Chinese Rhododendrons: Determinations and Descriptions of New Species

Author(s): W. Botting Hemsley and E. H. Wilson

Source: *Bulletin of Miscellaneous Information (Royal Botanic Gardens, Kew)*, Vol. 1910, No. 4 (1910), pp. 101-120

Published by: Springer on behalf of Royal Botanic Gardens, Kew

Stable URL: <http://www.jstor.org/stable/4114334>

Accessed: 27-06-2016 03:21 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://about.jstor.org/terms>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Royal Botanic Gardens, Kew, Springer are collaborating with JSTOR to digitize, preserve and extend access to *Bulletin of Miscellaneous Information (Royal Botanic Gardens, Kew)*

ROYAL BOTANIC GARDENS, KEW.

BULLETIN

OF

MISCELLANEOUS INFORMATION.

No. 4.]

[1910.

XVI.—CHINESE RHODODENDRONS:

DETERMINATIONS AND DESCRIPTIONS OF NEW SPECIES.

W. BOTTING HEMSLEY and E. H. WILSON.

I.—INTRODUCTION.

Towards the end of 1906, and just previous to his departure on a third mission to China, Mr. E. H. Wilson devoted a considerable amount of time to the determination of the magnificent dried collections of Rhododendrons made on his two previous journeys, while Mr. W. B. Hemsley afforded him as much assistance as it was possible to give in unofficial hours. The intention was to publish jointly descriptions of the new species, on the plan followed in "Some New Chinese Plants," which appeared in the Kew Bulletin for 1906, pp. 147–163. Mr. Wilson finished his share of the work before his departure, but it had, of necessity, to be somewhat hurriedly done, and both authors felt that some further scrutiny was desirable before venturing on publication. Through the courtesy of Professor H. Lecomte, Director of the Paris Herbarium, the types of the numerous new species of Rhododendron described by the late Mr. A. Franchet were transmitted to Kew for purposes of comparison; but Mr. Hemsley found himself unable during the last two years of his official life to make further comparisons, and complete his share of the task. In the meantime, however, Mr. J. Hutchinson had made a rough classification of the Chinese species, named a number of previously undetermined specimens, and found reason to question the validity of some of the new species proposed by Messrs. Hemsley and Wilson.

During the past year Mr. Hemsley has re-examined most of the specimens and has adopted many of Mr. Hutchinson's suggestions. Even yet something doubtless remains to be done before a satisfactory classification of the species can be offered. Some of those proposed as new are based on slender characters, and it is to be suspected that one or two may be natural hybrids. Unfortunately Mr. Wilson, on his return from his third journey with further field experience, found himself unable, owing to the pressure of other work, to look through the material again with Mr. Hemsley before

(16106—6a.) Wt. 92—428. 1375. 4/10. D & S.

leaving for America, so that in many instances Mr. Hemsley alone is responsible for the final determinations here published.

The following sketch of the *Rhododendron* vegetation of China was written by Mr. Wilson before his last journey, and he has had no opportunity of revising it ; but the points dealt with are probably not susceptible of important modification. The original plan of the authors was limited to the publication of the new species in Mr. Wilson's collections, but the opportunity now offered has been taken to give determinations of all the specimens received at Kew since the appearance in 1889 of the enumeration of the species then known, published in the *Journal of the Linnean Society of London*, vol. xxvi. In doing this the numbers of the various collectors are cited, so that this addition may be of use to other institutions possessing sets of these dried plants.

A few modifications in the spelling of place-names have been admitted, the following being the most important :—Tatienlu for Tatsienlu ; Szechuan for Szechuen ; Omi for Omei, and Yangtze for Yangtze.

II. THE DISTRIBUTION OF RHODODENDRONS IN CHINA.

One of the outstanding features of recent botanical exploration in China is the wealth of *Rhododendrons* discovered. Up to the present time, and exclusive of the new species hereinafter described, no fewer than 134 species are known to occur in China proper : indeed, *Rhododendron* is one of the largest genera recorded from China.

The Index Kewensis enumerates to date (December, 1906) some 305 species of *Rhododendron* distributed as follows :—China proper, 134 species ; Malaya, 62 species ; British India, 46 species ; Japan and Corea, 28 species ; North America, 19 species ; Orient, six species ; Europe, four species ; Siberia, three species ; Arctic regions, two species ; and Australia, one species. From Africa and from Central and South America the genus is absent. The above figures show conclusively that the headquarters of the genus is China. Now, a cursory knowledge of the distribution of the Chinese *Rhododendrons* is sufficient to prove that the centre of the greatest concentration of species is the wild and rugged region of the China-Tibet borderland—which region is a continuation of the Himalayas. The optimum is somewhere between Mupine, long. 102° 30', lat. 31° about, and Tali, long. 100°, lat. 25° 50' about. North of Mupine, *Rhododendrons* rapidly decrease in numbers, and in the extreme north-west of Szechuan and in Kansu, comparatively few species occur. The same obtains in the country south of Tali.

In China, the genus *Rhododendron* extends from sea-level to the limits of ligneous vegetation. There is no heather (*Calluna* or *Erica*) in China, and its place on the alpine moorlands is taken by dwarf, small-leaved *Rhododendrons* such as *R. fastigiatum*, *R. nigro-punctatum*, *R. intricatum*, and *R. blepharocalyx*.

The low-level species, such as *R. indicum* and *R. sinense*, are abundant on scrub-clad hills, but whilst the former extends from

the east to the west of the country, the latter scarcely occurs west of long. 112°. In Central and Western China, with the exception of the above two species and *R. Mariesii*, no *Rhododendron* occurs below 4000 ft. Above this altitude they occur in woods and forests in increasing numbers, reaching their optimum at about 11,000 ft. In the regions traversed by me, 15,500 ft. was the altitudinal limit of the genus. Farther west, however, it is somewhat higher. *Rhododendrons* are social plants, and at certain altitudes form immense thickets. At low levels, miles of the hillsides often are ablaze with the scarlet *R. indicum*. Up to 9000 ft. the *Rhododendrons* occur in constantly increasing numbers, in company with mixed dicotyledonous trees and shrubs and conifers. Above 9000 ft. they form the predominant shrubby vegetation, either as undergrowth in the conifer forests or above the tree limit, where they form impenetrable thickets. In late May and June these areas present a scene of indescribable beauty.

In stature, Chinese *Rhododendrons* vary from tiny plants six inches high (*R. nigro-punctatum*) to trees 40 feet high (*R. calophytum*). But omitting extremes, they are as a rule bushes from 6-20 feet high and as much in diameter.

Epiphytic species are rare, and only two, *R. dendrocharis* and *R. moupinense*, have been met with. The first-named is very common on coniferous trees, especially on *Abies Fargesii* and *Tsuga yunnanensis*. *R. moupinense* occurs on evergreen oaks and dicotyledonous trees generally. Both species are dwarf and twiggy, and at a distance are suggestive of species of *Loranthus*. But whilst true epiphytes are rare in the depths of coniferous forests, a large percentage of the *Rhododendron* bushes occur growing on the rotting trunks of fallen forest giants.

In colour the Chinese *Rhododendrons* range from the purest white, the clearest and richest yellow, the varying shades of red, the deepest and richest shades of crimson, to the darkest purple. In size the flowers may vary in diameter from less than a third of an inch (*R. anthopogonoides*) to three inches, *R. excellens*. With rare exceptions (*R. sinense*, *R. indicum*, *R. micranthum*, *R. Mariesii*, and possibly a few others) all the species are remarkably local, whether in longitudinal, latitudinal or altitudinal range. With the exception of *R. stamineum* none of the Hupeh species occur in western Szechuan. Very few of Père Delavay's Yunnan species are to be found even in South Szechuan although the regions are contiguous. The species collected by Père Bodinier in Kweichau Province are nearly all different from those collected in the adjoining provinces of Hupeh, Yunnan and Szechuan. The last collections to reach Kew from China are one made by Père Monbeig near Tsekou, a town on the Mekong river in the extreme north-west of Yunnan, and another from South-Western China, composed of very fine specimens, made by Mr. G. Forrest and presented by Dr. Bayley Balfour, F.R.S. Of the seventeen species of *Rhododendron* in Père Monbeig's collection, nearly half are new. With one exception all are distinct from those collected by me in a district two degrees of longitude east and two degrees of latitude north of Tsekou. Père Delavay approached to within 60 miles of Tsekou, yet only two of the species in Père Monbeig's collection were

met with by him. The altitudinal limit of any one species is well-defined, and within this limit a species monopolises its own particular region. This phenomenon is extremely interesting and often gives rise to distinct belts of colour. *R. Przewalskii* (*R. kialense*) attains the highest altitudinal range (14,500 ft.) of any of the large-leaved species.

The Chinese Rhododendrons form their own peculiar groups, some of which are extremely difficult to deal with taxonomically. It may be that these groups represent several or few distinct species, or possibly one or more variable species in which the individuals intercross and give rise to numerous intermediate forms. Many of the species hitherto described can only be regarded as provisional, and when our knowledge of these Chinese Rhododendrons is more complete a general revision will be necessary. A goodly number of them are now in cultivation in this country, and these should materially assist in elucidating some of the many problems necessarily connected with so large and unwieldy a genus.

The genus is difficult owing to the fact that good and obvious distinguishing characters are scarce; the calyx, capsule, tomentum and stamens perhaps yielding the chief diagnostic marks. Vegetative shoots, though very necessary, are most certainly insufficient in themselves. For this reason, and when the vast number of described species is borne in mind, it is not desirable to follow the example set in connection with two recently recognised species, *R. platypodon* and *R. coeloneuron*, and be content to base the recognition of new forms on the examination of vegetative shoots. The colloquial names given to these species—shan p' i-pa and chin p' i-pa shu—do not admit of practical application because the first is a general name with the Chinese for all the large-leaved Rhododendrons, whilst “chin” prefixed to the second name (though it might possibly mean among other things “clear” or “gold”) signifies in all probability nothing more than green. Such vernacular appellations are commonly manufactured on the spur of the moment by natives of Eastern countries in response to the demand for a name.

The collection of Rhododendrons made by me in China consists of some 63 species. Seeds of practically all were sent home, and with very few exceptions the species are in cultivation with Messrs. J. Veitch & Son, in their Coombe Wood Nursery. From the altitude and latitude in which they occur, it is highly probable that nearly all will prove hardy and amenable to cultivation in this country.

The pleasure derived from working out this collection has been heightened by the fact of its affording the collector an opportunity of commemorating the names of various people to whom he had been indebted for hospitality and assistance in some form or other during his wanderings in China.

The use of nearly all of the late Mr. Franchet's types, for which Kew is indebted to the kindness of Mr. Lecomte, Director of the Paris collection, has rendered the task of determination very much easier than would otherwise have been possible.—E. H. W.

III.—ENUMERATIONS AND DESCRIPTIONS.

EURHODODENDRON.

I.—*Leaves not lepidote ; usually densely tomentose beneath.**

Rhododendron taliense, Franch. in *Bull. Soc. Bot. France*, xxxiii. 232 ; Hemsl. in *Journ. Linn. Soc.*, xxvi. 31.

SZECHUAN. *Wilson*, 3953, 3957, 3968, 3970.

We at first thought we could separate the specimens bearing the above numbers into three species, but the differences, chiefly in degree of hairiness of the petioles, pedicels and filaments, are insufficient. All the specimens agree in having a glabrous ovary.

Rhododendron Wasonii, Hemsl. et E. H. Wils. ; inter species foliis valde coriaceis subtus dense tomentosis (in siccis rufis) *R. taliensi* proxima, differt foliis suboppositis, floribus majoribus longius pedicellatis et ovario densissime furfuraceo-tomentoso. An varietas tantum *R. taliensis* ?—W. B. H.

Bush about 1 m. high ; branches thick, straight, hoary when young. *Leaves* scattered, sub-opposite, broadly-lanceolate or ovate, excluding the petioles 6–7 cm. long, 2·5–4 cm. broad, acute or cuspidate, base broadly cuneate or slightly auricled, glabrescent and slightly wrinkled above, densely clothed with reddish-brown felt beneath ; primary and secondary veins somewhat immersed on upper surface ; petioles thick, 5–8 mm. long, felted. *Buds* elongate ; scales about 1 cm. long, narrowly-oblong, acuminate or ovate, aristate. *Flowers* about six, in short corymbose racemes ; pink or creamy-white, 4–5 cm. across ; rachis sparsely pubescent ; pedicels stout, erect or nearly so, 1·5–2·5 cm. long, floccose. *Calyx* minute, oblique, annular, obscurely 5-toothed, densely floccose. *Corolla* broadly campanulate, slightly narrowed to base, 5-lobed, glabrous ; lobes erect-spreading, rounded or emarginate. *Stamens* 10, included ; filaments unequal, longest under 2 cm. in length, villous in the lower half. *Pistil* over-topping the stamens ; ovary 4–5 mm. long, furrowed, densely villous, hairs brownish. *Capsule* about 1 cm. long, 4 mm. broad, furrowed, densely clothed with loose brown felt ; calyx-teeth somewhat enlarged in fruit, obtuse.

SZECHUAN. Near Tatienlu on rocks in coniferous forests, alt. 2800–3000 m., *Wilson*, 3955, 3956, 3969, 3969A.

No. 3956 has more villous filaments and a rather more elongated inflorescence than 3955, and 3969 has somewhat smaller flowers. Named in compliment to Mr. Cathcart Wason, R.N., in 1903–04 Lieut.-Commander of H.M.S. “Woodlark” at Chungking, on the upper Yangtsze River, as a mark of appreciation of his kind offices.—E. H. W.

Rhododendron Faberii, Hemsl. in *Journ. Linn. Soc.* xxvi. 22. *R. Prattii*, Franch. in *Journ. de Bot.* ix. 389.

SZECHUAN. *Pratt*, 58, 89 ; *Wilson*, 3958, 3958A, 3959, 3960, 3961, 5142.

This belongs to a group of species, or varieties, having very thick leaves densely felted on the under surface, similar to those of *R. taliense*, but differing from the latter in having a well-developed petaloid calyx.

* As arranged in the Kew Herbarium by Mr. J. Hutchinson.

Rhododendron Brettii, *Hemsl. et E. H. Wils.*; ex affinitate *R. Faberii*, a quo differt foliis praeter costam subtus glabris, corymbis multifloris et floribus majoribus longius pedunculatis.—W. B. H.

Bush about 3 m. high; branches thick, densely clothed with rufous tomentum which persists for two or more years. *Leaves* crowded, oblong, lanceolate, excluding petiole 9–12 cm. long, 3–4 cm. broad, cuspidate or shortly acuminate, base slightly auricled; upper surface dark green, glabrous, somewhat wrinkled, lower surface pallid, glabrous; midrib immersed above, often felted at base, very prominent below, densely rufously tomentose, especially in lower half; petioles stout, 1–2 cm. long, rufously tomentose. *Flowers* twelve or more, subumbellate, multi-bracteate, pink with a dark red blotch, 5–6 cm. across; pedicel rather slender, spreading, 2·5–3 cm. long, densely glandular and sparsely pilose; bracts crowded amongst leaves and flowers, persistent, variable; outer thick, more or less subulate, flattened at base, 2–2·5 cm. long, rufously tomentose; inner membranous, spatulate or ovate-spatulate, 2–3·5 cm. long, rounded or obtuse, silkily pubescent. *Calyx* petaloid, 5-lobed, glandular and pilose, tube nearly obsolete, lobes oblong, 10–13 mm. long, 3–4 mm. broad, acute or obtuse, erect. *Corolla* widely-campanulate, narrowed to base, 5-lobed; tube pubescent within at base; lobes erect-spreading, broad, deeply emarginate. *Stamens* about 10, included; filaments unequal, 1·5–3 cm. long, villous in lower half. *Pistil* over-topping stamens; ovary about 4 mm. long, glandular and sparsely pilose; glands stalked; style with stalked glands in lower half; stigma very large. *Capsule* 1·5–2 cm. long, 8 mm. broad, furrowed, clothed with shortly-stalked glands; calyx lobes appressed to capsule.

SZECHUAN. Neighbourhood of Tatienu, at 2750–3000 m. above sea-level, *Wilson* 3973.

A very striking and handsome species, not common. Named in commemoration of the kind hospitality and assistance given by Mr. H. J. Brett, of H.B.M.'s Chinese Consular Service, who was stationed at Chentu, Szechuan, in 1904.—E. H. W.

Rhododendron bullatum, *Franch.* in *Bull. Soc. Bot. France* xxxiv. 281; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 20.

YUNNAN. *Monbeig*, 10; *G. Forrest*, 4141.

Rhododendron floccigerum, *Franch.* in *Journ. de Bot.* xii. 259.

YUNNAN. Tsekou, *Monbeig*, 8.

Rhododendron sanguineum, *Franch.* in *Journ. de Bot.* xii. 259.

YUNNAN. Tsekou, *Monbeig*, 13, 14.

Rhododendron Bureavii, *Franch.* in *Bull. Soc. Bot. France* xxxiv. 281; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 21.

SZECHUAN. *Wilson*, 3954. YUNNAN. *G. Forrest*, 506.

Rhododendron haematodes, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 232; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 24.

YUNNAN. *G. Forrest*, 4130.

Rhododendron floribundum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 232.

SZECHUAN. *Wilson*, 3967.

Rhododendron Falconeri, Hook. f. *Rhod. Sik. Himal.* 11, t. 10 ; *Bot. Mag.* t. 4924.

YUNNAN. Mountains north of Mengtsze at 3000 m., *A. Henry*, 9448 ; Great Black Mountain range at 3000 m., *W. Hancock*, 439.

Mr. Wilson was disposed to regard the Chinese specimens as specifically different from the Indian *R. Falconeri*, distinguished by the calyx, the constantly 7-lobed corolla and other slight differences, but further comparison of all the specimens at Kew is against this conclusion. He describes it as a tree about 6 metres high with leaves from 15–36 centimetres long and clusters of 12–20 pale yellow or primrose flowers.—W. B. H.

Rhododendron Wiltonii, Hemsl. et E. H. Wils. ; species elegans *R. floribundo* proxima, ab eo tamen differt foliis minoribus obovatis vel oblanceolatis supra nitidis, genitaliis omnino inclusis et filamentis infra medium puberulis.—W. B. H.

Bush, 1.5–2.5 m. high ; branches stout, more or less pubescent, often clothed with dark-coloured persistent bracts ; bark rough, scaly. *Leaves* crowded, very coriaceous, oblong-cbovate, excluding petiole 5–8 cm. long, 2–3.5 cm. broad, apiculate or cuspidate, base narrowed to the petiole, shining green, rugose above, heavily clothed with loose brown felt beneath ; midrib and secondary veins impressed above, much raised below ; petioles 1.25–2 cm. long, more or less felted. *Flowers* six or more, surrounded by a cluster of bracts, sub-umbellate, pink with red spots, 3–4 cm. across ; pedicels stout, spreading, 1.5–2.5 cm. long, floccose ; bracts numerous, clustered among the flowers and leaves, linear-oblong-acuminate, spathulate or orbicular, floccose or glabrescent, many persisting for a year or more. *Calyx* minute, annular, obscurely 5-toothed, floccose ; teeth obtuse. *Corolla* widely campanulate, 5-lobed, glabrous ; lobes short, slightly spreading, rounded or emarginate. *Stamens* about 10, included ; filaments unequal, 1–1.5 cm. long, dilated and somewhat villous below the middle. *Pistil* overtopping stamens ; ovary 4–5 mm. long, very floccose ; stigma small. *Capsule* cylindric, 1.5–2.5 cm. long, 4–6 mm. broad, furrowed, clothed with rufous-brown, floccose tomentum ; calyx-teeth in fruit slightly enlarged, ovate, obtuse, appressed to capsule.

SZECHUAN. In thin woods at 3300 m. above sea-level, *Wilson*, 3952.

A very interesting species belonging to a small group having shining, bullate or rugose leaves, represented heretofore in China by *R. bullatum*, Franch., and *R. deterrent*, Franch. The first-named is a native of western Yunnan and has ovate, very bullate leaves, and an enormous calyx. *R. deterrent* is a native of north-east Szechuan, and has shortly-stalked, verruculose leaves, subauriculate at the base, with a calyx intermediate between that of *R. bullatum* and that of *R. Wiltonii*.

Named in compliment to Mr. E. C. Wilton, C.M.G., of H.B.M.'s Chinese Consular Service, in 1900 Acting Consul at Ichang, as a mark of appreciation of numerous kind offices during that troublous year.—E. H. W.

Rhododendron strigillosum, Franch. in *Bull. Soc. Bot. France* xxxiii. 232.

SZECHUAN. *A. Henry*, 8872 ; *Pratt*, 311 ; *Wilson*, 3974.

- Rhododendron auriculatum*, Hemsl. in *Journ. Linn. Soc.* xxvi. 20.
 HUPEH. *A. Henry*, 7562, 7725 ; *Wilson*, 1467.
- Rhododendron adenopodum*, Franch. in *Journ. de Bot.* ix. 391.
 HUPEH. *Wilson*, 1161.
- Rhododendron Fordii*, Hemsl. in *Kew Bull.* 1894, 5.
 KWANGTUNG. *Ford*.
- Rhododendron formosanum*, Hemsl. in *Kew Bull.* 1895, 183.
 FORMOSA. *A. Henry*, 1976.
- Rhododendron Przewalskii*, Maxim. in *Mel. Biol.* i. 771 ; Hemsl. in *Journ. Linn. Soc.* xxvi. 29. *R. kialense*, Franch. in *Journ. de Bot.* ix. 392.
 SZECHUAN. *Wilson*, 3968.
- Rhododendron Delavayi*, Franch. in *Bull. Soc. Bot. France* xxxiii. 231 ; Hemsl. in *Journ. Linn. Soc.* xxvi. 22 ; *Bot. Mag.* t. 8137.
 YUNNAN. *Hancock*, 158 ; *A. Henry*, 10,983, 10,983A, 11,330 ; *G. Forrest*, 4093.

II. *Leaves not lepidote ; glabrous below.*

a Leaves usually broad at the base ; sometimes cordate.

- Rhododendron orbiculare*, Decne in *Flore des Serres* xxii. (1877), 169.
 SZECHUAN. *Pratt*, 325 ; *A. Henry*, 8873 ; *Wilson*, 3951.
- Rhododendron Souliei*, Franch. in *Journ. de Bot.* ix. 393.
 SZECHUAN. *Wilson*, 3971.
- Rhododendron chartophyllum*, Franch. in *Journ. de Bot.* ix. 398.
 YUNNAN. *G. Forrest*, 2030.
- Rhododendron selense*, Franch. in *Journ. de Bot.* xii. 257.
 YUNNAN. *Monbeig*, 12.
- Rhododendron Sheltonae*, Hemsl. et *E. H. Wils.* ; species ex affinitate *R. selensis*, a quo differt foliis subtus minus conspicue venosis pallidis, staminibus glabris et ovario styloque per totam longitudinem glanduloso.—*W. B. H.*
- Bush*, 1-2 m. high ; branches short ; bark grey and rough. *Leaves* elliptic-ovate, excluding petiole 6-8 cm. long, 3-4 cm. broad, apiculate, base oblique or rounded, glabrous, dull green above, very pallid below ; petioles stout, 1.5-2 cm. long. *Buds* broadly ovoid, obtuse ; scales short, broad, rounded, apiculate, ciliolate. *Flowers* eight or more, sub-umbellate, pink, 4-5.5 cm. across ; pedicels 0.75-2 cm. long, spreading, sparsely glandular. *Calyx* annular, oblique, 7-toothed, glandular ; teeth minute, unequal, ovate, acute, often with a tiny apical tuft of white hairs, ciliolately glandular. *Corolla* widely campanulate, narrowed to base, 7-lobed ; lobes spreading, usually emarginate. *Stamens* 12 or more, included ; filaments 1.5-2 cm. long, straight, glabrous. *Pistil* as long as corolla, glandular ; ovary 6-8 mm. long ; style slightly thickened above the middle. *Capsule* cylindric, 1.5-2 cm. long, 5 mm. broad, glandular.
- SZECHUAN. Neighbourhood of Tatienlu, in open country at 2750-3000 m. above sea-level, *Wilson*, 3977.

A very neat species, common on scrub-clad mountains near Tchienlu.

Named in compliment to Mrs. Shelton, wife of Dr. Shelton, Missionary at Tchienlu, to both of whom I am indebted for kind hospitality during 1904.—E. H. W.

Rhododendron Fargesii, Franch. in *Journ. de Bot.* ix. 390.

HUPEH. *Wilson*, 1877. YUNNAN. *Wilson*, 3972.

Rhododendron decorum, Franch. in *Bull. Soc. Bot. France* xxxiii. 230; Hemsl. in *Journ. Linn. Soc.* xxvi. 22.

YUNNAN. *Hancock*, 157; *A. Henry*. 9155A; *G. Forrest*, 2119, 2253.

R. decorum belongs to a small group having large, corymbosely racemose flowers, and is closely allied to the eastern *R. Fortunei*, Lindl., differing in having white flowers with bearded filaments. Forrest describes the flowers as fragrant, white with green markings. Perhaps a variety of *R. Fortunei*, but in the absence of fuller material we do not venture to reduce it.

Rhododendron pachytrichum, Franch. in *Bull. Soc. Bot. France* xxxiii. 231.

SZETCHUAN. *Wilson*, 3976, 3976A.

Rhododendron maculiferum, Franch. in *Journ. de Bot.* ix. 393.

HUPEH. *Wilson*, 1878, 6949.

Rhododendron Fortunei, Lindl. in *Gard. Chron.*, 1859, 868; *Maxim. Rhod. As. Or.* 21; *Bot. Mag.* t. 5596; Hemsl. in *Journ. Linn. Soc.* xxvi. 23.

KIANGSI. *Bullock*. HUPEH. *A. Henry*, 5354; *Wilson*, 609.

Mr. Wilson was of opinion that his 609 represented a distinct species, but on further examination I am unable to accept this view. In the Index Kewensis the authorship of *R. Fortunei* is attributed, in square brackets, to T. Moore, but we have not found any evidence of the correctness of this record.

Mr. Consul Cooper collected *R. Fortunei* in 1884, on the Tientai Mountain, Chekiang, where, he notes, there were magnificent groves of it; Mr. T. L. Bullock collected it at Kiukiang, Kiangsi, in 1892. Writing of this species in the Gardeners' Chronicle, in 1859, Fortune states that *R. Championae*, Hook., was the only other species known, at that date, to inhabit China. It should be mentioned, however, that he did not include the species belonging to the section Azalea.

The specimens from Hupeh are rather more glandular than the eastern ones, and the leaves are mostly broadest above the middle.—W. B. H.

Rhododendron Hemsleyanum, E. H. Wils.; species distincta e grege *R. Fortunei*, Lindl., floribus grandibus, racemoso-corymbosis, ab omnibus speciebus hujus gregis foliis amplissimis basi alte auriculatis facile distinguitur.—W. B. H.

Bush, about 6 m. high; branches thick, glabrous. *Leaves* very coriaceous, oblong, excluding petioles 15–20 cm. long, 8–10 cm. broad, rounded, base deeply auricled, glabrous, dark shining green above, pallid below, primary and secondary veins prominent on both surfaces; petioles very thick, fleshy, 5 cm. long. *Flowers* ten or more in corymbose racemes, white, 6–8 cm. across; rachis thick,

reddish, about 7 cm. long, glandular and sparsely pilose; pedicels erect-spreading, 3–4 cm. long, pilose, with numerous, scattered gland-tipped hairs. *Calyx* nearly obsolete, annular. *Corolla* widely campanulate, narrowed to base, prominently veined, 7-lobed; lobes spreading, broad, rounded. *Stamens* 10, included; filaments slender, about 3 cm. long, very slightly dilated at base, glabrous; anthers oblong, 4–5 mm. long. *Pistil* overtopping stamens, clothed with shortly-stalked glands; style thickened and reddish above the middle; stigma very large, flattened. *Fruit* not seen.

SZECHUAN. Mount Omi, *Wilson*, 5138.

A remarkable, fine and distinct *Rhododendron* only met with on Mount Omi and very rare even there; not closely allied to any known species but nearest *R. auriculatum*, Hemsl., which has much more shortly auricled leaves more or less tomentose below, coarsely glandular-hairy petioles and a differently shaped corolla somewhat hairy outside. The only real points of agreement are the large flowers and auricled leaves in both species. *R. Hemsleyanum* is one of the most handsome and one of the largest growing of all Chinese *Rhododendrons*.—E. H. W.

Rhododendron Houlstonii, Hemsl. et E. H. Wils.; species ex affinitate *R. discoloris* et *R. Fortunei* a quibus differt foliis oblan-ceolato-oblongis basi cuneatis, pedicellis glabris et ovario apice glandulis longe stipitatis ornato.—W. B. H.

Bush, 1.5–4 m. high; branches stout, straight. *Leaves* oblong-obovate or oblong, excluding petioles 8–13 cm. long, 3–5 cm. broad, cuspidate; base more or less cuneate, rarely oblique; pallid below; midrib slightly immersed above, brownish and very prominent below; petioles stout, 1.5–3 cm. long. *Flowers* eight or more, in lax corymbose racemes, flesh-pink, 6–8 cm. across; rachis glaucescent; pedicels erect-spreading, 1.5–3 cm. long, more or less glandular. *Calyx* oblique, annular, obscurely toothed. *Corolla* widely campanulate, narrowed to base, 7-lobed, lobes erect-spreading, rounded or truncate. *Stamens* about 12, included; filaments unequal, 1.5–2.5 cm. long, slightly curved, glabrous. *Pistil* as long as corolla; ovary glandular in the lower, bearded in the upper, half; style stout, sparsely glandular, bearded near base. *Capsule* bluish-purple, cylindric, 2.5 cm. long, 7 mm. broad, rarely glandular.

WESTERN HUPEH. In woods, *Wilson*, 312, 2154 in part.

Named in compliment to Mr. G. Houlston, of the Chinese Imperial Maritime Customs Service, my companion on many a delightful ramble in the Ichang neighbourhood.—E. H. W.

Rhododendron Spooneri, Hemsl. et E. H. Wils.; ex affinitate *R. Fortunei* et forsan ejus varietas floribus minoribus, pedicellis crassis glabris et filamentis puberulis.—W. B. H.

Bush, 1–3 m. high; branches stout, straight. *Leaves* coriaceous, oblong-lanceolate or oblong, often broadest above the middle, excluding petioles 6–13 cm. long, 1.5–5.5 cm. broad, rounded, apiculate, base cuneate or sub-auricled, glaucous or very pallid below; petioles thick, 1–1.5 cm. long. *Flowers* ten or more, in lax corymbose racemes, white or pale pink, 5–7 cm. across; pedicels fleshy, erect-spreading or spreading, 2–4 cm. long, very glandular when young, speedily becoming quite glabrous; bracts oblong, 2–2.5 cm. long, clothed with white, silky, appressed hairs on both

surfaces. *Calyx* oblique, saucer-shaped, glabrous. *Corolla* widely campanulate, much narrowed to base, 7-lobed; lobes rounded or truncate. *Stamens* about 16, included; filaments 2-2.5 cm. long, sparsely glandular and villous in the lower half. *Pistil* equalling corolla, clothed with scattered, shortly-stalked glands; style stout, cylindric; stigma large. *Capsule* 4 cm. long, 1.5 cm. broad furrowed, slightly curved, brownish-purple.

SZETCHUAN. Neighbourhood of Tchienlu, on scrub-clad mountains 2650-3650 m. above sea-level, *Wilson*, 3975. YUNNAN. Tsekou, *Monbeig*.

Père Monbeig's specimens have the leaves broader and subauricled at the base, less glaucous below; the corolla-tube slightly hairy inside and the filaments more or less villous. In spite of these slight differences there can scarcely be any question as to their being conspecific with those from Yunnan.

Named in compliment to my friend Mr. H. Spooner, who very largely assisted in making up my collections into sets for disposal to different herbaria.—E. H. W.

β Leaves narrowed towards the base.

Rhododendron Vialii, *Franch.* in *Journ. de Bot.* ix. 398.

YUNNAN. *A. Henry*, 11,563A, 13,271.

Rhododendron brevistylum, *Franch.* in *Journ. de Bot.* xii. 261.

YUNNAN. *G. Forrest*, 4162.

Rhododendron hypoglaucum, *Hemsl.* in *Journ. Linn. Soc.* xxvi. 25.

SZETCHUAN. *Wilson*, 5137. HUPEH. *Wilson*, 311.

Rhododendron neriiflorum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 230; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 28.

YUNNAN. *G. Forrest*, 4144, 4164.

Rhododendron argyrophyllum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 231.

SZETCHUAN. *Wilson*, 3962, 3963, 3966, 5137A.

Wilson's 3966 differs from the other specimens in having glabrous filaments, and his 3962A, which must also be referred to this species, has much less hairy filaments and otherwise differs slightly from the type.

Rhododendron Ririei, *Hemsl. et E. H. Wils.*; species distincta esquamosa, ramis elongatis viridibus, foliis sparsis supra viridibus opacis subtus pallidioribus et floribus racemosis.—W. B. H.

Bush, about 6 m. high; branches long, straight, with greyish-green bark when young. *Leaves* scattered, lanceolate or oblong-lanceolate, very rarely broadest above the middle, excluding petiole 10-15 cm. long, 3-5.5 cm. broad, shortly acuminate, base narrowed, cuneate, pale green glabrous above, grey below, midrib slightly immersed above, prominent below; petioles 1.5-2 cm. long, glabrous. *Buds* ovoid, acute; scales broadly-ovate, some ciliolate, lower acute, upper rounded. *Flowers* about ten in short corymbose racemes, white, about 5 cm. across; pedicels spreading, very stout, 1.5-2 cm. long, sparsely pubescent. *Calyx* oblique, annular, obscurely 5-toothed. *Corolla* widely campanulate, 5-lobed; lobes erect-spreading, broad. *Stamens* included; filaments filiform, glabrous? *Pistil* reaching to corolla-mouth; ovary about 1 cm. long, densely clothed with short grey felt; style very stout,

cylindric, reddish. *Capsule* large, cylindric, about 3 cm. long, 1 cm. broad, with shallow channels, greyish.

SZECHUAN. Mount Omi, *Wilson*, 5139.

Our material consists of two sheets ; one with one old flower and very young fruit ; the other with ripe fruit. The very large fruits afford a marked distinction from other members of the group to which this belongs, and in consequence we do not hesitate to describe it.

Named in compliment to the Rev. B. Ririe, of the China Inland Mission, Kiating, Western Szechuan, who rendered me considerable assistance during my second journey in China.—E. H. W.

Rhododendron discolor, *Franch.* in *Journ. de Bot.* ix. 391.

SZECHUAN. *Wilson*, 1077. HUPEH. *Wilson*, 1077.

Rhododendron calophytum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 230.

SZECHUAN. *Wilson*, 3979.

Rhododendron sutchuenense, *Franch.* in *Journ. de Bot.* ix. 392.

WESTERN HUPEH. *Wilson*, 17, 2537, 5285, 6914.

Rhododendron Watsonii, *Hemsl. et E. H. Wils.* ; species *R. sutchuenensi* simillima differt imprimis foliis subsessilibus, floribus minoribus longius pedicellatis et fructu minore curvato.—W. B. H.

Bush, 2·6 m. high ; branches very thick, glabrous. *Leaves* clustered at ends of shoots, very shortly petiolate, obovate or oblong-obovate, excluding petiole 15–20 cm. long, 5–7 cm. broad, shortly acuminate, base narrowed to petiole, dark green, glabrous, somewhat wrinkled above, clothed with short, dense, grey felt beneath ; midrib very large and broad, channelled above, very much raised below, secondary veins prominent on both surfaces ; petioles thick, broad, winged, 0·5–1 cm. long. *Buds* globose ; scales short, orbicular, concave, slightly pubescent on inner surface. *Flowers* twelve or more in short corymbose racemes, white with red blotch, 4–5 cm. across ; rachis short, very thick, sparsely pubescent ; pedicels spreading or erect-spreading, 2–3·5 cm. long, glabrous or nearly so. *Calyx* oblique, annular, 7-toothed ; teeth unequal, largest 1–2 mm. long, ovate, acute or rounded. *Corolla* short, broadly campanulate, 7-lobed, glabrous ; lobes elliptic, more or less spreading, rounded or emarginate. *Stamens* about 14, included ; filaments unequal in length, 2–3 cm. long, sparsely pubescent in lower half. *Pistil* equalling in length the longest stamens, ovary about 8 mm. long, slightly puberulous, furrowed ; stigma small, flattened. *Capsule* cylindric, often curved, about 3 cm. long, 8–10 mm. broad, woody.

SZECHUAN. In thin coniferous forests, at 3300–3800 m. above sea-level, *Wilson*, 3964.

Named in compliment to my friend and travelling companion, Mr. W. C. Haines-Watson, of the Chinese Imperial Maritime Customs Service.—E. H. W.

Rhododendron irroratum, *Franch.* in *Bull. Soc. Bot. France* xxxiv. 280 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 26 ; *Bot. Mag.* t. 7371.

YUNNAN. *A. Henry*, 10,275, 10,301, 10,853, 11,066, 11,067, 11,067B ; *W. Hancock*, 179 ; *G. Forrest*, 2043, 2058, 4146 ; *Monbeig*, 4.

Dr. A. Henry's 10,853 from Yunnan and Père T. Monbeig's n. 4, from the same province, differ from typical *R. irroratum* in the filaments and ovary being glabrous or nearly so.

Rhododendron insigne, Hemsl. et E. H. Wils. ; inter species affines *R. irrorato* proximum et simillimum, ab eo tamen differt foliis sparsis margine haud undulatis et floribus distincte racemosis longe pedicellatis.—W. B. H.

Bush, 1.6 m. high ; branches thick, straight. *Leaves* very coriaceous, often sub-opposite, lanceolate-oblong, very rarely broadest above the middle, excluding petiole 9–13 cm. long, 3–5 cm. broad, shortly acuminate, base cuneate, margins reflexed, shining green above, uniformly clothed with dense, short, grey felt below ; midrib immersed above, raised below, secondary veins prominent on both surfaces ; petioles thick, 1–2 cm. long, flattened above. *Bud-scales* oblong or oblong-spathulate, 1.5–3 cm. long, acuminate, fleshy, brown, lowest filiform, flattened at base, upper ciliolate, more or less pubescent on inner surface. *Flowers* eight or more, in short lax corymbose racemes, pale or deep pink, 3–5 cm. across, bracteate ; bracts oblong-lanceolate or oblong, lowest filiform, 1.5–2 cm. long, 7–10 mm. broad, fleshy, brown, tomentose without, often pubescent within ; pedicels spreading or erect-spreading, 2–4 cm. long, reddish, sparsely pubescent. *Calyx* annular, sometimes truncately 5-toothed ; teeth short, broad, rounded, pubescent. *Corolla* wide campanulate, 5-lobed ; lobes erect-spreading, rounded or emarginate. *Stamens* 14 or more, included ; filaments 1.5–2.5 cm. long, villous in lower half. *Pistil* equal to the corolla in length ; ovary 6–8 mm. long, densely clothed with a white velvety pubescence ; style stout, glabrous, reddish ; stigma dark-coloured, flattened. *Fruit* not seen.

SZECHUAN. Mount Wa, at 2300–3000 m. above sea-level, Wilson, 3965 ; Pratt, 349 ; A. Henry, 8859.

An exceedingly distinct and very striking species, only known from Mount Wa. Neither Pratt's nor Henry's specimens are localised, but I happen to know that they were collected in the same place as my own.—E. H. W.

Rhododendron Davidii, Franch. in *Bull. Soc. Bot. France* xxxiii. 230. *R. oreodoxa*, Franch., l. c. ?

SZECHUAN. Wilson, 3978.

Specimens in the Kew Herbarium, received from Paris, and bearing the above names, are indistinguishable.

III.—*Leaves lepidote.*

Rhododendron ciliicalyx, Franch. in *Bull. Soc. Bot. France* xxxiii. 233 ; Hemsl in *Journ. Linn. Soc.* xxvi. 21.

YUNNAN. A. Henry, 10,524, 11,983, 11,983A.

Rhododendron excellens, Hemsl. et E. H. Wils. ; species *R. Dalhousiae* similis, differt calycis lobis latioribus distincte venosis, corolla extra lepidota et staminibus dimidio brevioribus.—W. B. H.

Bush, 3 m. high (Henry) ; branches stout, brown, lepidote. *Leaves* scattered, oblong, excluding petiole 15–18 cm. long, 5.5–6 cm.

broad, rounded or obtuse, apiculate, base somewhat narrowed, oblique, glabrous, very strongly veined, dark green, slightly wrinkled above, glaucous and lepidote beneath; midrib very much raised below; secondary veins immersed above, very prominent beneath; petioles very stout, nearly cylindric, 2·5–3·5 cm. long. *Flowers* three or more, umbellate, white (*Henry*), 10 cm. long, 8 cm. broad; pedicels stout, 2 cm. long, erect, lepidote. *Calyx* petaloid, glabrous, deeply 5-lobed; tube saucer-shaped, 1·4 mm. deep, lepidote outside; lobes orbicular, 6–9 mm. long, rounded, very sparingly ciliolate. *Corolla* deeply campanulate, 5-lobed, lepidote outside; tube 7·5–8 cm. long; lobes 2–2·5 cm. long, broad, erect-spreading, rounded or truncate. *Stamens* about 12, half the length of the corolla; filaments 4–5 cm. long, flattened and pubescent in the lower half; anthers oblong, 10–12 mm. long. *Pistil* reaching to mouth of corolla; ovary about 1·5 cm. long, tapering to style, densely lepidote; style stout, cylindric, lepidote in lower half; stigma large, flattened, dark-coloured. *Fruit* not seen.

YUNNAN. South of the Red River from Mengtsze, *A. Henry*, 13,666.

Undoubtedly the grandest of the Chinese *Rhododendrons* and comparable only with the Indian *R. Dalhousiae*, its nearest ally, from which it is easily distinguished by its more strongly veined and larger leaves, its different calyx, lepidote corolla, and stamens half the length of the corolla-tube. *Henry* remarks that only one specimen was brought in by a native collector.

This species is undoubtedly a native of moist warm-temperate forests, and with *R. Falconeri* forms a strong connecting link with the sub-Himalayan types of Sikkim and Assam. In view of the remarkably local distribution of most of the Chinese and Himalayan *Rhododendrons*, it is very surprising to find species so evidently and closely allied, separated by some fifteen degrees of longitude and by several stupendous mountain ranges.—E. H. W.

Rhododendron lutescens, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 235.

SZECHUAN. *Wilson*, 3939.

Rhododendron Augustinii, *Hemsl.* in *Journ. Linn. Soc.* xxvi. 19.

HUPEH. *Wilson*, 302. SZECHUAN, *Wilson*, 3950.

The Szechuan specimens, from an altitude of about 3000 m., have smaller leaves, and the under surface of the midrib is glabrous.

Rhododendron Harrovianum, *Hemsl.* in *Gard. Chron.* 1910, xlvii. 4; *Bot. Mag.* t. 8309.

SZECHUAN. *Wilson*, 1433, 3942 partly.

Cultivated specimens of this species were received from Messrs. James Veitch & Sons, bearing the number 3942, but *Wilson's* dried specimens bearing this number are different.—W. B. H.

Rhododendron lepidotum, *Wall.* *Cat. n.* 758; *Royle Illustr. Him. Pl.* 260, t. 64, f. 1; *Bot. Mag.* tt. 4657, 4802 et 6450, *fide C. B. Clarke* in *Fl. Brit. Ind.* iii. 471.

YUNNAN. *G. Forrest*, 2505.

Rhododendron heliolepis, *Franch.* in *Bull. Soc. Bot. France* xxxiv. 283 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 24.

YUNNAN. *Monbeig*, 6, 11.

Rhododendron sulfureum, *Franch.* in *Bull. Soc. Bot. France* xxxiv. 283 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 31.

SZECHUAN. *Wilson*, 4143.

Rhododendron Hanceanum, *Hemsl.* in *Journ. Linn. Soc.* xxvi. 24.

SZECHUAN. *Wilson*, 5141.

Rhododendron yunnanense, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 232 ; *Bot. Mag.* t. 7614.

YUNNAN. *Wilson*.

Rhododendron Benthamianum, *Hemsl.* in *Kew Bull.* 1907, 319 (excl. 3940 et 3942, *Wilson*) ; *Gard. Chron.* 1910, xlvii. 4.

SZECHUAN. *Wilson*, 1766, 1878, 1969.

By an oversight *Wilson*'s 3940 and 3942 (= *R. concinnum*, *Hemsl.*) were cited under the first description, and in consequence of a lapse of memory the species was described again in the *Gardeners' Chronicle*.—*W. B. H.*

Rhododendron polylepis, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 232.

SZECHUAN. *Wilson*, 3941, 3949.

Rhododendron concinnum, *Hemsl.* in *Journ. Linn. Soc.* xxvi. 21. *R. yanthinum*, *Bur. et Franch.* in *Journ. de Bot.* v. 94.

SZECHUAN. *A. Henry*, 8874 ; *Pratt*, 326, 848 ; *Wilson* 3940, 3940A, 3942 mainly.

This species was founded on an imperfect specimen collected by the *Rev. Ernest Faber* on the summit of *Mount Omi* ; but there is now ample material at *Kew* under the above numbers. *Pratt*'s 848 and *Wilson*'s 3940A differ from the type in having leaves 4 to 8 cm. long. *Messrs. James Veitch & Sons* sent cultivated specimens of the typical form to *Kew* in *May, 1909*, under the number 1524.

Rhododendron coombense, *Hemsl.* in *Bot. Mag.* t. 8280.

SZECHUAN. *Wilson*, 1524.

Rhododendron rigidum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 233 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 29.

SZECHUAN. *Wilson*, 3947.

Rhododendron rubiginosum, *Franch.* in *Bull. Soc. Bot. France* xxxiv. 282 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 30.

YUNNAN. *G. Forrest*, 2050, 2097.

Rhododendron siderophyllum, *Franch.* in *Journ. de Bot.* xii. 262.

YUNNAN. *A. Henry*, 9110A ; *Wilson*, 3950 ; *G. Forrest*, 507.

Rhododendron moupinense, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 233.

SZECHUAN. *Wilson*, 3937.

Rhododendron dendrocharis, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 233.

SZECHUAN. *A. Henry*, 8857 ; *Pratt*, 396 ; *Wilson*, 3938.

CHONIASTRUM.

Rhododendron Hancockii, Hemsl. in *Kew Bull.* 1895, 107; *Hook. Ic. Pl.* t. 2381.

YUNNAN. *A. Henry*, 10,523A, 10,523B.

Rhododendron stamineum, Franch. in *Bull. Soc. Bot. France* xxxiii. 236; Hemsl. in *Journ. Linn. Soc.* xxvi. 30. *R. pittosporifolium*, Hemsl. in *Journ. Linn. Soc.* xxvi. 29. *R. aucubifolium*, Hemsl. in *Journ. Linn. Soc.* xxvi. 19, quoad flores: folia *Daphniphylli macropodi*!

HUPEH. *A. Henry*, 5787, 6432; *Wilson*, 758, 5140.

Rhododendron oxyphyllum, Franch. in *Journ. de Bot.* xii. 264.

YUNNAN. *A. Henry*, 259, 331, 11,609.

This is very closely allied to, if not the same as, *R. Westlandii*, Hemsl.

Rhododendron Wilsonae, Hemsl. et E. H. Wils.; species *R. Westlandii* similima, differt imprimis bracteis floriferis angustis acutis.—W. B. H.

Bush, 1–2 m. high; branches slender, straight, greyish, glabrous. *Leaves* pseudo-verticillate, ovate-lanceolate, excluding petioles 7–10 cm. long, 2–4 cm. broad, glabrous, acuminate, base more or less cuneate, shining green, reticulate above, pallid beneath; secondary veins prominent on both surfaces; petioles about 1 cm. long. *Buds* elongate-acuminate; scales reddish-brown, scarious, ovate to oblong, largest about 2 cm. long, acute. *Flowers* solitary on each scaly peduncle; peduncles clustered, forming fascicles of 4 or more at ends of shoots, flesh-pink, 4–6 cm. across; the peduncles enclosed by sheathing bud-scales, erect-spreading, about 2 cm. long, glabrous. *Calyx* annular, truncately 5-toothed, glabrous; teeth unequal, short, rounded or acuminate. *Corolla* deeply 5-lobed; tube narrowly funnel-shaped, about 1 cm. long; lobes nearly three times as long as the tube, erect-spreading, elliptic, rounded. *Stamens* about ten, as long as corolla-lobes; filaments unequal, longest 3·5 cm. long, curved, slightly villous in the lower half; anthers nearly globular. *Pistil* just over-topping the stamens; ovary slender, about 7 mm. long, glabrous, shining, reddish-brown; style curved upwards, glabrous; stigma capitate, flattened. *Capsule* cylindric, about 3 cm. long, 0·5 cm. broad, deeply furrowed, brown.

HUPEH. In woods at 1700–2000 m. above sea-level, *Wilson*, 317.

One of the most beautiful and distinct of Chinese *Rhododendrons*. Named in compliment to my wife.—E. H. W.

Rhododendron Tutcherae, Hemsl. et E. H. Wils.; inter species sectionis '*Choniastrum*' staminibus inclusis ob ramulos floriferos et folia setulosa distinctum.—W. B. H.

Tree, 13 m. high (*Henry*); branches straight, setose until two years old; bark grey. *Leaves* clustered at ends of shoots, subcoriaceous, lanceolate, excluding petiole 8–11 cm. long, 1·5–3 cm. broad, acuminate, base cuneate, glabrous above, setulose beneath, midrib impressed above, very prominent beneath, secondary veins raised on both surfaces; petioles about 1 cm. long, setose. *Flowers* in axillary fascicles of three or more, clustered in such a way as to form a terminal truss of 12 or more flowers, violet (*Henry*), 5 cm.

across ; pedicels erect-spreading, about 1.5 cm. long, reddish, very sparsely setose. *Calyx* minute, truncately 5-toothed, glandular ; teeth often unequal, very short, acute. *Corolla* deeply 5-lobed ; tube about 1 cm. long, narrow, nearly cylindric ; lobes three times as long as tube, spreading, elliptic, obtuse, more rarely rounded, usually with tiny apical tufts of white hairs. *Stamens* about ten, exserted but shorter than corolla-lobes ; filaments tomentose in lower half. *Pistil* over-topping stamens ; ovary slender, 0.5 cm. long, clothed with short, white, appressed hairs ; style reddish, glabrous ; stigma large, dark-coloured. *Fruit* not seen.

YUNNAN. Mountains south of Mengtze, in forests at 2000 m., *A. Henry*, 10,636.

Named in compliment to the wife of my friend Mr. W. J. Tutchet, of Hongkong, to whom I am indebted for assistance and kind hospitality during my several visits to the island.

The section *Choniastrum*, Franch., in which the flowers arise either singly or in fascicles from the axils of the uppermost leaves, instead of being strictly terminal, also includes *R. Henryi*, Hance, and *R. Westlandii*, Hemsl. All the species have very beautiful flowers.—E. H. W.

OSMOTHAMNUS.

Rhododendron micranthum, Turcz. in *Bull. Soc. Nat. Mosc.* 1837, n. vii., 155 ; Hemsl. in *Journ. Linn. Soc.* xxvi. 27 ; *Bot. Mag.* t. 8198.

HUPEH. *A. Henry*, 6632 ; *Wilson*, 1526.

Rhododendron rufescens, Franch. in *Journ. de Bot.* ix., 397.

SZETCHUAN. *Wilson*, 3930, 3931. YUNNAN. *G. Forrest*, 2182.

Rhododendron fastigiatum, Franch. in *Bull. Soc. Bot. France* xxxiii. 234 ; Hemsl. in *Journ. Linn. Soc.* xxvi. 23.

SZETCHUAN. *Pratt*, 267 ; *Wilson*, 3936, 3936A.

Rhododendron flavidum, Franch. in *Journ. de Bot.* ix. 395.

R. primulinum, Hemsl. in *Gard. Chron.* xlvii. (1910), 4.

SZETCHUAN. *Pratt*, 521 ; *Wilson*, 1773, 3932.

Cultivated specimens, which have recently flowered with Messrs. James Veitch & Sons at Coombe Wood, prove that *R. primulinum*, Hemsl., is not a distinct species.

Rhododendron Wongii, Hemsl. et E. H. Wils. ; ab *R. flavido* foliis majoribus, floribus majoribus eburneis, et calyce parvo haud petaloideo recedit : *R. concinno* etiam simile sed foliis minoribus apice rotundatis, florum colore et corolla intus extraque glabra differt.—W. B. H.

Bush, 1-2 m. high ; branches twiggy, lepidote when young. *Leaves* elliptic or ovate-elliptic, excluding petiole 2-3 cm. long, 1-1.5 cm. broad, apiculate, very dark shining green, lepidote above, grey, lepidote beneath ; petioles 3-4 mm. long, lepidote. *Buds* ovoid, acute ; scales obovate or spatulate, concave, rounded, apiculate, ciliate. *Flowers* in fascicles of three or more, cream-coloured, about 3 cm. across ; pedicels slender, erect-spreading, 8-10 mm. long, lepidote. *Calyx* saucer-shaped, lepidote, 5-toothed ; teeth

about 1 mm. long, orbicular, ciliate. *Corolla* deeply 5-lobed ; tube funnel-shaped, about 1 cm. long, pubescent inside ; lobes elliptic, about 1.5 cm. long, spreading, rounded. *Stamens* about ten, shortly exserted ; filaments unequal, 1.5-2 cm. long, villous in lower half. *Pistil* longer than stamens ; ovary about 3 mm. long, furrowed, densely lepidote ; style filiform, sparsely pubescent at base, slightly thickened below stigma. *Fruit* not seen.

SZECHUAN. Neighbourhood of Tatienu, on scrub-clad mountain sides, at 3650 m. above sea-level, *Wilson*, 3948.

Named in compliment to Mr. Y. C. Wong, of Ichang, Central China, a cultured Chinese gentleman, who rendered me signal services during the whole of my stay in China.—E. H. W.

Rhododendron polycladum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 234 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 29.

SZECHUAN. *Wilson*, 3935B. YUNNAN. *G. Forrest*, 4149.

Rhododendron blepharocalyx, *Franch.* in *Journ. de Bot.* ix. 396.

SZECHUAN. *Pratt*, 254 ; *Wilson*, 3929.

Rhododendron fragrans, *Maxim.* *Rhod. As. Or.* 16 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 23.

SZECHUAN. *Pratt*, 660.

Rhododendron polifolium, *Franch.* in *Journ. de Bot.* ix. 397.

SZECHUAN. *Pratt*, 787.

Rhododendron trichostomum, *Franch.* in *Journ. de Bot.* ix. 396.

SZECHUAN. *Wilson*, 3933.

Rhododendron intricatum, *Franch.* in *Journ. de Bot.* ix. 395 ; *Hemsl.* in *Gard. Chron.* 1907, xli. 262, f. iii. ; *Bot. Mag.* t. 8163.

SZECHUAN. *Wilson*, 3934.

Rhododendron nigro-punctatum, *Bur. et Franch.* in *Journ. de Bot.* v. 95.

SZECHUAN. *Faber*, 483 ; *A. Henry*, 8897 ; *Pratt*, 802 ; *Wilson*, 3935, 3935A.

GRAVEOLENTES.

Rhododendron brachyanthum, *Franch.* in *Bull. Soc. Bot. France* xxxiii. 234 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 20.

YUNNAN. *Monbeig*, 9.

Rhododendron emarginatum, *Hemsl. et E. H. Wils.* ; species distincta fruticosa valde ramosa, ramis gracilibus, foliis parvis subverticillatis obovatis emarginatis simul apiculatis, floribus solitariis (an semper ?) graciliter pedicellatis.—W. B. H.

Bush, 60 cm. high (*Henry*) ; branches spreading (*Henry*), ? prostrate, twiggy, verruculose. *Leaves* pseudo-verticillate, obovate, excluding petioles 3-4 cm. long, 1.5-2 cm. broad, rounded, emarginate, mucronulate, base narrowed to the petiole ; upper surface dark green, sparsely lepidote when young ; lower surface pallid, lepidote ; midrib and secondary veins immersed above, very prominent beneath ; petioles 3-5 mm. long, lepidote. *Buds* ovoid, acute ; scales ovate, acute, ciliolate, very sparsely lepidote. *Flowers* solitary or in pairs (always ?), yellow (*Henry*), about 1 cm. across ; pedicels erect, 2 cm. long, lepidote. *Calyx* annular, 5-toothed ;

teeth minute, unequal, obtuse. *Corolla* campanulate, 5-lobed, lepidote outside; lobes short, spreading, rounded. *Stamens* ten, included; filaments broad, about 5 mm. long, villous about the middle, glabrous at base. *Pistil* over-topping stamens; ovary 2 mm. long, furrowed, densely lepidote. *Fruit* not seen.

YUNNAN. Mountains south-west of Mengtze, at 2000 m. above sea-level, *A. Henry*, 9166.

Very distinct from all other Chinese species. From the material before us we think the species may be prostrate in habit.—E. H. W.

Rhododendron Mariesii, *Hemsl. et E. H. Wils.* in *Kew Bull.* 1907, 244; *Bot. Mag.* t. 8206.

KIANGSI. *Maries.* HUPEH. *A. Henry*, 5274.

Rhododendron mekongense, *Franch.* in *Journ. de Bot.* xii. 263.

YUNNAN. *Monbeig*, 7; *G. Forrest*, 698.

TSUSIA.

Rhododendron villosum, *Hemsl. et E. H. Wils.*; species distinctissima, etsi *R. Championae* adspectu simillima, ab eo foliis floribusque lepidotis, pilis omnibus eglandulosis, floribus minoribus et calyce parvo diversa.—W. B. H.

Bush, 1–6 m. high, much-branched, branches twiggy, sparsely lepidote, densely setose when young, becoming glabrescent with age. *Leaves* clustered at ends of shoots, lanceolate or oblong-lanceolate, excluding petiole 4·5–11 cm. (usually 7–9 cm.) long, 2–3·5 cm. broad, short or long acuminate, apiculate, base slightly auricled or cuneate, usually setulose on both surfaces (rarely pubescent beneath), becoming glabrescent with age; sparsely lepidote above, more densely so beneath; midrib slightly immersed above, very prominent and villous beneath; secondary veins raised on upper surface; petioles 5–8 mm. long, villous. *Buds* ovoid; scales short, orbicular, apiculate, sometimes ciliolate. *Flowers* three or more, subumbellate, light to dark-purple, 3·5–4·5 cm. across; pedicels erect-spreading, 1–1·5 cm. long, pilose. *Calyx* saucer-shaped, 5-toothed, densely villous; teeth short, sub-orbicular, rounded, ciliate, reddish. *Corolla* deeply 5-lobed, sparsely lepidote; tube narrow, funnel-shaped, 1·5–2·5 cm. long, more or less villous outside; lobes about as long as tube, spreading, elliptic, rounded or obtuse. *Stamens* about twelve, shortly exserted; filaments slender, 2–3·5 cm. long, densely pilose below middle but glabrous at base. *Pistil* over-topping stamens; ovary narrow, 4–7 mm. long, densely lepidote; style filiform, glabrous, very rarely sparsely lepidote. *Capsule* cylindric, lepidote, sparsely setulose, about 2 cm. long, .5 cm. across, furrowed.

SZECHUAN. In thickets and thin woods, at 2300–3650 m. above sea-level, *Wilson*, 3944, 3945, 3946.

The three numbers were gathered in different localities at varying altitudes; they differ somewhat in size of leaves and in degree of hairiness of leaves and shoots.—E. H. W.

Rhododendron indicum, *Sweet, Brit. Fl. Gard.* ser. 2, t. 128; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 25.—*Azalea indica*, *Linn. Sp. Pl.* ed. 1, 150.

- SZECHUAN. *Wilson*, 5143. YUNNAN. *A. Henry*, 9900E.
Rhododendron microphyton, *Franch.* in *Bull. Soc. Bot. France*
 xxxiii. 235 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 28.
 YUNNAN. *A. Henry*, 12,983 ; *G. Forrest*, 4172.

KEYSIA.

- Rhododendron spinuliferum*, *Franch.* in *Journ. de Bot.* ix. 399.
 YUNNAN. *A. Henry*, 10,572, 10,619.
 This species was founded on Delavay's n. 4883, which is in the
 Kew Herbarium under another, unpublished, name. It has recently
 flowered in the collection of Mr. M. L. de Vilmorin, at des Barres.

RHODOBLASTRUM.

- Rhododendron oleifolium*, *Franch.* in *Bull. Soc. Bot. France* xxxiii.
 235 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 28.
 YUNNAN. *G. Forrest*, 4132, 4133, 4170.
Rhododendron racemosum, *Franch.* in *Bull. Soc. Bot. France* xxxiii.
 235 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 29 ; *Bot. Mag.* t. 7301.
 YUNNAN. *G. Forrest*, 2009, 2207, 4134.
Rhododendron spiciferum, *Franch.* in *Journ. de Bot.* ix. 400.
 YUNNAN. *A. Henry*, 9369, 9369A ; *G. Forrest*, 512.
Rhododendron scabrifolium, *Franch.* in *Bull. Soc. Bot. France*
 xxxiii. 236 ; *Hemsl.* in *Journ. Linn. Soc.* xxvi. 30 ; *Bot. Mag.*
 t. 7159.
 YUNNAN. *Hancock*, 154.

AZALEASTRUM.

- Rhododendron ovatum*, *Planch.* ex *Maxim.* *Rhod. As. Or.* 45 ;
Hemsl. in *Journ. Linn. Soc.* xxvi. 28.—*Azalea ovata*, *Lindl.* in
Journ. Hort. Soc. Lond. i. 149 ; ii. 126, t. 2 ; *Bot. Mag.* t. 5064.
 HUPEH. *Wilson*, 719.

XVII.—AN ATTEMPT TO INTRODUCE OLEARIA SEMIDENTATA INTO THE BRITISH ISLES.

(With Plates.)

A. A. DORRIEN-SMITH.

Captain A. A. Dorrien-Smith, who has just returned from an expedition to Western Australia, New Zealand, and Chatham Island, has sent the following account of his experiences in Chatham Island for publication in the *Kew Bulletin*. Captain Dorrien-Smith has brought home to the Scilly Islands a large number of interesting plants, but he informs us that, owing to the heat experienced on the voyage from Monte Video to lat. 10° N., the Chatham Island plants suffered severely and only a very small proportion managed to survive.