

New Species and Varieties of Asiatic Rhododendrons

BY

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Rh. aberrans, Tagg et Forrest. Sp. nov.

Valde affinis *Rh. Trailliano*, Forrest et W. W. Sm., a quo foliis atque floribus minoribus, ovario plus minusve floccoso saepe paulo glanduloso differt; species haec in Serie Lacteam sola glandulas interdum praebet.

Frutex 2-5 m. altus, ramulis sub inflorescentia circ. 5 mm. diametro primo ferrugineo-tomentosis tandem glabris. Folia petiolo 1.5 cm. longo supra sulcato cinnamomeo-tomentoso suffulta; lamina oblongo-elliptica vel oblongo-lanceolata, 5-10 cm. longa, 2-3 cm. lata, apice obtusa vel breviter acuminata, basi obtusa vel paulo rotundata, supra minute rugulosa glabrescens tomenti juvenilis vestigiis conspersa, costa sulcata, nervis primariis utrinque circ. 15 paululo impressis, infra indumento cinnamomeo vel subferrugineo persistente et pilis minimis rosulatis haud agglutinatis composito omnino induta, costa

elevata, nervis obscuris. Inflorescentia racemoso-umbellata circ. 10-flora, rhachi circ. 1 cm. longa ferrugineo-tomentosa; pedicelli circ. 2 cm. longi tomentosi. Calyx 2 mm. longus, lobis 5 minimis carnosus rotundatis vel late triangularibus pubescentibus atque sparsim floccosis. Corolla infundibulari-campanulata, circ. 3 cm. longa, alba, roseo-suffusa, kermesino-maculata, lobis 1 cm. longis, 1.5 cm. latis, crenulatis emarginatis. Stamina 10, inaequalia, 1-2 cm. longa, filamentis basi villosis. Gynaeceum 2.7 cm. longum; ovarium 6 mm. longum conoideum, bene floccosum atque nonnunquam glandulosum; stylus glaber sub stigmatē vix expansus.

"Mid West Yunnan. Chienchuan-Mekong divide. Lat. 26° 30' N. Long. 99° 30' E. Alt. 11,000 ft. In open conifer and rhododendron forest. A shrub of 10-15 ft. Flowers white, more or less flushed rose on exterior and with crimson markings. June 1923." G. Forrest. No. 23395.

"Mid West Yunnan. Chienchuan-Mekong divide. Lat. 26° 20' N. Long. 99° 30' E. Alt. 12,000 ft. In rhododendron thickets. Shrub of 6-9 ft. Flowers white, heavily flushed rose and with a few crimson markings. June 1923." G. Forrest. No. 23373.

"Mid West Yunnan. Chienchuan-Mekong divide. Lat. 26° 20' N. Long. 99° 30' E. Alt. 12,000 ft. On cliffs and rocky slopes in side valleys. A dwarf widely branched shrub. Flowers white with crimson markings. June 1923." G. Forrest. No. 23379.

Rh. aberrans in general characters resembles *Rh. Traillianum*, Balf. f. et W. W. Sm., but it has smaller leaves and flowers. The ovary is floccose with a few intermixed glands or is more glandular than floccose. This character apart from the much smaller foliage separates it from *Rh. Traillianum*. The Lactum Series is essentially an eglandular one and *Rh. aberrans* with glands (few or many) on the ovary make it, as the name suggests, a break-away from other members of the Series.

Rh. Balfourianum, Diels, var. **aganniphoides**, Tagg et Forrest. Var. nov.

A typo foliis majoribus magis lanceolatis, indumento denso spongioso pelliculam *Rh. aganniphi*, Balf. f. et Ward exhibente, stylo glabro vel sparsissime glanduloso differt.

"S.W. Szechuan. Mountains around Mu-li. Lat. 28° 12' N. Long. 100° 50' E. Alt. 12,000 ft. Margins of conifer forests. Shrub of 4-5 ft. Flowers white with crimson markings. June 1921." G. Forrest. No. 20456.

"S.W. Szechuan. Mountains around Mu-li. Lat. 28° 12' N. Alt. 11-12,000 ft. Open rocky slopes and on the margins of pine forests. Shrub of 4-5 ft. Flowers deep rose with crimson markings, deep magenta in bud. June 1918." G. Forrest. No. 16316.

Leaves ovate to lanceolate, 7-12 cm. long, 2.5-4.5 cm. broad, clad beneath (the midrib included) with a white to fawn spongy felt; midrib, petiole and leaf margin at first somewhat glandular.

A variety characterised by larger more lanceolate leaves, by a thicker, spongy leaf indumentum, pellicled at the surface as in *Rh. aganniphum*, Balf. f. et Ward, and by the glabrous style.

Rh. catacosmum, Balf. f. MS. descript. Tagg. Sp. nov.

Species valde distincta affinis *Rh. haematodes*, Franch. a quo ramis crassis, foliis majoribus magis rotundatis, flore latiore magis campanulato, calyce maximo poculum lobulatum formante distinguitur; a *Rh. pocophoro*, Balf. f. atque *Rh. hemidarto*, Balf. f. infra descriptis ambobus valde glandulosis species haec petiolis floribusque eglandulosis inter alia signa separatur.

Frutex 2-3 m. altus ramosus, ramis hornotinis crassis tomentosis circ. 5 mm. diametro; gemmae foliorum circ. 1.5 cm. longae, anguste conicae, squamis exterioribus acuminatis, tomento brunneo-lanato indutae. Folia petiolo 1-1.5 cm. longo sulcato ut rami induto suffulta; lamina coriacea obovata, 6-11 cm. longa, 3-5 cm. lata, apice rotundata breviter mucronata, basi obtusa paulo angustata, supra minute rugulosa, glabra nisi ad costam sulcatam tomenti vestigiis conspersam, infra tomento denso fulvo induta, nervis circ. 10-paribus supra paululo sulcatis infra fere celatis. Inflorescentia breviter racemoso-umbellata, circ. 9-flora, laxa composita, rhachi 1.5 cm. longa tomentosa, pedicellis 2.5 cm. longis dense fulvo-tomentosis. Calyx permagnus, cupulam petaloideam formans, ad 2 cm. longus, irregulariter lobatus, lobis 5 inaequalibus truncatis vel rotundatis vel nunc obtusis, extra hic illic tomento conspersus et ad marginem pilis ramosis ciliolatus. Corolla carnosa, late campanulata, kermesino-rosea, in gemma atrokermesina, 4-4.5 cm. longa; tubus 3-3.5 cm. longus, basi jugis 5 saccatis notatus; lobi 5 rotundati, emarginati, 1.3 cm. longi et 2 cm. lati. Stamina 10-12, inaequalia, 1.5-2.5 cm. longa, filamentis basi dilatatis ibique puberulis, antheris atro-brunneis 3 mm. longis. Gynaeceum 3.5 cm. longum; ovarium breviter oblongum, circ. 8 mm. longum, 5 mm. latum, fere truncatum, dense fulvo-tomentosum, eglandulosum; stylus glaber stigmatate discoideo. Fructus late oblongus, rectus, 2 cm. longus, 1 cm. latus, tomento fulvo indutus.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, N.W. of Li-chi-to. Lat. 28° 40' N. Long. 98° 18' E. Alt. 13,000 ft., on the margins of rhododendron forests. Shrub of 6-9 ft. Flowers crimson-rose, black crimson in bud. June 1922." G. Forrest. No. 21727.

"S.E. Tibet, Tsarong. Duplicates in fruit. October 1922." G. Forrest. Nos. 22910 and 22915.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 14,000 ft. Amongst scrub in alpine side valleys. Shrub of 4-5 ft. In fruit. July 1921." G. Forrest. No. 20078.

" S.E. Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. $28^{\circ} 24' N$. Long. $98^{\circ} 24' E$. Alt. 13-14,000 ft. Margins of rhododendron forests. Shrub of 4-6 ft. In fruit. Oct. 1921." G. Forrest. No. 20895.

This is a very fine and distinct species of the *Haematodes* alliance differing from *Rh. haematodes* and *Rh. chaetomallum* in its larger and more rounded leaves and thick flowering shoots. From its closer allies *Rh. pocophorum* and *Rh. hemidartum* it is distinguished in having, like *Rh. haematodes*, petiole, pedicel, and ovary tomentose and eglandular. The calyx is a characteristic feature. It is a large cup with short irregular, unequal lobes, some obtuse, others broad and almost truncate. The size of the calyx, which is fleshy, pouched at the base and apparently coloured like the corolla, gives the suggestion of a hose-in-hose form of flower.

From *Rh. coelicum* which it resembles in size and shape of leaf it is distinguished by the woolly tomentose shoots and petioles as well as by the eglandular ovary. The flower truss is less congested and the petioles longer than in its immediate allies *Rh. pocophorum*, *Rh. hemidartum* and *Rh. coelicum*.

Rh. chaetomallum, Balf. f. et Forrest, var. **xanthanthum**, Tagg et Forrest. Var. nov.

Varietas haec distincta floribus majoribus pallido-flavidis roseo-suffusis calyce majore munitis a typo recedit.

" S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, N.W. of Si-chi-to. Lat. $28^{\circ} 45' N$. Long. $98^{\circ} 15' E$. Alt. 14,000 ft., amongst dwarf rhododendron scrub on moist alpine moorland. Shrub of 2-4 ft. Flowers creamy-yellow flushed, more or less rose-pink, especially on the margins and extreme base. June 1922." G. Forrest. No. 21725.

" S.E. Tibet, Tsarong. Dup. in fruit of F. 21725. October 1922." G. Forrest. No. 22863.

" S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, N.W. of Si-chi-to. Lat. $28^{\circ} 45' N$. Long. $98^{\circ} 18' E$. Alt. 12-13,000 ft., in alpine corries amongst rhododendron scrub. Shrub of 3-4 ft. Flowers striped and margined bright rose-pink on a yellowish base. June 1922." G. Forrest. No. 21729.

" S.E. Tibet, Tsarong. Dup. in fruit = 21729. October 1922." G. Forrest. No. 22847.

" S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, N.W. of Si-chi-to. Lat. $28^{\circ} 45' N$. Long. $98^{\circ} 18' E$. Alt. 13,000 ft., on ledges of cliffs. Shrub of 3-4 ft. Flowers pale yellow, striped and margined rose-crimson. June 1922." G. Forrest. No. 21745.

" S.E. Tibet, Tsarong. Dup. in fruit = 21745. October 1922." G. Forrest. No. 22860.

A very distinct variety with large flowers, creamy-yellow, flushed rose and with very large cupular calyx. In the variety the style exceeds the length of the stamens whereas in the type it is usually shorter than the stamens. F. 21729 differs from F. 21725 and also from the type of the species in having slightly puberulous stamens.

Rh. chionanthum, Tagg et Forrest. Sp. nov.

Species anomala subseriei *Haematodes* atque *floribus albis* in ea subserie conspicua.

Frutex circ. 1 m. altus bene ramosus; ramuli annotini breves, 3 mm. diametro, strigoso-tomentosi; perulae paulo persistentes. Folia breviter petiolata ad apicem ramulorum congesta; lamina obovata vel breviter et late oblanceolata, circ. 6 cm. longa, 2.5 cm. lata, apice late obtusa, breviter mucronulata, basi obtusa vel late cuneata, supra rugulosa, costa sulcata, venis primariis utrinque 7-9 valde impressis, infra tomento lanato fulvo lacerato-interrupto e pilis ramosis composito praedita, areolis nudis hic illic intervenientibus, costa venisque manifeste elevatis; petiolus brevissimus 2-4 mm. longus. Inflorescentia laxe umbellata circ. 6-flora; rhachis 5 mm. longa; pedicelli 1.5-2 cm. longi pilis fulvis ramosis bene muniti. Calyx 5-9 mm. longus, in lobos inaequales oblongos vel ovoides margine minute denticulatos pilis ramosis ciliolatos ad tres partes alte fissus. Corolla campanulata, textura vix carnosa, alba, 3.5 cm. longa, lobis 5 rotundatis breviter emarginatis 1.3 cm. longis, 1.5-2 cm. latis. Stamina 10 inaequalia, 1.3-2.3 cm. longa, filamentis glabris, antheris 3 mm. longis atro-purpureis. Gynaeceum 3.3 cm. longum; ovarium 5 mm. longum, 3 mm. latum, pilis ramosis intertextis fulvo-tomentosum; stylus glaber. Capsula deest.

"N.E. Upper Burma. Western flank of the Salween-Kiu-chiang divide. Lat. 27° 18' N. Long. 98° 40' E. Alt. 14,000 ft., on alpine meadows. Shrub of 3 ft. Flowers white. July 1924." G. Forrest. No. 25592.

"N.E. Burma. Salween-Kiu-chiang divide. Lat. 27° 5' N. Long. 98° 38' E. Alt. 14,000 ft., on rocky slopes and scrub clad cliffs. Shrub of 2 ft. Flowers? In immature fruit. July 1924." G. Forrest. No. 25594.

This species has been collected only twice. It is readily distinguished from all members of the subseries *Haematodes* by the white corolla.

Rh. dictyotum, Balf. f. MS. descript. Tagg. Sp. nov.

Species affinis *Rh. Beesiano*, Diels atque *Rh. nakotillo*, Balf. f. et Forrest a quibus indumento densiore, corolla albida, maculis numerosissimis recedit.

Frutex 3-4 m. altus, ramis nodosis sub inflorescentia 5-10 mm. diametro cito glabris. Folia petiolo 1.5-2 cm. longo glabrescente

praedita ; lamina oblongo-elliptica vel oblongo-lanceolata vel oblanceolata, 5-12 cm. longa, 2.5-5 cm. lata, apice late obtusa, apiculata, basi rotundata, supra maturitate glabra, minute rugulosa, costa sulcata, nervis primariis utrinque 14-16 inconspicuis, infra atro-fulvida, indumento laxo detersili induta, costa prominente glabrescente, nervis cæatis. Inflorescentia laxe racemosa, 8-15-flora ; rhachis circ. 1 cm. longa, sparsim pubescens ; pedicelli circ. 2 cm. longi glabrescentes. Calyx circ. 2 mm. longus, lobis brevissimis triangularibus floccoso-ciliolatis. Corolla campanulata, basi paulo dilatata, 4-5 cm. longa, albida, margine roseo-suffusa, copiose kermesino-maculata. Stamina 10, inaequalia, 1.5-2.5 cm. longa, filamentis basi villosis. Gynaeceum 3.5 cm. longum ; ovarium 7 mm. longum, dense floccosum, stylo glabro. Capsula cylindrica, recta, 1.3 cm. longa, 5 mm. lata, tomento juvenili fere libera.

"S.E. Tibet, Tsarong. On Doker-la, Mekong-Salween divide. Lat. 28° 25' N. Alt. 11-12,000 ft. Open pine forests and in rhododendron thickets. Shrub of 9-10 ft. Flowers whitish, faintly flushed rose on margins with crimson markings. June 1918." G. Forrest. No. 16734.

"S.E. Tibet, Tsarong. On Ka-gwr-pu, near Le-pong-la Lamasery, Mekong-Salween divide. Lat. 28° 35' N. Alt. 13,000 ft. In rhododendron thickets. Shrub of 9-12 ft. In fruit. Oct. 1918." G. Forrest. No. 17332.

Amongst those members of the Lacteam Series characterised by a densely tomentose ovary, *Rh. dictyotum* is distinguished at once by the very numerous spots on the white corolla. The indumentum is thicker and darker than that of its immediate allies.

***Rh. doshongense*, Tagg. Sp. nov.**

Species affinis *Rh. taliensi*, Franch. a quo foliorum indumento tenuiore subargenteo tandem subferrugineo, foliis supra sparsissime albido-tomentosis, petiolis crustaceo-tomentosis, pedicellis glabrescentibus, filamentis glabris inter alia differt.

Frutex circ. 1 m. altus, ramis crassis tortuosis nodulosis, ramulis annotinis sub inflorescentia circ. 7 mm. diametro crustaceo-floccosis. Folia petiolo 5-10 mm. longo supra complanato atque sulcato crustaceo-floccoso suffulta ; lamina ovalis vel ovata vel obovata, circ. 6 cm. longa, circ. 2.3 cm. lata, apice obtusa vel breviter acuminata, ad basim subrotundatam angustata, supra plus minusve rugulosa, costa sulcata, nervis primariis utrinque circ. 12 alte impressis, indumento tenuissimo interrupto floccoso-crustaceo albido conspersa, infra indumento continuo tenui semi-agglutinato argenteo deinde fulvido induta, costa venisque subprominulis. Inflorescentia racemoso-umbellata, circ. 10-15-flora ; rhachis 1 cm. longa puberula ; pedicelli 1.5-2 cm. longi, sparsim floccosi. Calyx circ. 1 mm. longus,

lobis brevissimis triangularibus dorso tenuiter floccosis. Corolla tubuloso-campanulata, circ. 3 cm. longa, pallide rosea maculis multis atropurpureis conspersa; lobi 5, late rotundati, circ. 1 cm. longi, 1.7 cm. lati, breviter emarginati. Stamina 10, inaequalia, 1-2 cm. longa, filamentis glabris. Gynaeceum 2-2.3 cm. longum; ovarium conoideum glabrum, stylo glabro, stigmatibus lobulato-expanso.

"S.E. Tibet. Doshong La. Alt. 12-13,000 ft. Forms a dense tangled scrub 2-3 ft. high along the top of the ridge in the alpine region. Flowers pink with many small dark purple spots scattered over the upper lobe, buds carmine. Indumentum silver perhaps turning brownish-yellow or rust coloured later. Like No. 5759 except for the silvery indumentum, and that may be a temporary phase. Sometimes the indumentum is entirely or partially absent and the leaf more or less glabrous. 26th June 1924." Kingdon Ward. No. 5863.

A member of the Taliense subseries coming from much further west than the general area of the group. While it has the facies of *Rh. taliense* and its allies it possesses a thin crustaceous whitish indumentum on the under-side of the leaf and a sprinkling of silvery indumentum above. While thus very different in its foliar appearance, its flowers suggest those of *Rh. taliense*.

***Rh. elegantulum*, Tagg et Forrest. Sp. nov.**

Species affinis *Rh. Bureavi* a quo foliis minoribus angustioribus, ovario ex toto glanduloso nec partim hirsuto inter alia differt.

Frutex 1-1.6 m. altus, ramulis sub inflorescentia circ. 5 mm. diametro dense cinnamomeo-tomentosis. Folia petiolo circ. 1.5 cm. longo ut ramuli induto suffulta; lamina oblongo-elliptica vel lanceolata, 5-9 cm. longa, 1.5-3 cm. lata, apice acuta, basi obtusa vel cordulata, supra haud nitens, paululo rugulosa, glabrescens, costa paulo sulcata, venis primariis circ. 14 utrinque inconspicuis, infra indumento denso cinnamomeo vel laete ferrugineo ex toto induta, costa elevata, venis occultis. Inflorescentia umbellata 10-20-flora; rhachis circ. 1 cm. longa dense puberula; pedicelli circ. 2 cm. longi, validi, dense cinereo-floccosi atque glandulosi. Calyx ad 1 cm. longus, in lobos inaequales oblongos apice rotundatos vel subacutos, dorso glandulosos et hirsutos, margine glandulis pilisque ciliolatos fere ad basin fissus. Corolla infundibulari-campanulata circ. 3 cm. longa, basin versus conspicue 5-gibbosa, pallide purpurea, saturatius maculata. Stamina 10, inaequalia, 1.5-2.5 cm. longa, filamentis basi hirsutis, antheris 3 mm. longis. Gynaeceum 3 cm. longum; ovarium cylindricum, obtusum, circ. 5 mm. longum, glandulis stipitatis dense obsitum, pilis deficientibus; stylus glaber nunc pilis sparsissimis basi ornatus, stigmatibus parvo lobulato. Capsula adhuc immatura lobis calycinis persistentibus foliaceis inclusa.

"S.W. Szechuan. Yung-ning. Alt. 13,000 ft. On the steep sheltered slope amongst Larch, Abies, etc. A small compact bush. Flowers pale purplish-pink, with darker spots, calyx large leafy, leaves with a deep orange rust-coloured felt below. 7th May 1922." K. Ward. No. 5111.

"S.W. Szechuan. Mountains east of Yung-ning. Lat. $27^{\circ} 48' N$. Long. $101^{\circ} E$. Alt. 12,000 ft. On open bouldery slopes and meadows. Shrub of 3-5 ft. Flowers? In fruit. June 1922." G. Forrest. No. 21292.

Rh. elegantulum belongs to a small set of closely allied species of the Adenogynum subseries characterised by bright cinnamon or reddish woolly leaf-indumentum and woolly petioles and young shoots. Like the majority of the members of the subseries the calyx lobes are large and gland-fringed. The nearest ally of *Rh. elegantulum* is *Rh. Bureavi*, Franch. from which it is distinguished by the narrow leaves, the less loosely woolly indumentum and by the absence of wool hairs from the completely glandular ovary. In its strictly glandular ovary without intermixed hairs it agrees with *Rh. Bureavioides*, Balf. f. but the latter species is a Szechuan one with very much larger leaves. *Rh. cruentum*, a species akin in indumental features, is distinguished by its broadly elliptic leaves, and relatively small calyx. The four are probably geographical expressions of a large aggregate species. The distribution of each is as follows:—

Rh. Bureavi. Mid West Yunnan. Sungkwei and Langkong, N. of Talifu.

Rh. Bureavioides. West Szechuan. Ta-chien-lu.

Rh. cruentum. N.E. Yunnan. N. and S. of Tungchwan.

Rh. elegantulum. S.W. Szechuan. In the neighbourhood of Yung-ning.

***Rh. floccigerum*, Franch., var. *appropinquans*, Tagg et Forrest. Var. nov.**

Varietas *Rh. floccigeri*, Franch. a quo ramulis petiolisque plus minusve glandulosis, indumento foliorum deficiente, costa vestigiis paucis conspersa excepta differt.

"Mid West Yunnan. Chienchuan-Mekong divide. Lat. $26^{\circ} 20' N$. Long. $99^{\circ} 40' E$. Alt. 10,000 ft. On the margins of open mixed forests. Shrub of 6-10 ft. Flowers fleshy, pale crimson-scarlet, with black crimson nectaries at the base. June 1923." G. Forrest. No. 23297.

"N.W. Yunnan. Chienchuan-Mekong divide. Lat. $26^{\circ} 25' N$. Long. $99^{\circ} 40' E$. Alt. 10-11,000 ft. On the margins of mixed thickets. Shrub of 5-8 ft. Flowers? Only a few immature fruits and one dried corolla. July 1922." G. Forrest. No. 21531.

"Plants of Yunnan. Mount Lauchunshan, S.W. of the Yangtze bend at Shiku. 1923." J. F. Rock. No. 9590.

The locality of this plant is interesting. It is found 60 miles N.W. of the type locality for *Rh. neriiflorum* and 80 miles S.E. of the type locality of *Rh. floccigerum*. The plant has the foliage shape of *Rh. floccigerum* but lacks all evidence of indumentum except a few flecks along the midrib. The young shoots are bristly-glandular.

Rh. gymnocarpum, Balf. f. MS. descript. Tagg. Sp. nov.

Species valde affinis *Rh. microcarpo*, Balf. f. et Forrest atque *Rh. perulato*, Balf. f. et Forrest; ab ambobus ovario fere glabro inter alia facile distinguitur.

Frutex circ. 1 m. altus. Ramuli annotini circ. 3 mm. diametro, indumento tenui albido vel fulvido floccoso primum induti, glandulis paucis interspersis. Folia petiolo circ. 5 mm. longo ut ramuli induto vel glabrescente suffulta; lamina crassa coriacea, oblongo-elliptica vel oblongo-oblanceolata, 4-7 cm. longa, 1.5-2.5 cm. lata, apice obtusa sed mucronulata, basi cuneata vel semi-rotundata, supra paulo rugulosa, costa sulcata, infra indumento fulvido sublanato e pilis ramulosis constructo atque glandulas minimas sparsas celante munita, costa prominente, nervis utrinque circ. 12 indumento velatis. Inflorescentia laxa umbellata, 3-4-flora; rhachis brevissima sparsim floccosa. Pedicelli circ. 1.5 cm. longi, sparsim floccosi atque glandulosi. Calyx brevis circ. 2 mm. longus, dentibus 5 triangularibus ut pedicelli indutis. Corolla late campanulata 4 cm. longa, saturate kermesina, obscure maculata; lobi 5, circ. 1.5 cm. longi, 2 cm. lati, alte emarginati. Stamina 10, 2-2.5 cm. longa, filamentis basi paulo dilatatis et ad medium puberulis. Gynaeceum 3 cm. longum; ovarium conoideum, apice truncatum, glabrum vel sparsissime floccosum; stylus glaber sub stigmatibus lobulato paululo expansus. Fructus deest.

"S.E. Tibet, Tsarong. Ka-gwr-pu, Mekong-Salween divide. Lat. 28° 40' N. Alt. 14,000 ft. In cane brakes and amongst rocks. Shrub of 2-3 ft. Flowers deep claret-crimson with deeper markings. July 1918." G. Forrest. No. 16687.

"Yunnan. Mountains N.E. of Chungtien. Lat. 28° N. Alt. 12,000 ft. In open pine forests. Shrub of 4-5 feet. Foliage only. October 1918." G. Forrest. No. 17379.

Rh. gymnocarpum is one of the few species allied to *Rh. Roxieanum* with a glabrous ovary. This distinguishes it from its nearest allies *Rh. microgynum* (with a glandular and floccose ovary) and *Rh. perulatum* (with a tomentose eglandular ovary). All three are rather aberrant forms in the *Roxieanum* subseries in that the flower truss is relatively loose and few flowered and the corolla obscurely spotted. From *Rh. perulatum*, *Rh. gymnocarpum* is distinguished by the relatively small calyx. The glandular substratum of the leaf indumentum distinguishes this species from *Rh. perulatum*, *Rh. microgynum* and *Rh. comisteum* and suggests a distant affinity with *Rh. bathyphyllum*.

Rh. hemidartum, Balf. f. MS. descript. Tagg. Spec. nov.

Species valde affinis *Rh. pocophoro*, Balf. f. infra descripto; quoad inflorescentiam corollamque cum ea specie congruit; tomento peculiari valde interrupto facile distinguitur.

Frutex circ. 1.3 m. altus; ramuli annotini 5 mm. diametro pilis setulosus glanduloso-capitatis bene induti. Folia petiolo paulo sulcato circ. 1 cm. longo suffulta; lamina crasse coriacea, oblonga vel obovata, 10 cm. longa, 3.5 cm. lata, apice rotundata vel late obtusa, basi paululo auriculata, supra viridis cereo-glaucula, glabra vel vestigiis tomenti juvenilis conspersa, infra tomento fulvo lacerato-interrupto et pilis ramosis constructo praedita, glandulis minutis sparsim intermixtis. Inflorescentia arcte umbellata, circ. 10-flora; pedicelli validi sub calyce incrassati, 1-1.3 cm. longi, glabri. Calyx circ. 7 mm. longus, glaber; lobi 5 inaequales circ. 4 mm. longi, apice obtusi vel rotundati, margine eglandulosi. Corolla infundibuliformi-campanulata saturate kermesina, emaculata, 4.5 cm. longa; lobi late rotundati, emarginati, 1 cm. longi, 1.7 cm. lati. Stamina 10, inaequalia, 2.2-3.3 cm. longa, filamentis glabris. Gynaeceum 4.3 cm. longum, corollam aequans; ovarium oblongum truncatum 5 mm. longum, dense glandulosum, stylo glabro. Capsula brevis, lignosa, truncato-cylindrica, alte sulcata, 1.3 cm. longa, 7 mm. lata.

"E. Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 13-14,000 ft. In mixed rhododendron scrub on rocky slopes. Shrub of 3-4 ft. In fruit. August 1921." G. Forrest. No. 20028.

"Eastern Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 20' N. Long. 98° 24' E. Alt. 13,000 ft. In mixed scrub in side valleys. Shrub of 4-5 ft. In fruit. October 1921." G. Forrest. No. 20920.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, West of Chamatong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 13,000 ft., in rocky alpine meadows amongst rhododendron scrub. Shrub 4-5 ft. Flowers deep rich crimson cherry when held to the light, without markings. June 1922." G. Forrest. No. 21709.

"S.E. Tibet, Tsarong. Duplicate in fruit=21709. October 1922." G. Forrest. No. 22886.

This is a close ally of *Rh. pocophorum* with which it agrees in the character of its inflorescence, corolla, calyx and fruit. It differs in the peculiar nature of its indumentum. As its name indicates—"half-flayed"—the indumentum shows irregularity in development as if the growing leaf had ruptured it in various places revealing bare areas. It differs also in the glabrous pedicels and somewhat smaller flower.

Rh. mimetes, Tagg et Forrest. Sp. nov.

Species affinis *Rh. detonso*, Balf. f. et Forrest atque *Rh. alutaceo*, Balf. f. et W. W. Sm. ; a priori stylo glabro nec glanduloso, indumento multo densiore separatur ; ab altero foliorum forma, indumento minus persistente, costa fere nuda recedit.

Frutex 1-2 m. altus, ramis brevibus crassis sub inflorescentia 7 mm. diametro. Folia petiolo circ. 1.5 cm. longo alte sulcato glabrescente suffulta ; lamina coriacea, elliptica vel oblongo-ovalis, 6-10 cm. longa, 2.5-4 cm. lata, apice obtusa vel brevissime acuminata, basi plus minusve rotundata, supra minute rugulosa, costa sulcata, nervis primariis utrinque circ. 15 paulo impressis, infra indumento satis crasso aliquatenus deterisili plus minusve fulvo bistrato induta ; indumentum superius lanatum e pilis multiramosis intertextis flaccidis compositum, inferius e pilis brevi-stipitatis rosulatis ; costa infra prominens glabrescens venis indumento obscuratis. Inflorescentia laxa racemoso-umbellata circ. 10-flora ; rhachis 1 cm. longa floccosa, pedicelli circ. 2 cm. longi dense tomentosi atque glandulosi. Calyx ad 5 mm. longus, fere ad basin in lobos ovatos inaequales rotundatos vel subacutos dense glandulosos dorso leviter villosos fissus. Corolla late infundibulari-campanulata, 4 cm. longa, alba roseo-suffusa, sparse kermesino-maculata ; lobi 5, circ. 1.5 cm. longi, 2 cm. lati, rotundati, emarginati. Stamina 10, inaequalia, 1.7-3 cm. longa, filamentis basi villosis. Gynaeceum 3.5 cm. longum, ovarium conoideum, 6 mm. longum, dense tomentosum, plus minusve glandulosum ; stylus glaber sub stigmate lobulato 2 mm. lato paululo expansus.

"S.W. Szechuan. Mountains N.E. of Mu-li. Lat. 28° 24' N. Long. 101° 6' E. Alt. 12,000 ft. Amongst rock and scrub on slopes in gullies. Shrub 3-5 ft. Flowers white, faintly flushed and margined rose with a few crimson markings. June 1922." G. Forrest. No. 21417.

"S.W. Szechuan. Mountains around Mu-li. Lat. 28° 12' N. Long. 100° 50' E. Alt. 11,000 ft. In thickets and on the margins of forests. Shrub 5-7 ft. Flowers white, faintly marked crimson on interior base. June 1921." G. Forrest. No. 20419.

Rh. mimetes in many features lies between *Rh. detonsum* and *Rh. alutaceum*. The leaf shape recalls that of *Rh. detonsum* but the indumentum resembles more closely that of *Rh. alutaceum* although it is less thick and apparently less persistent ; while the midrib of the leaf under-surface, more or less woolly in *Rh. alutaceum*, is very prominent and almost bare in *Rh. mimetes*. From *Rh. detonsum* its nearest ally it is distinguished by the different leaf indumentum and by the glabrous style which in *Rh. detonsum* is glandular almost to the top. As in *Rh. detonsum* glands occur sparingly on the petiole and on the basal part of the midrib.

The two gatherings by Forrest quoted above agree in all essentials. A third gathering from the same locality (Forrest 16320) differs in having a denser leaf indumentum, smaller rose-coloured flowers, definitely crimson spotted, and a more pronounced development of glands on pedicel, calyx and ovary, the latter being more glandular than tomentose.

Rh. mimetes, Tagg et Forrest, var. **simulans**, Tagg et Forrest. Var. nov.

Varietas haec quoad calycem parvum atque corollam cum typo congruit; quoad folia latiora, basi plerumque cordata, indumento spongioso saepe fissili induta, atque petiolos subglabros recedit. Indumenti facies *Rh. flavorufi* Balf. f. et Forrest id revocat. Fortasse pro propria specie melius habenda sed materies tantum ex collectione unica.

"S.W. Szechuan. Mountains around Mu-li. Lat. 28° 12' N. Long. 100° 50' E. Alt. 12,000 ft. In rhododendron thickets in side valleys. Shrub of 4-6 ft. Flowers white with crimson markings. June 1921." G. Forrest. No. 20428.

A very distinct variety with ovate, cordate or semi-cordate leaves and a thick spongy indumentum fissured after the manner of the indumentum of *Rh. flavorufum*. Flower characters, however, are those of *Rh. mimetes*. Forrest's gathering No. 17291, in immature fruit, is perhaps the same.

Rh. pocophorum, Balf. f. MS. descript. Tagg. Sp. nov.

Species valde affinis *Rh. coelico*, Balf. f. et Farrer et *Rh. catacosmo*, Balf. f.; a priori petiolo dense glanduloso inter alia differt; ab altero foliis majoribus, inflorescentia densiore, petiolo glanduloso nec tomentoso, calyce minore recedit.

Frutex 1-3 m. altus; ramuli annotini circ. 4 mm. diametro, longe glanduloso-setosi. Folia petiolo 1-1.5 cm. longo sulcato setis glandulosis atque pilis ramosis induto suffulta; lamina crasse coriacea, oblonga vel oblongo-obovata, 10-15 cm. longa, 4-6 cm. lata, apice rotundata mucrone conspicuo, basi sensim angustata obtusa, supra saepe cereo-glaucula maturitate glabra, infra indumento fulvo denso alveolato e pilis longis ramosis constructo induta, glandulis numerosis minutis sub indumento celatis, costa supra sulcata, infra elevata; nervi primarii utrinque 12-14, supra impressi, infra celati. Inflorescentia arcte umbellata 15-20-flora; rhachis 5 mm. longa, fulvo-tomentosa; pedicelli 1 cm. longi, dense glandulosi et sparsim pilosi. Calyx circ. 1 cm. longus, subcarnosus, in lobos inaequales obtusos vel acutos vel truncatos irregulariter incisos glandulis stipitatis ciliolatos fissus. Corolla infundibuliformi-campanulata, carnosa, saturate kermesina, 5 cm. longa, lobis alte emarginatis 1-1.3 cm. longis, 2.3 cm. latis. Stamina 10 inaequalia, 2.5-3.5 cm. longa, filamentis

glabris, antheris atro-purpureis. Gynaeceum 3.5-4 cm. longum; ovarium oblongum, 7 mm. longum, 4 mm. diametro, glandulis clavatis breviter stipitatis dense obsitum; stylus glaber apice paululo deflexus, stigmatem parvo lobulato. Capsula late oblonga, glandulis nigrescentibus dense induta, 1.5 cm. longa, 8 mm. lata.

"Eastern Tibet, Tsarong. Salween-Kiu-chiang divide, N.W. of Si-chi-to. Lat. 28° 40' N. Long. 98° 18' E. Alt. 12,000 ft. On rocky slopes in side valleys. Shrub of 3-4 ft. Flowers ranging in shade from deep to light crimson. June 1922." G. Forrest. No. 21713.

"S.E. Tibet, Tsarong. Duplicate in fruit=21713. October 1922." G. Forrest. No. 22909.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, West of Chamatong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 12-13,000 ft. In rhododendron thickets on rocky alpine meadows. Shrub of 4-6 ft. Flowers deep purple-crimson, base lightest. June 1922." G. Forrest. No. 21711.

"S.E. Tibet, Tsarong. Duplicate in fruit=21711. October 1922." G. Forrest. No. 22912.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, West of Chamatong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 12,000 ft. In rhododendron thickets in gullies. Shrub of 4-6 ft. Flowers deep purplish-crimson. June 1922." G. Forrest. No. 21712.

"S.E. Tibet, Tsarong. Duplicate in fruit=21712. October 1922." G. Forrest. No. 22913.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, West of Chamatong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 13,000 ft. In rhododendron and scrub in side valleys. Shrub of 3-5 ft. Flowers light to dark crimson. June 1922." G. Forrest. No. 21720.

"S.E. Tibet, Tsarong. Duplicate in fruit=21720. October 1922." G. Forrest. No. 22916.

"Eastern Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 20' N. Long. 98° 24' E. Alt. 14-15,000 ft. On open rocky alpine slopes. Shrub of 4-6 ft. In fruit. July 1921." G. Forrest. No. 19977.

"Eastern Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 14-15,000 ft. In margins of dense bamboo thickets. Shrub of 3-5 ft. Flowers? In fruit. July 1921." G. Forrest. No. 19983.

This may be regarded as a parallel plant to *Rh. catacosmum* but it is distinctly glandular. It differs moreover in the larger, more elongated, leaves, in the dense inflorescence with short pedicels which are markedly glandular and not tomentose, and in the smaller and more irregularly cut calyx. Its nearest ally is *Rh. coelicum*, which has glabrous petioles and a tomentose as well as glandular ovary.

Rh. pronum, Tagg et Forrest. Sp. nov.

Species affinis *Rh. bathyphylo*, Balf. f. et Forrest; ab ea specie sociisque habitu prostrato vix ad 25 cm. pertinente, filamentis ovarioque glabris dignoscitur.

Frutex procumbens, hic illic radicans, tantum 7–25 cm. altus; perulae valde persistentes ramulos celantes. Folia petiolo circ. 5 mm. longo supra paululo sulcato glabrescente munita; lamina oblongo-elliptica vel oblanceolata, 3–6.5 cm. longa, 1–2 cm. lata, apice obtusa atque subgaleata, margine crassa atque revoluta, basi cuneata, supra paulo rugulosa haud nitens, costa sulcata, infra indumento crasso bistrato fulvido induta, strato superiore laxo, inferiore tenui albido, costa prominente, nervis utrinque circ. 8 indumento celatis. Inflorescentia racemoso-umbellata, 6–12-flora, bracteis squamisque basi circumcincta; rhachis brevissima. Pedicelli 2.5 cm. longi, sparsim floccosi vel glabri. Calyx parvus circ. 2 mm. longus, lobis triangularibus acutis glâbris vel sparsim floccosis. Corolla oblique campanulata, 3.5 cm. longa, lacteo-flava, copiose kermesino-maculata, lobis rotundatis crenulatis. Stamina 10, inaequalia, 1.5–2.5 cm. longa, filamentis glabris. Gynaeceum 2.3 cm. longum; ovarium conoideum, truncatum, 7 mm. longum, 4 mm. latum, glabrum; stylus glaber. Capsula ovoidea sulcata glabra, 1 cm. longa, 5 mm. lata.

"Mid West Yunnan. Chienchuan-Mekong divide. Lat. 26° 30' N. Long. 99° 40' E. Alt. 13–14,000 ft. On moist rocky slopes and humus covered boulders in side valleys. A stout creeping shrub of 3–6 inches. Flowers creamy yellow with copious deep crimson markings. June 1923." G. Forrest. No. 23375.

"N.W. Yunnan. Chienchuan-Mekong divide. Lat. 26° 40' N. Long. 99° 40' E. Alt. 14–14,500 ft. On humus covered boulders and peaty moorland. A prostrate shrub of 6–10 inches. In fruit. September 1922." G. Forrest. No. 22334.

"N.W. Yunnan. Chienchuan-Mekong divide. Lat. 26° 40' N. Long. 99° 40' E. Alt. 12,000 ft. October 1922." G. Forrest. No. 22994.

"N.W. Yunnan. Mekong-Salween divide. Lat. 27° 15' N. Long. 99° E. Alt. 14–15,000 ft. On peaty stony alpine moorland and on cliffs. A matted shrub of 6–12 inches. May 1924." G. Forrest. No. 25621.

"N.W. Yunnan. =F. No. 25621? Same locality and altitude. October 1924." G. Forrest. No. 25823.

"N.W. Yunnan. Mount Kintzushan, west of the Yangtze bend at Shiku, near Tungtien. June 1923." Rock. No. 9490.

"N.W. Yunnan. Mount Kintzushan, west of the Yangtze bend at Shiku, near Tungtien. 1923." Rock. No. 11306.

Rh. prunum is very distinct in habit and is the only truly prostrate species in the sub-series Roxieanum. In this respect it is an exceptional plant in the series Taliense. The short annual growths, the close set foliage and the numerous persistent perulae give a very much stunted appearance to the plant, doubtless correlated with its high altitude. Its nearest ally is probably *Rh. bathyphyllum* which it resembles in leaf shape, but in the latter species the under-stratum of the leaf-indumentum consists of minute glands; in *Rh. prunum* the under-stratum is a definite white pellicle of small rosette hairs. Moreover the glabrous ovary and glabrous stamens distinguish it from *Rh. bathyphyllum* and its allies. The glabrous ovary is an uncommon feature in the subseries and the glabrous stamens are unique.

Rh. sperabile, Balf. f. et Farrer, var. **weihsiense**, Tagg et Forrest. Var. nov.

A typo foliis angustioribus minus lanceolatis nunc elongato ellipticis, indumento tenuiore pallidiore recedit.

"N.W. Yunnan. Mekong-Salween divide. Lat. 27° 12' N. Long. 99° 2' E. Alt. 12-13,000 ft. On cliffs and rocky slopes. Shrub of 4 ft. Flowers rich vivid crimson with black markings at base. May 1924." G. Forrest. No. 25447.

"N.W. Yunnan. =Forrest No. 25447. Same locality and altitude. October 1924." G. Forrest. No. 25932.

"N.W. Yunnan. Shui-lu Shan, West of Wei-Hsi. Lat. 27° 12' N. Long. 99° 12' E. Alt. 13,000 ft. On open rocky slopes. Shrub of 2-3 ft. Flowers crimson. July 1924." G. Forrest. No. 25569.

A form with narrow tapered leaves less lanceolate than the type, at times elongate-elliptic, evenly tapered to a narrow base. Leaf indumentum less dense than that of the type and of a lighter colour, white to pale fawn. Upper surface less bullate than in the type.

Rh. sperabiloides, Tagg. et Forrest. Sp. nov.

Species affinis *Rh. sperabili*, Balf. f. et Farrer a quo foliis minoribus, indumento tenui-interrupto, floribus minoribus inter alia signa distinguitur; a *Rh. eudoxo*, Balf. f. et Forrest sociisque corolla carnosula fructuque elongato subcurvato valde recedit.

Frutex circ. 1 cm. altus vel paulo ultra, ramis annotinis eglandulosis indumento albedo furfuraceo indutis. Folia petiolo circ. 1 cm. longo ut ramuli induto suffulta; lamina oblongo-elliptica vel oblanceolata, coriacea, 3-7 cm. longa, 2-3 cm. lata, apice obtusa cuspidato-mucronata basi minusve cuneata, supra semi-bullata, costa alte sulcata, venis primariis utrinque 12-14 valde impressis, infra tomento furfuraceo interrupto pilis ramosis confecto praedita. Inflorescentia umbellata 6-8-flora, rhachi 2-4 mm. longa pilosa atque floccosa. Calyx carnosus parte cupulari circ. 1 mm. longa floccosa, lobis 5

inaequalibus petaloideis rotundatis vel truncatis vel nunc acutatis 2-8 mm. longis, dorso sparsim floccosis, margine pilis ramosis ciliolatis. Corolla tubuloso-campanulata, carnosula, kermesina (nunc saturate), 2.5-3 cm. longa, lobis late rotundatis undulatis. Stamina 10, inaequalia, 1.5-2.5 cm. longa, filamentis basi pilosis. Gynaeceum circ. 2.7 cm. longum; ovarium conoideum, 6 mm. longum, dense tomentosum eglandulosum, stylo glabro vel basi sparsim tomentoso. Capsula cylindrica, circ. 1.3 cm. longa, 3 mm. lata, paulo curvata, sulcata, brunneo-floccosa.

"S.E. Tibet, Tsarong. Salween-Kiu-chiang divide, West of Chamatong. Lat. 28° 18' N. Long. 98° 27' E. Alt. 12-13,000 ft. In alpine scrub in side valleys. A shrub of 2-3 ft. Flowers small, from deep to light crimson. June 1922." G. Forrest. No. 21824.

"E. Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 13,000 ft. Amongst rhododendron scrub on rocky slopes. A shrub 3-4 ft. In fruit. July 1921." G. Forrest. No. 20003.

"E. Tibet, Tsarong. Salween-Kiu-chiang divide. Lat. 28° 24' N. Long. 98° 24' E. Alt. 12,000 ft. Amongst scrub on open rocky slopes in side valleys. Shrub of 3-4 ft. In fruit. Oct. 1921." G. Forrest. No. 20825.

"S.E. Tibet, Tsarong. Dup. of No. 21906 in fruit. Oct. 1922." G. Forrest. No. 22900.

A species of the habit of *Rh. sperabile* but differing from that species in its eglandular stems and petioles, in its smaller leaves with sparse interrupted indumentum, smaller flowers with pilose stamens and eglandular ovary. The shape and disposition of the leaves suggest affinity with some of the members of the Sanguineum subseries but the narrow ovary somewhat tapered to the style, the latter more or less tomentose at the base, and narrow capsule are features which exclude it from the Sanguineum subseries and strongly suggest affinity with *Rh. sperabile* and other members of the Neriiflorum subseries. The epidermis is less definitely papillate than in *Rh. sperabile*.

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