow; 19 Apr. 1947, F. Ludlow, G. Sherriff and H. H. Elliot No. 13521 (type in Herb. Brit. Mus.).

The variety differs from the species in the shape of the leaves and in the pronouncedly whitish indumentum, which is silky to the touch.

**Rhododendron chaetomallum** Balf. f. et Forrest var. **chamaephytum** Cowan, var. nov. *R. chaetomallo* Balf. f. et Forrest var. *hemigymno* Tagg et Forrest similis, sed foliis omnino glabris statura fere prostrata recedit.

S.E. TIBET: Singo Samba, Lo La Chu, near Molo; alt. 3,960 m. (13,000 ft.); prostrate shrub 1-2 ft. high, creeping over rocks in rhododendron and abies forest, south face; corolla rich deep crimson, fleshy; leaves dull dark matt green above, with traces of a very loose brown indumentum, which rubs off very easily; under surface pale green, midribs and primary veins very prominent; this was the only specimen seen coming into flower; not common; 16 May 1938, F. Ludlow, G. Sherriff and G. Taylor, No. 3786 (type in Herb. Brit. Mus.).

The new variety differs from var. *hemigymnum* Tagg et Forrest in its prostrate habit, 1-2 ft. high and in the absence of indumentum. It was found in Lo La Chu, a locality not previously explored.

**Rhododendron cinnabarinum** Hook. f. var. **purpurellum** Cowan, var. nov. e typo floribus campanulatis brevioribus intense purpureis recedens.

S. TIBET: Natrampa, Chayul Chu; alt. 3,047 m. (10,000 ft.); shrub, 8-12 ft.; colour bright pinkish mauve; filaments the same; style deep pink; anthers and stigma yellow-brown; a most beautiful rhododendron, pretty common here, in rhododendron and bamboo forest in transition zone; 27 April 1936, F. Ludlow and G. Sherriff, No. 1354 (type in Herb. Brit. Mus.).

*R. cinnabarinum* is a variable species particularly with regard to the shape and the colour of the flowers. Typically the flowers are cinnabar-red, but in



var. *pallidum* Hook. fil. they are dull pinkish-purple; in var. *Blandfordiiflorum* Hook. fil. red outside, yellow or greenish-yellow within; in var. *Roylei* Hook. fil. deep plum-crimson or purple, and in var. *aestivale* Hutch. cinnabar-red, with pale yellow lobes, more or less suffused with red. The variety *Roylei* has sometimes been regarded as a species, and the form *Roylei magnificum* is merely a variant but with exceptionally large flowers. *R. xanthocodon* Hutch. with yellow flowers, and placed in the Triflorum Series, would be more correctly included in the Cinnabarinum Series and regarded as a variety of *R. cinnabarinum*.

The striking feature of Ludlow and Sherriff's plant (raised from seed by Mrs. Stevenson at Tower Court) is the rich plum-purple campanulate flowers. Another plant raised from Ludlow and Sherriff's seed No. 6349 is similar but has a more open corolla, and it scarcely differs from the form described as *R. cinnabarinum* var. *pallidum* (see Bot. Mag. tab. 4788: 1854).

**Rhododendron argyrophyllum** Franch. var. **nankingense** Cowan, var. nov. e typo foliis latioribus nitentibus facile distinguenda.

CHINA. Kweichow Province: Lao Shan; alt. 2,250 m.; rocky slope, tree 10 m., common; crooked and spreading branches; bark brownish, peeling; fruit capsule brownish; 10 Jan. 1931, A. Steward, C. Y. Chiao, and H. C. Cheo, No. 499 (type in Herb. Hort. Bot. Edin.: in fruit). "F No. 46" in herb. cult. R. B. G., Edin.

A distinct geographical form easily recognised by the broader longer leaves which are shining above.

In 1932 Mr. Albert N. Steward of the College of Agriculture, University of Nanking, China, sent to Edinburgh five packets of *Rhododendron* seed. Among these was his No. 46 from which plants were raised which flowered for the first time in 1946. It was thought at first that this was a new species, but further investigation showed that these plants have no marked anatomical characters by which to distinguish them from the West Yunnan species *R. argyrophyllum*. Yet on account of their larger leaves, markedly silvery white beneath, and their large trusses of pink flowers more than 2 ins. across, they are readily recognised and outstanding as garden plants. The flowers are rich clear pink or lilac-purple, speckled with small crimson dots inside near the base of the tube and on the upper lobe.

Amongst herbarium specimens sent to Edinburgh independently in 1931 a fruiting specimen collected by A. N. Steward, C. Y. Chiao and H. C. Cheo, No. 499 exactly matches our plants in cultivation.

**Rhododendron Beanianum** Cowan var. **compactum** Cowan, var. nov. e typo foliis enitentibus, ramulis esetosis, habitu differt.

TIBET: Dri La; Zayul; 1938, F. Kingdon Ward, No. 11040 (type in Herb. Brit. Mus.). In herb. cult. R. B. G., Edin.

The variety differs from the species in the bristleless branches and petioles. It is less straggly in habit, and the leaves are shining above.

In 1933 Ward collected on the Dri La, Zayul, Tibet, seed of a plant which he tentatively regarded as a form of *R. lanatum*. His herbarium specimen had neither flowers nor fruit. Plants raised from this seed have been growing in gardens under various names—*R. lanatum*, *R. haematodes* and *R. Beanianum* aff. Ward's plant has the main characteristics of the last-named species, but is less straggly in habit, the leaves are markedly shining above with a rich cinnamon-red indumentum below, and the stems are not bristly. The flowers are crimson.