

DIAGNOSES

Specierum novarum

in herbario Horti Regii Botanici Edinburgensis cognitarum.

DI-DL.

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Acer salweenense, W. W. Sm. Sp. nov.

Species affinis *A. laevigato*, Wall. a quo petiolis axibusque inflorescentiae sub anthesin dense et longe villosis praeter alia signa facile distinguitur.

Arbor vel frutex 9-12 m. altus. Ramuli juniores gracillimi, annotini pallido-virides vel cinerascens glabri lenticellis paucis inconspicuis notati, hornotini longe et densiuscule incano-vel fulvido-villosi. Folia in juventute tenuiter membranacea petiolo circ. 1 cm. longo dense fulvido-villoso praedita; lamina vulgo 6-9 cm. longa, 2-2.5 cm. lata, lanceolata, apice longe acuminata atque apiculata, basi rotundata, margine integra vel paulo undulata, primum utrinque araneoso-fulvido-villosa, cito glabrescens nisi ad costam ubi indumentum est magis persistens. Corymbus vulgo 10-16-florus, pedunculo 1-2 cm. longo dense villosus suffultus, circ. 1 cm. longus et latus, pedicellis 4-12 mm. longis villosis. Flores ex collectore purpureo-virides. Sepala 3.5-4 mm. longa, oblonga vel ovato-oblonga, obtusa vel subacuta, extra sparsim et longiuscule villosa. Petala sepalis longiora vel sub-aequantia, late obovata vel fere subquadrata, saepe latiora quam longiora, margine irregulariter dentata vel erosa. Stamina circ. 8 bene exserta. Ovarium dense hirsutum. Fructus immaturus alis angulo recto divergentibus.

"West China:—Shweli-Salween divide, Yunnan, in open mixed forests. Lat. 25° N. Alt. 7,000 ft. Shrub of 30-40 ft.

Flowers purplish-green. April 1919." G. Forrest. No. 17797.

"Eastern flank of the N'Maikha-Salween divide, Yunnan, in thickets. Lat. $26^{\circ} 12'$ N. Alt. 8,000 ft. Shrub of 20-30 ft. May 1919." G. Forrest. No. 17839.

The following is closely akin in the slender branchlets and in the lanceolate long-acuminate leaves. It differs in the finely serrulate leaf-margins and glabrous petioles. It is probably a distinct species but the specimens show foliage only.

"Shweli-Salween divide, at Ta-hoh-ping, Yunnan, in mixed forests. Lat. $25^{\circ} 4'$ N. Alt. 7-8,000 ft. Tree of 40-60 ft. Young foliage only. April 1919." G. Forrest. No. 17792.

***Alangium shweliense*, W. W. Sm. Sp. nov.**

Species affinis *A. Faberi*, Oliver a quo foliis ovato-lanceolatis longe petiolatis inter alia differt.

Arbor 6-15 m. alta, ramulis ultimis sat crassis fulvido-tomentellis annotinis tarde glabrescentibus. Folia petiolo 2.5-4 cm. longo dense fulvido-tomentello suffulta; lamina plerumque 9-14 cm. longa, 5.5-8 cm. lata, ovata vel ovato-lanceolata, apice longe et tenuissime acuminata, basi plus minusve late rotundata, saepe asymmetrica, integra, in sicco tenuiter papyracea, supra sparsim adpresse setulosa, subtus subglabra nisi ad costam venasque dense fulvido-tomentellas, nervis 7-9 paribus. Cymae circ. 4-5-florae, pedunculo petiolum paulo superante plerumque circ. 5 cm. longo tomentello suffultae; pedicelli 5-6 mm. longi. Flores non visi. Fructus ovoideus 13 mm. longus, 6-7 mm. latus, sepalis et disco coronatus, exocarpio crasso carnoso, endocarpio lignoso, semine unico.

"West China:—Shweli-Salween divide, Yunnan, in mixed thickets and forests. Lat. $25^{\circ} 40'$ N. Alt. 8-9,000 ft. Tree of 40 ft. In fruit, fruits dull red. August 1919. G. Forrest. No. 18309.

"Shweli-Salween divide in mixed thickets in side valleys. Lat. $25^{\circ} 20'$ N. Alt. 8-9,000 ft. Shrub or tree of 20-40 ft. In fruit, fruits dull red. August 1919." G. Forrest. No. 18372.

"Shweli Valley, in open situations. Lat. $25^{\circ} 20'$ N. Alt. 7,000 ft. Tree of 30-50 ft. In fruit. September 1917." G. Forrest. No. 15835.

***Alseodaphne dumicola*, W. W. Sm. Sp. nov.**

Species ramis dense fulvo-tomentosis, foliis infra et perianthio circ. 8 mm. longo tomento fulvido persistente bene indutis notata; *A. crassipes*, Hook. f. ex descriptione fortasse est affinis.

Frutex 6-7.5 m. altus ramis brevibus crassis angulatis fulvo-tomentosis, senioribus foliorum dilapsorum cicatricibus nodosis

atque lenticellis magnis notatis. Folia persistentia tenuiter coriacea ad apicem ramorum subapproximata petiolo ad 3.5 cm. longo robusto persistenter fulvo-tomentoso suffulta; lamina vulgo 12-20 cm. longa, 6-10 cm. lata, obovata vel subelliptica, apice rotundata vel obtusa saepe breviter acutata, basi cuneata vel subrotundata, supra nitens glabra, sulco impresso ad basin tomento impleto excepto, nervis circ. 10 paribus distinctis paulo impressis, infra tomento fulvido ubique densiuscule induta, costa media nervisque valde prominentibus cum nervulis prominulis conspicuo reticulatis. Paniculae breviramose circ. 8 cm. longae, pedunculo robusto rigido dense fulvo-tomentoso, pedicellis brevissimis. Perianthii segmenta 6 inaequalia, exteriora circ. 5 mm. longa ovata, interiora 8 mm. longa, oblongo-lanceolata, utrinque fulvo-tomentella. Stamina perfecta 9, circ. 5 mm. longa, filamentis fulvido-villosulis, ea ordinis tertii glandulis binis fere sessilibus praedita; antherae dorso villosulae; staminodia ordinis quarti villosula. Ovarium depresso-globosum fere 2 mm. diametro villosulum stylo circ. 3 mm. villosulo praeditum. Fructus deest.

"West China:—Shweli-Salween divide, Yunnan, in dense thickets in side valleys. Lat. $25^{\circ} 40'$ N. Alt. 8,000 ft. Shrub of 20-25 ft. Flowers, exterior light brown, interior ruddy brown. June 1919." G. Forrest. No. 18071.

Alseodaphne mollis, W. W. Sm. Sp. nov.

Species inter congeneres indicas atque chinenses foliis infra cinereo-villosis, paniculis gracilibus sericeis lactifloris, floribus parvis, inter alia notata.

Frutex vel arbor 6-12 m. alta, ramis gracilibus dense cinereo-tomentosis, annotinis tarde glabrescentibus. Folia persistentia ad apicem ramorum subapproximata papyracea petiolo ad 1.5 cm. longo dense cinereo-tomentoso munita; lamina vulgo 12-16 cm. longa, 6-10 cm. lata, obovata vel subelliptica, apice rotundata vel obtusa vel breviter acuminata, basi late cuneata vel subrotundata, primum ad superficiem superiorem sparsim villosula, ad costam nervosque 6-7 paria dense tomentosa, tandem glaberrima, infra initio ubique dense ac molliter tomentosa, tandem sparsius, costa nervisque supra impressis infra eminentibus. Paniculae paucae graciles ad 12 cm. longae 12-20-florae, ramulis brevibus ubique dense sericeis, pedicellis 3-5 mm. longis. Perianthii segmenta 6, circ. 2.5 mm. longa, ovata vel oblonga, subaequalia, nunc interiora paulo latiora, utrinque minute sericea lactea. Stamina perfecta 9, ea ordinis primi et secundi eglandulosa filamentis paulo villosulis, ea ordinis tertii biglandulosa glandulis breviter stipitatis filamentis villosis antheris extrorsum dehiscentibus; staminodia longiuscula apice lanceolata fila-

mentis longis dense villosis. Ovarium globosum circ. 1 mm. diametro stylum aequans. Fructus subglobosus circ. 1.5 cm. diametro perianthii tubo valde incrassato ac elongato insidens, perianthii segmentis delapsis.

"West China :—Salween Valley, Yunnan, in open thickets. Lat. 25° 6' N. Alt. 4,000 ft. Shrub or tree of 20–40 ft. Flowers creamy-white. April 1917." G. Forrest. No. 13667.

"Shweli-Salween divide, Yunnan, in thickets. Lat. 25° 30' N. Alt. 9,000 ft. Shrub of 20–30 ft. In fruit. October 1917." G. Forrest. No. 16021.

Anemone polycarpa, W. E. Evans. Sp. nov.

Species ex affinitate *A. obtusilobae*, D. Don a qua foliis in lobos 5–7 profunde multifidos pinnatisectis, sepalis distincte concavis vix translucentibus supra opaco-albidis infra saturate purpureo-coeruleis, toro globulari papillis globosis achaeniferis numerosissimis (circ. 80) ultra antheras pertinentibus, stigmatibus valde circinatis discrepat.

Planta glabrescens vel parce longi-pilosa 20–30 cm. alta. Rhizoma breve crassum saepe adscendens, supra foliorum delapsorum vaginis fibrosis onustum, infra radices sat numerosas fibrosas ad insertionem breviter tuberoso-incrassatas emittens. Folia radicalia circ. 8–10; lamina circ. 4 cm. longa, 3.5 cm. lata, ambitu subtriangularis pinnatisecta in lobos 5–7 profunde multifidos partita, petiolo ad 15 cm. longo basi membranacco-expanso suffulta. Scapi vulgo uniflori ad 30 cm. alti flexuoso-adscendentes; involucri phylla tria libera sessilia profunde multifida a flore plerumque 4–8 cm. remota. Flores mediores 1.5–2 cm. diametro. Sepala vulgo 6, usque ad 1 cm. longa, 6 mm. lata, obovata supra valde concava apice paulo cucullata opaco-griseo-alba, infra saturate purpureo-coerulea parce longi-pilosa margine integra haud ciliata. Stamina numerosa carpellis paulo longiora plus minusve atro-purpurea, filamentis planis late linearibus ad apicem sed vix ad basim attenuatis, antheris ellipticis lateraliter dehiscentibus. Achaenia circ. 80 ab initio dense pilosa in papillas tori globosi valde distinctas inserta, stylo distincto, stigmatibus valde circinato-incurvato.

"China :—Yunnan, Mekong-Salween divide. Lat. 28° 10' N. Alt. 12,000 ft. Plant of 10–12 inches. Flowers deep purple. Open, stony pasture." G. Forrest. No. 13320. Fl. September 1914. Type!

"S.E. Tibet :—Tsarong, on Doker-la, Mekong-Salween divide. Lat. 28° 25' N. Alt. 11,000 ft. Plant of 12–18 inches. Flowers interior bluey-grey, exterior deep blue. Moist, shady situations on boulders and cliffs by streams." Fl. July 1918. G. Forrest. No. 16671.

This may be the plant referred to by Franchet in *Plant. Delav. Livr. 1*, p. 10, as ? *Anemone demissa*, Hook f. et Thoms. var. *yunnanensis*.

Betula riparia, W. W. Sm. Sp. nov.

Species ex affinitate *B. luminiferae*, Winkl. et *B. Baemkeri*, Winkl. a quibus bracteis magnis in fructu maturo samaras longe superantibus inter alia signa distinguitur; a *B. alnoides*, Buch.-Ham. amentis solitariis nec non foliorum nervatione facile recognoscitur; samarae eis *B. luminiferae* subsimiles.

Frutex 6-9 m. altus. Ramuli primo pilosuli, annotini glabri atrobrunnei nitentes. Folia petiolo 1-1.5 cm. longo primum longiuscule albedo-vel fulvido-piloso suffulta; lamina majorem 8-10 cm. longa, 4-6 cm. lata, ovato-oblonga vel ovato-lanceolata, longe et argute acuminata et glanduloso-apiculata, basi rotundata, margine ad acumen ipsum argute serrata, supra atroviridis glabra, infra pallidior ad costam nervosque adpresse albedo-pilosa, saepe sparsim; nervi utrinque 12-16. Inflorescentiae fructiferae solitariae (pendulae?) ad 9 cm. longae, 6-7 mm. latae, cylindricae; bractee conspicuae samaras superantes circ. 6 mm. longae margine ciliolatae lobo intermedio spathulato lateralibus 2-3-plo longiore. Nuculae obovatae pubescentes alis membranaceis paulo tantum latioribus cinctae eis *B. luminiferae* minores.

"West China:—Li-ti-ping, Yangtze-Mekong divide, Yunnan, forming thickets by streams. Lat. 27° 12' N. Alt. 10,000 ft. Shrub of 20-30 ft. June 1918." G. Forrest. No. 16334.

A member of the *Acuminatae*, Regel, this species is distinguished by the multicostate leaves and the conspicuous bracts.

Catalpa tibetica, G. Forrest. Sp. nov.

Species valde affinis *C. ovatae*, G. Don a qua floribus majoribus, fructibus brevioribus atque latioribus, seminibus duplo majoribus recedit.

Frutex altitudinis ignotae. Folia quoad formam atque magnitudinem eis *C. ovatae* similia supra glabrescentia infra molliter pubescentia. Inflorescentiae forma cum ea *C. ovatae* quadrat. Calyx 8-9 mm. longus lobis rotundatis. Corolla 2.5 cm. longa vel paulo ultro lobis rotundatis erosulis. Fructus 13-18 cm. longus, 1.2-1.3 cm. latus, cylindricus, paululo curvatus.

"S.E. Tibet:—Salween-Kiu-chiang divide, Tsarong, in mixed forests. Lat. 28° 40' N. Long. 98° 15' E. Alt. ? Flowers creamy-yellow, flushed and marked pale purple and yellow. June 1919." G. Forrest. No. 18950.

"August 1919. In fruit." G. Forrest. No. 18926.

The above does not agree in size of flower, in size and shape of fruit, nor in the seeds with numerous specimens of the well-known *C. ovata*, G. Don.

Chlorophytum flaccidum, W. W. Sm. Sp. nov.

Species affinis *C. undulato*, Wall. a quo foliis latioribus, scapo in ramos elongatos flaccidos basi diviso inter alia recedit.

Planta 30-40 cm. alta. Folia ad 40 cm. longa, ad 3.3 cm. lata, anguste lanceolata, acuminata, in sicco tenuiter membranacea atque flaccida. Scapus prope basim in ramulos ad 30 cm. longos debiles divisus; bracteae 1-2.5 cm. longae lineari-lanceolatae, longe acuminatae, pedicellis nunc breviores, nunc fere aequantes. Flores 1-4-nati internodiis 2-3 cm. inter se distantibus. Perianthii albi segmenta circ. 1.3 cm. longa, anguste lanceolata, subacuta, margine late scariosa. Antherae 6 mm. longae filamenta duplo superantes. Stylus perianthio vix brevior gracilis. Capsula circ. 7 mm. diametro seminibus cuique loculo 4-6 nigris.

"West China:—Mekong Valley, Yunnan, on open rocks and ledges of cliffs. Lat. 27° 40' N. Alt. 9,000 ft. Plant of 12-16 inches. Flowers watery-white, lined brownish on exterior. August 1914." G. Forrest. No. 13122.

"Mekong-Salween divide, Yunnan, on stony pasture and on ledges of cliffs. Lat. 28° 10' N. Alt. 10,000 ft. Plant of 9-12 inches. Flowers white, anthers yellow. September 1914." G. Forrest. No. 13393.

The above and the following two species are akin to *C. undulatum*, Wall. showing branched racemes with scattered flowers or groups of flowers. In *C. oreogenes* the inflorescences are erect and somewhat rigid; in the other two species they are weak and flaccid. *C. mekongense* is distinguished by the very large bracts; *C. flaccidum* by the scape much divided from near the base into branches which are almost decumbent and bear the flowers at remote nodes.

Chlorophytum mekongense, W. W. Sm. Sp. nov.

Species ex affinitate *C. undulati*, Wall. a quo foliis perlatiis, bracteis praelongis saepe 5-6 cm. superantibus, inter alia recognoscitur.

Planta robusta. Folia plerumque 8-10, 30-60 cm. longa, ad 5 cm. lata, anguste oblanceolata, longe acuminata, in partem petiolarem longe attenuata, in sicco tenuiter membranacea. Scapus foliis multo brevior ad 15 cm. longus sed vix bene evolutus, crassiusculus, flexilis haud rigidus, mediocriter florosus. Bracteae permagnae saepe 5-6 cm. longae, nunc ad 8 cm., lanceolatae vel lineari-lanceolatae, acuminatae, tenuiter membranaceae,

subvirides. Pedicelli ad 1.5 cm. longi glabri. Perianthii pallide flavi segmenta circ. 1 cm. longa lanceolata acuta vel subacuta 5-nervia margine late albido-scariosa. Antherae 5 mm. longae filamentis circ. duplo longiores. Ovarium trigonum 1.5 mm. altum stylo gracili circ. 1 cm. longo. Fructus maturus deest.

"West China :—Mekong-Salween divide, Yunnan, in shady situations by streams. Lat. 28° N. Alt. 9,000 ft. Plant of 1½–2 ft. Flowers pale yellow. August 1918." G. Forrest. No. 16925.

Chlorophytum oreogenes, W. W. Sm. Sp. nov.

Species affinis *C. undulato*, Wall. a quo foliis latioribus flaccidis, floribus majoribus erectis, filamentis antheras aequantibus praeter alia signa divergit.

Planta ad 60 cm. alta. Folia ad 36 cm. longa, ad 2.5 cm. lata, loriformia, acuminata, in sicco tenuiter membranacea atque flaccida. Scapus elatus multiflorus ramosus ramis gracilibus sed rigidiusculis. Bracteae lineari-lanceolatae, acuminatae, rigidae, ad 1.5 cm. longae. Pedicelli bracteas suas plerumque paulo superantes. Perianthii albi segmenta circ. 1 cm. longa, ovata-lanceolata, subacuta. Filamenta 4–5 mm. longa antheras aequantia. Stylus 7 mm. longus. Capsula triquetra circ. 7 mm. diametro loculis 4–6-seminiferis, seminibus compressis 2 mm. diametro nigris.

"West China :—On the Yung-peh Mountains, Yunnan, on rocks and ledges of cliffs. Lat. 27° 45' N. Alt. 10,000 ft. Plant of 1½–2 feet. Flowers white; anthers pale yellow. August 1913." G. Forrest. No. 11183.

Codonopsis rosulata, W. W. Sm. Sp. nov.

Species affinis *Codonopsidi meleagri*, Diels a qua foliis late ovatis irregulariter serratis infra glabris, floribus minoribus pallido-coeruleis praeter alia signa differt.

Planta 60–90 cm. alta inter gramina subscandens. Caulis flexuosus e radice tuberosa ortus basi rosulatum foliatus, supra fere nudus foliis multo reductis 1–2 munitus stramineus glaber. Folia radicalia circ. 8 petiolo 1–2 cm. longo latiusculo praedita; lamina vulgo 6–7 cm. longa, 5–6 cm. lata, late ovata, apice bene rotundata, basi breviter cordata, margine lacerato-serrata, in sicco tenuiter membranacea, supra glabra vel tantum ad basim pubescens, infra glabra paulo pallidior, costa media latiuscula; folia caulina fere sessilia vulgo 1 cm. longa, raro ad 3.5 cm. Flores terminales solitarii vel nunc bini fortasse cernui. Calycis lobi circ. 1 cm. longi lanceolati acuti virides glabri. Corolla pallido-coerulea immaculata circ. 1.6 cm. longa fere ad basim in lobos obovatos divisa. Stamina filamenta brevissima. Ovar-

ium inferum turbinatum circ. 8 mm. longum. Fructus deest.

"West China :—Muli Mountains, S.W. Szechwan, amongst heavy grass. Lat. $28^{\circ} 12'$ N. Alt. 11,000 ft. Plant of 2-3 feet. Weakly scandent. Flowers pale blue. August 1918." G. Forrest. No. 16856.

The floral details are incomplete as there is only one good flower which I have not dissected. Akin to *C. meleagris*, Diels and *C. subscaposa*, Kom. the species is easily distinguished by its leaf characters.

I append a note on four species of *Codonopsis* described from Yunnan and Kweichow by M. L  veill  .

C. accrescenticalyx, L  vl. in Cat. Pl. Yunnan, p. 24 = *C. tubulosa*, Kom.

C. Bodinieri, L  vl. in Flore du Kouy Tch  ou, p. 58 = *C. lanceolata*, Benth. et Hook. f.

C. graminifolia, L  vl. in Cat. Pl. Yunnan, p. 24 = *C. convolvulacea*, Kurz.

C. Mairei, L  vl. in Cat. Pl. Yunnan, p. 24 = *C. Forrestii*, Diels.

Cotylanthera yunnanensis, W. W. Sm. Sp. nov.

Species affinis *C. paucisquamae*, King a qua floribus majoribus albis nec coeruleis inter alia divergit.

Planta 5-10 cm. alta glaberrima albida carnosula. Folia squamiformia 2-4-paria lanceolata acuminata membranacea albida circ. 5 mm. longa. Flores solitarii. Calyx circ. 6 mm. longus fere ad imum in lobos quatuor ovatos acuminatos fissus tenuiter membranaceus costa conspicua pererratus albidus. Corolla pro planta magna alba extra purpureo-suffusa; tubus fere sphaericus circ. 2.5 mm. diametro; lobi 4 anguste oblanceolati, apice rotundati, 12-13 mm. longi. Stamina 4 ad apicem tubi inserta filamentis 4 mm. longis antheris 5 mm. longis paulo curvatis aurantiacis apice poro unico dehiscentibus. Ovarium subglobosum circ. 4 mm. diametro, stylo fere 8 mm. longo, stigmate capitato, seminibus numerosis. Fructus deest.

"West China :—Shweli-Saiween divide, Yunnan, in very shady situations in forests. Lat. 25° N. Alt. 8,000 ft. Plant of 2-3 inches. Flowers white, flushed purple exterior; anthers orange. September 1919." G. Forrest. No. 18534.

"Tengyueh, Yunnan, in boggy pasture, at base of hills to west. Lat. 25° N. Alt. 6,000 ft. Plant of $2\frac{1}{2}$ -4 inches. Stems white, perianth pale purplish-blue; anthers golden yellow. July 1912." G. Forrest. No. 8496.

An interesting addition to the genus which contained previously only three species, one from Java, one from the Pacific Islands, and one from the East Himalaya.

Croton euryphyllus, W. W. Sm. Sp. nov.

Species affinis *C. Tiglio*, Linn. a quo foliis latissimis nunc maximis apice rotundatis vel obtuse acutatis basi cordatis atque 7-plinerviis, inflorescentiis elongatis, petalis in flore ♀ subulatis, ovario magis globoso, fructu minore muris crassis, seminibus circ. 9 mm. longis brunneo-marmoratis recedit.

Frutex 3-4 m. altus ramis glabris pallido-cinereis. Folia petiolo 3-9.5 cm. longo primum stellato-piloso mox glaberrimo suffulta; lamina nunc 7.5 cm. longa, 6.5 cm. lata, nunc ad 18 cm. longa et lata, late ovato-cordata, apice rotundata vel breviter obtuseque acutata, basi plerumque cordata atque glandulis binis magnis peziziformibus munita, margine serrata serraturis nunc grossis, in sicco membranacea, laete viridis, primum pilis stellatis raris conspersa, mox utrinque glabra vel fere glabra, nervis basalibus 7, ad medium laminae vel ultro attingentibus, nervis lateralibus 4-6 paribus, omnibus subtus eminentibus. Racemi terminales flexuosi ad 20 cm. longi glabri vel fere glabri, pedicellis circ. 4 mm. longis glabris vel pilis albis stellatis conspersis, bracteis subulatis. Sepala in flore ♂ 5, circ. 3 mm. longa, oblonga obtusa glabra apice villosulo excepto; petala sepalis aequilonga angustiora oblanceolata obtusa albo-villosula; glandulae disci conspicuae quadratae; stamina circ. 15 filamentis glabris, receptaculo villosulo. Sepala in flore ♀ circ. 3.5 mm. longa erecta subglabra apice villosula intra glabra; petala parva subulata; glandulae subquadratae; ovarium subglobosum circ. 3 mm. diametro pilis flavidis stellato-tomentosum stylis gracilibus bipartitis. Fructus circ. 12 mm. longus, 11 mm. latus, stellato-tomentosus, muris sat crassis, seminibus in loculis solitariis 9 mm. longis 6 mm. latis trigonis brunneo-marmoratis.

"West China:—Mountains in the N.E. of the Yangtze bend, Yunnan, in open situations by streams. Lat. 27° 45' N. Alt. 8-9,000 ft. Shrub of 10-12 ft. Flowers greenish-yellow. August 1913."* G. Forrest. No. 10737.

"Yung-peh Mountains, Yunnan. Lat. 26° 45' N. Alt. 9,000 ft. Shrub of 10 ft. Duplicate of No. 10737 in fruit. September 1913" G. Forrest. No. 11026.

Croton yunnanensis, W. W. Sm. Sp. nov.

Species affinis *C. caudato*, Geis. a quo habitu erecto, foliis utrinque molliter albido-tomentosis, stipulis simplicibus, staminibus paucioribus, disco in flore ♀ glabro inter alia divergit.

Frutex erectus 1-2 m. altus, ramulis teretibus dense albido-stellato-tomentosis tandem glabrescentibus pallido-cinereis. Folia petiolo 1-4 cm. longo albo-tomentoso praedita; lamina plerumque 5-8 cm. longa, 4-6 cm. lata, late ovata, apice acutata vix acuminata, basi breviter cordata vel nunc rotundata, margine

irregulariter dentata, in sicco papyracea, utrinque molliter tomentosa, indumento supra deterrenti infra denso persistente cinereo-albido, basi quintuplinervia, nervis ad mediam laminam attingentibus, nervis suprabasalibus 4-5 paribus; stipulae subulatae simplices tomentellae. Inflorescentiae solitariae terminales eis *C. caudati* subsimiles albido-tomentosae, basi feminae; pedicelli 1-2 mm. longi. Flos ♂:—sepala 5, elliptica, obtusa, extra tomentosa; petala oblonga vel oblanceolata sepalis aequilonga apice albo-villosula; stamina circ. 12 perianthium superantia filamentis basi ima tantum villosulis ceterum glabris, receptaculo longiuscule albo-villoso. Flos ♀:—sepala 3 mm. longa; petala fere obsoleta; ovarium subglobosum tomentellum, stylis ad medium bifidis infra minutissime villosulis. Fructus subglobosus stellato-tomentosus ad 7 mm. diametro seminibus trigono-ovoideis circ. 6 mm. longis pallido-olivaceis.

"West China:—Chungtien plateau, Yunnan, in dry, open situations amongst scrub. Lat. 27° 30' N. Alt. 9,000 ft. Shrub of 4-6 ft. Flowers yellowish-green. July 1914." G. Forrest. No. 12612.

"Mountains on the N.E. of the Yangtze bend, Yunnan, in open scrub. Lat. 27° 45' N. Alt. 10,000 ft. Shrub of 5-7 ft. Flowers immature. July 1913." G. Forrest. No. 10352.

Duplicate of No. 10352 in fruit. G. Forrest. No. 10522.

An ally from high elevation of *C. caudatus*, Gris. and *C. aromaticus*, Linn. It differs from *C. caudatus* more widely than *C. aromaticus* does from that species.

It may be noted here that *C. oblongifolius*, Roxb. extends into Western China:—

"Lava bed west of Tengyueh, Yunnan, in open scrub. Lat. 25° N. Alt. 5,000 ft. Shrub of 10-20 ft. Flowers green. April 1913." G. Forrest. No. 9839.

Euonymus hystrix, W. W. Sm. Sp. nov. *

Species affinis *E. aculeato*, Hemsl. a quo petiolis pedunculisque brevioribus, foliorum forma et serratura differt.

Frutex erectus 1.8-2.7 m. altus, ramulis junioribus subquadrangularibus viridibus. Folia persistentia petiolo 5-8 mm. longo suffulta; lamina 8-14 cm. longa, 2.5-5.5 cm. lata, plus minusve elliptica, apice breviter acuminata, margine serraturis parvis crebris regulariter notata, in sicco firme papyracea, utrinque glaberrima, supra opaco-viridis costa nervisque 6-9 paribus paulo eminentibus, reticulo nervulorum in sicco conspicuo, subtus pallidissima sed vix albescens, costa nervisque complanatis fere immersis, reticulo nervulorum valde indistincto. Pedunculi alati ad 2.5 cm. longi, cymis vulgo ter furcatis, pedunculis secundariis circ. 1 cm. longis, bracteis circ. 2

mm. longis subulatis. Flores 10-11 mm. diametro tetrameri flavi pedicellis 5 mm. longis. Discus quadratus cum sepalis anguste crescenti-lunatis glabris 4 mm. diametro aequans. Petala 4 mm. diametro orbicularia margine paulo erosula. Filamenta subulata vix 1 mm. aequantia. Capsula aculeis inclusis 1.4-1.8 cm. longa; aculei basi complanati 4-5 mm. longi; semina 6-7 mm. longa in arillo aurantiaco inclusa.

"West China :—Western flank of the Shweli-Salween divide, Yunnan, in mixed thickets and forests in ravines. Lat. 25° 40' N. Alt. 9-10,000 ft. Shrub of 6-9 ft. Flowers yellow. May 1919." G. Forrest. No. 17907.

The same in fruit. September 1919. G. Forrest. No. 18499.

Euonymus orgyalis, W. W. Sm. Sp. nov.

Species ex affinitate *E. Bockii*, Loes. a qua petiolis brevioribus, foliis tenuioribus basi rotundatis latioribus inter alia recedit.

Frutex 2-3 m. altus; ramuli hornotini angulati glabri virides, annotini cinerascens. Folia opposita petiolo 2-3 mm. longo glabro praedita persistentia; lamina plerumque circ. 9 cm. longa, circ. 4.5 cm. lata, ambitu plus minusve elliptica, apice breviter obtuseque acutata, basi rotundata, margine subobscure denticulata, membranacea vel papyracea, supra atroviridis nitens glabra, infra olivacea glabra, nervis 6-8 paribus in sicco utrinque subconspicuis. Inflorescentiae axillares solitariae circ. 4 cm. longae bis terve dichotome divisae glabrae; pedunculus circ. 3 cm. longus gracilis; pedicelli ultimi circ. 3 mm. longi; bractae subulatae. Flores tetrameri; sepala orbicularia 1 mm. diametro; petala suborbicularia circ. 2 mm. diametro; discus 2 mm. latus. Fructus deest nisi Henry 11403 huc recte allocari potest.

"West China :—Yunnan, at Feng Chen Len in mountain forests, south of Red River. 7,000 ft. elevation. Shrub 6 ft. high." A. Henry. No. 10661 in Herb. Edin. et Herb. Kew.

I believe the following in fruit to be the same species. The leaves are more acuminate than in the type.

"Yunnan, at Mengtsz, S.E. forests; 5,000 ft.; shrub of 10 ft." A. Henry. No. 11403 in Herb. Kew.

Galium aberrans, W. W. Sm. Sp. nov.

Species affinis *G. paradoxa*, Maxim. a quo foliis lanceolatis breviter petiolatis, floribus infundibuliformibus pentameris praeter alia signa differt; nec cum genere *Galio* nec *Rubia* nec *Spermacoce* nec *Borreria* quadrat et fortasse in genus novum ponenda.

Planta ad 7.5 cm. alta rhizomate gracili perennans. Caules annui numerosi e caudice orientes graciles basi bene foliati, medio subnudi, cymis paucifloris terminati, plus minusve pilosuli. Folia opposita ad 1.5 cm. longa, medio ad 3 mm. lata, petiolo vix 1 mm. longo pilosulo praedita, anguste lanceolata, apice subacuta, basi cuneata, tenuiter papyracea, atroviridia, supra sparsim pilosula, infra ad costam pilis albidis lineata, margine parce ciliolata; stipulae latae ad 4 mm. longae fere ad medium in dentes subsetaceos 3-7 incisae membranaceae brunneae sparsim pilosulae. Cymae pauciflorae plerumque 3-florae terminales floribus duobus ex axillis superioribus orientibus saepe additis; pedunculi breves vix 5 mm. superantes pilosuli; pedicelli 2-3 mm. longi terni bracteis stipuliformibus incisissimis basi muniti. Calycis lobi 5 oblongi obtusiusculi circ. 0.5 mm. longi; tubus cum ovario circ. 1 mm. diametro pilis glochidiatis albidis dense indutus. Corolla rosea circ. 5 mm. longa breviter infundibuliformis ad medium in lobos 5 lanceolatos fissa extra minute puberula. Stamina paulo infra sinus corollinos inserta, ad mediam corollam attingentia. Ovarium biloculare; ovula in loculis solitaria; stylus 4 mm. longus gracilis ramis brevibus. Fructus maturus deest.

"West China :—Chungtien Plateau, Yunnan, in stony, moist pasture. Lat. $27^{\circ} 30'$ N. Alt. 11,000 ft. Plant of 2-3 inches. Flowers rose. July 1914." G. Forrest. No. 12622.

"Mountains east of Chungtien, in open alpine pasture. Lat. $27^{\circ} 50'$ N. Alt. 14,000 ft. Plant of 1-3 inches. Flowers rose. June 1917." G. Forrest. No. 15084.

The above species is referred to *Galium* with some doubt. It has evident affinity with the peculiar *G. paradoxum*, Maxim. from S.E. Manchuria. Forrest collected under No. 10126 on the descent to the Yangtze from the eastern boundary of the Lichiang valley a plant which I cannot separate by the description from *G. paradoxum*. In the stipules and glochidiate hairs this plant suggests affinity with *G. aberrans*. The latter however has pentamerous flowers and a corolla more infundibular than rotate.

Garuga Forrestii, W. W. Sm. Sp. nov.

Species affinis *G. pinnatae*, Roxb. a qua foliolis stipellatis, floribus fructibusque multo minoribus inter alia longe recedit.

Arbor ad 15 m. alta. Rami crassi tomento denso fulvido patente diu persistente induti. Folia imparipinnata petiolo ad 8 cm. longo dense fulvido-tomentoso suffulta; rhachis ad 24 cm. longa dense tomentosa; foliola plerumque 5-7-juga sessilia plerumque 7-10 cm. longa, 2.5-3.5 cm. lata, oblique lanceolata, basi subrotundata, apice longe acuminata, margine serrato-crenata,

in sicco papyracea, supra densiuscule pilosa, infra molliter tomentosa, nervis vulgo 11-14 paribus; stipellae ovatae ad 5 mm. longae. Paniculae amplae foliis fere dimidio breviores multiramosae pilis patentibus fulvidis densissime indutae. Flores eis *G. pinnatae* multo minores. Calyx campanulatus circ. 3 mm. longus, fulvido-pilosus, 10-costatus, in lobos anguste triangulares acutos ad medium fissus. Petala 5 circ. 2.5 mm. longa oblonga ut videtur albida. Stamina 10 filamentis basi pilosulis. Ovarium pilosum. Stigma capitatum 5-lobatum. Fructus 8-9 mm. longus asymmetricus subpyriformis eo *G. pinnatae* multo minor in spec. nostris plerumque semine unico munitus.

"West China:—Descent to the Yangtze from the eastern boundary of the Lichiang valley, Yunnan, in open situations. Lat. 27° 15' N. Alt. 7-8,000 feet. Tree of 40-50 feet. In fruit. Aug. 1913." G. Forrest, Nos. 10745, 11410. Also No. 16629 (July 1918); No. 16913 (September 1918).

The above species is an interesting addition to the Flora of China where the genus *Garuga* has not apparently been found previously. The specimens are in fruit. The description of the flowers is taken from one or two flowers still persistent on the fruiting branches.

Ilex intricata, Hook. f., var. *oblata*, W. E. Evans. Var. nov.

A typo habitu ex collectore multo elatiore, foliis multo latioribus in petiolum abruptius angustatis, fructibus 2-3-seminiferis differt.

A small, glabrous, evergreen tree, 6-9 metres high, with spreading branches; the secondary branches many, spreading horizontally, densely leafy, the younger closely covered with about 8 longitudinal rows of elongated warty excrescences 0.5 mm. or more in length. Leaves about 1-2 cm. long, leathery, rather dull on both surfaces, dark green above with impressed veins, paler beneath; the lamina broadly elliptic, suborbicular or even oblate, 5-15 mm. in length, the apex abruptly rounded or retuse, apiculate, the base almost truncate or at least rapidly narrowed, the margin obscurely serrate, the serrations with rounded outer margin and forward-directed apiculus; the petiole 3-6 mm. long, slender, markedly channelled above. Flower unknown. Fruit small, spherical, 4-5 mm. in diameter, smooth, dark brownish-black when dry, borne on a peduncle 2-4 mm. long and surmounted by the short broad style; loculi 2-3 (by abortion?) each containing a pale stone.

"Upper Burma:—Lai Kam Valley-head. Alt. 8,500 ft. Small tree of 20-30 ft. with branches in flat moss-hung tiers, from a distance suggesting a *Cedrus*. Flower unknown. An uncommon occurrence in the upper rain-forest, in its opener

reaches, below the divide, at the top of the Lai Kam Valley. 19.9.19." R. Farrer. No. 1299.

Incarvillea altissima, G. Forrest. Sp. nov.

Species ex affinitate *I. Beresovskii*, Batalin a qua habitu elato, inflorescentia elongata, floribus majoribus, calyce ovarioque haud glanduliferis inter alia ex descriptione differt.

Planta glaberrima ad 2 m. alta. Caulis crassus bene foliatus; ramuli in axillis foliorum superiorum elongati multiflori. Folia alterna chartacea petiolo 7-9 cm. longo praedita pinnatipartita, segmentis radicalium non visis, eis caulinarum in speciminibus nostris 5 subaequalibus, terminali paulo majore, late ovatis, vulgo 8-12 cm. longis, 5-10 cm. latis, apice basique plus minusve rotundatis, crenaturis magnis regulariter notatis. Inflorescentiae praelongae in fructu ad 65 cm. longae ad 30-florae, floribus in racemo laxo dispositis, pedicellis 5-10 mm. longis. Calyx 15-17 mm. longus campanulatus 5-angulatus glaber ore subtruncatus, dentibus vix 2 mm. longis sed perlatis atque brevissime apiculatis. Corolla in sicco ad 7 cm. longa, pallido-rosea; tubus basi constrictus supra sensim ampliatus limbo subduplo longior. Ovarium glabrum, in fructu vix maturo ultra 6 cm. elongatum.

"West China:—On the Tong-Shan, Yunnan, in open situations amongst rocks and scrub. Lat. 27° 20' N. Alt. 9,000 ft. Plant of 4-6 ft. Flowers pale rose. August 1914." G. Forrest. No. 13135.

"Yung-peli mountains, Yunnan. Lat. 26° 42' N. Plant of 5 ft. Flowers rose. July 1918." G. Forrest. No. 16651. Also September 1918. No. 17062.

Leucothoe Griffithiana, Clarke. Descrip. amplif. W. W. Sm.

This species was described in the Flora of British India, iii (1882) 460, from fruiting material collected by Griffith in Bhutan. The flowers have remained unknown until Forrest collected in Yunnan under No. 15944 a plant which I am unable to separate from the Bhutan species. Old capsules with the seed shed are included in this collection; they agree with Griffith's plant. I add a description of the flower:—

Bractea circ. 3 mm. longa ovata subacuta textura carnosula multo involuta atque pedicellum amplectans eumque fere aequans, bracteolas celans. Bracteolae duae sub medio pedicello positae oppositae circ. 1 mm. longae acutiusculae subcucullatae. Calycis lobi circ. 2 mm. longi carnosuli subacuti ad quartam partem basi coaliti. Corolla suburceolata 5-6 mm. longa, 4 mm. lata, ad quadrantem in lobos ovatos fissa glabra. Stamina 10 filamentis 2 mm. longis complanatis glabris, antheris 1 mm. paulo superan-

tibus apice biaristatis. Ovarium depresso-globosum stylo 3 mm. longo simplici. Semina matura non visa.

"West China :—Yunnan. August 1917." G. Forrest. No. 15944. New to the flora of China.

Ligustrum Coryanum, W. W. Sm. Sp. nov.

Species affinis *L. rugosulo*, W. W. Sm. a quo foliis haud rugosis utrinque bene pilosis, pedicellis calycibusque pilis patentibus longiusculis fulvidis dense indutis inter alia recognoscitur.

Frutex erectus; ramuli juniores densissime et longiuscule fulvido-hirsuti, vetustiores cinerascetes sed (annotini saltem) indumento diu persistente muniti. Folia petiolo 3–5 mm. longo pilis fulvidis dense obsito praedita; lamina majorum ad 7 cm. longa, 2.5 cm. lata, nunc minorum circ. 1.5 cm. longa, 1 cm. lata, ovata vel elliptica vel elliptico-lanceolata, apice obtuse angustata, vel nunc bene rotundata, brevissime mucronulata, basi rotundata vel subrotundata vel nunc late cuneata, in sicco papyracea, supra opaco-viridis, pilis fulvidis subappressis bene conspersa, ad costam densius, infra dense atque molliter pilosa, nervis 4–6 paribus haud eminentibus subobscuris. Paniculae terminales ad 6 cm. longae, ad 4 cm. latae densiflorae; axes omnes densissime fulvopilosi; pedicelli ad 2 mm. longi dense pilosi. Calyx circ. 1.5 mm. longus cupularis extra undique dense pilosus dentibus 4 parvulis. Corolla alba 4–4.5 mm. longa glabra; tubus circ. 1.5 mm. longus; lobi oblongi obtusi tubo circ. duplo longiores. Filamenta glabra lobis corollinis longiora, antheris bene exsertis. Fructus deest.

West China :—Province of Yunnan. Collected in 1921. Details of the exact locality are not yet available. G. Forrest. No. 19358.

The specific name is in honour of Reginald Cory, Esq., of Duffryn, Cardiff, who is a keen supporter of botanical exploration in Western China.

Lindera kariensis, W. W. Sm. Sp. nov.

Species affinis *L. glaucae*, Bl. et *L. membranaceae*, Maxim.; foliis apice bene rotundatis, filamentis glabris inter alia notata.

Frutex 2–6 m. altus. Ramuli primum sparsim puberuli cito glabrescentes cinerascetes. Folia decidua ad anthesin evoluta, tunc tenuiter membranacea, maturitate papyracea, petiolo ad 1 cm. longo primum minute puberulo vel nunc fulvo-sericeo mox glabrescente suffulta; lamina vulgo 5.5–6.5 cm. longa, 3–3.5 cm. lata, plus minusve elliptica vel obovata, apice rotundata, basi late cuneata vel subrotundata, supra primum praesertim ad costam nervosque fulvo-pilosula tandem glabra vel fere glabra, infra pallido-viridis ad costam dense fulvo-sericea (ceteroquin sparsis-

sime) saepe tandem glabrescens; nervi 4-5 paria cum costa infra paulo eminentes. Inflorescentiae masculinae paucae ad apicem ramuli annotini orientes, ex axillis foliorum delapsorum enatae, quasi ad basim foliorum novorum positae, vulgo 3-6-florae, pedunculo nullo, pedicellis 5-7 mm. longis gracilibus dense fulvidopilosus. Perianthii segmenta 6, circ. 3 mm. longa, ovata, apice rotundata, glabra, linea costali extra saepe sericea excepta. Stamina 9 circ. 2 mm. longa, filamentis glabris eis seriei tertiae biglandulosis, antheris bilocellatis. Flores feminini desunt. Fructus (si num. 13464 huc recte allocatus) fere globosus breviter apiculatus circ. 5 mm. diametro pedicello circ. 1 cm. longo suffultus, perianthii tubo vix incrassato.

"West China:—Ascent of the Kari pass east of Yeh-chih, Yunnan, in open thickets. Lat. $27^{\circ} 40'$ N. Alt. 9-10,000 ft. Shrub of 20 ft. Flowers olive-yellow. June 1917." G. Forrest. No. 13877.

"On the Li-ti-ping, Yunnan, amongst scrub. Lat. $27^{\circ} 12'$ N. Alt. 10,000 ft. Shrub of 6-9 ft. Flowers dull orange. June 1917." G. Forrest. No. 13950.

"Li-ti-ping, Yangtze-Mekong divide, in thickets on the margins of pine forests. Lat. $27^{\circ} 12'$ N. Alt. 11,000 ft. Shrub of 6-9 ft. Flowers olive-brown. June 1918." G. Forrest. No. 16331.

"S.E. Tibet:—On the Ka-gwr-pw, Mekong-Salween divide, Tsarong, in open thickets. Lat. $28^{\circ} 35'$ N. Alt. 9-10,000 ft. Shrub of 8-16 ft. Flowers olive-yellow. June 1918." G. Forrest. No. 16563.

The following in fruit agrees well in twig, leaf, and indumentum:—

"Ghi Shan, east of Tali Lake, Yunnan, in open thickets. Lat. $25^{\circ} 48'$ N. Alt. 8,000 ft. Shrub of 20 ft. In fruit. August 1914." G. Forrest. No. 13464.

Lindera strychnifolia, Villar, var. *velutina*, G. Forrest. Var. nov.

Foliis primum subtus dense sericeis tarde glabrescentibus bene notata.

"West China:—Shweli-Salween divide, Yunnan, in thickets. Lat. $25^{\circ} 20'$ N. Alt. 7,000 ft. Shrub of 20 ft. Foliage only. September 1917." G. Forrest. No. 15928. Also July 1918. No. 17658.

Litsea euosma, W. W. Sm. Sp. nov.

Species aspectu *L. citratae*, Bl. a qua inter alia foliis subtus molliter villosis differt; etiam affinis *L. molli*, Hemsl. a qua foliorum forma removitur; a *L. salicifolia*, Roxb. ejusque varietatibus fructibus globosis distinguitur.

Frutex vel arbor 3-12 m. alta valde aromatica. Rami graciles primum cinereo-pubescentes mox glabrescentes nigricantes. Folia sub anthesi persistentia, sub fructu delapsa (sed eo tempore novella bene evoluta), alterna, tenuiter papyracea, petiolo 1-1.5 cm. longo cinereo-pubescente praedita; lamina vulgo 8-12 cm. longa, 3-4 cm. lata, lanceolata, longe acuminata, basi cuneata, supra laete viridis glabra, subtus subcinerea ubique subsparsum molliter villosa, costa media infra eminente densiuscule albidovillosa, nervis 9-12-paribus cum nervulis infra conspicuo reticulatis. Inflorescentiae masculinae numerosae e ramulo brevi pubescente orientes vulgo 3-6-natae, pedunculis gracilibus sparsim pubescentibus 1-1.5 cm. longis, umbellulis nutantibus, bracteis 4 subrotundatis circ. 5 mm. longis extra glabris vel subglabris intus sericeis, pedicellis 3 mm. longis sericeis. Perianthii segmenta 6 tenuiter membranacea subglabra circ. 3 mm. longa, oblonga vel subelliptica. Stamina 9 filamentis 3 mm. longis villosis eis seriei tertiae biglandulosis, antheris 1.5 mm. longis quadrilocellatis. Ovarii rudimentum conspicuum. Inflorescentiae femininae minus numerosae staminodiis biglandulosis conspicuis. Fructus maturus globosus circ. 5 mm. diametro apice apiculatus pedicello ad 5 mm. aucto suffultus, perianthii tubo vix incrassato.

"West China:—Hills to the North-West of Tengyueh, Yunnan, in open situations amongst scrub and in thickets. Lat. 25° 10' N. Alt. 8,000 ft. Shrub or tree of 10-40 ft. Flowers golden yellow, fragrant. Bark and foliage aromatic. November 1912." G. Forrest. No. 9333.

"Divide between the Shweli and Tengyueh Valleys, in thickets and forests. Lat. 25° N. Alt. 6-7,000 ft. Shrub or tree of 20-40 ft. In seed. Foliage, bark and especially seeds and seed covers strongly fragrant of oil of lemons; seed covers full of an essential oil resembling same. Worthy of cultivation from an economic standpoint. May 1912." G. Forrest. No. 7858.

"Hills south of Tengyueh, in open thickets. Lat. 25° N. Alt. 8,000 ft. Shrub of 10-15 ft. Flowers yellow. December 1913." G. Forrest. Nos. 12101, 15951.

"N'Maikha-Salween divide, Yunnan, in thickets. Lat. 26° 10' N. Alt. 8,000 ft. Fruits black. June 1919." G. Forrest. No. 17947.

The following fruiting specimen is probably conspecific:—

"South of Red River from Maumli, Yunnan. Alt. 6,000 ft. Tree of 20 ft." A. Henry. No. 9185.

Litsea shweliensis, W. W. Sm. Sp. nov.

Species affinis *L. Wallichii*, Hook. f. a qua inter alia foliis obovatis longiuscule petiolatis facile distinguitur; *L. mishmien-*

sis, Hook. f. etiam affinis foliis 12-16-nerviis gaudet; *L. assamica*, Hook. f. staminibus villosis praeter alia signa recognoscitur.

Frutex vel arbor 3-12 m. alta. Ramuli mediocriter crassi glabri nigrescentes; alabastra foliaria anguste ovoidea circ. 1.5 cm. longa perulis fulvo-sericeis induta. Folia alterna diu persistentia sed sub anthesi plus minusve caduca textura firme papyracea, petiolo 3-4.5 cm. longo glabro suffulta; lamina plerumque 10-18 cm. longa, 6-10 cm. lata, obovata vel nunc subelliptica, apice subrotundata vel obtusa vel nunc acutiuscula, basi late cuneata, maturitate glaberrima, supra nitens pulchre reticulata, infra pallido-viridis, costa media prominula, nervis lateralibus inter se longe distantibus tantum 5-6-paribus utrinque paulo eminentibus. Umbellulae florum masculinorum solitariae vel 2-5-natae in axillis foliorum delapsorum vel caducorum orientes, vulgo 4-florae, saepe glomerulos circ. 20-floros efficientes, pedunculo brevissimo, pedicellis ad 1 cm. longis minute pubescentibus, bracteis sericeis cito deciduis; umbellulae florum feminorum non visae sed ex speciminibus fructiferis solitariae esse videntur. Perianthii segmenta 6 late ovata apice rotundata circ. 4 mm. longa glabra vel fere glabra. Stamina 9, filamentis brevibus glabris, ea seriei tertiae glandulis magnis carnosus praedita; antherae 4-locellatae omnes introrsum dehiscentes. Ovarii rudimentum subconspicuum. Fructus haud maturus ovoideus circ. 6 mm. longus tubo perianthii paululo aucto suffultus.

"West China:—Shweli-Salween divide, Yunnan, in open thickets. Lat. 25° 20' N. Alt. 10,000 ft. Shrub of 10-20 ft. Flowers green. July 1917." G. Forrest. No. 15705.

"Shweli-Salween divide, in open forests. Lat. 25° 20' N. Alt. 7-8,000 ft. Tree or shrub of 30-40 ft. Flowers deep green-yellow. August 1918." G. Forrest. No. 17531.

Also August 1912. G. Forrest. No. 9022. August 1917. G. Forrest. No. 15876. July 1918. G. Forrest. No. 17648. September 1918. G. Forrest. No. 17697.

All from the Shweli-Salween divide.

Lonicera tomentella, Hook. f. et Thoms., var. *tsarongensis*, W. W. Sm. Var. nov.

A typo foliis magis ovatis subtus minus pilosis glaucescentibus, nervis conspicuis, corollae tubo graciliore extra glabro, ovariis haud connatis divergit.

"S.E. Tibet:—Salween-Kiu-chang divide, province of Tsarong, in open thickets. Lat. 28° 40' N. Alt. ? Much-branched erect shrub of 3-5 ft. Flowers creamy-yellow, flushed pink. July 1919." G. Forrest. No. 18864.

This plant is so closely allied to *L. tomentella*, Hook. f. et Thoms. from the East Himalaya that I hesitate to make it more

than a variety of that species. In the small group of *Isoxylosteum*, Rehder the species and its variety are distinguished by the style equalling the tube of the corolla.

Machilus robusta, W. W. Sm. Sp. nov.

Species ex affinitate *M. Kingii*, Hook. f.; foliis magnis paucinerviis, paniculis robustis numerosis, perianthiis minute sericeis, staminibus omnibus biglandulosis, filamentis glabris bene notata.

Arbor 9-15 m. alta, ramulis crassis cito glabrescentibus. Folia coriacea persistentia petiolo 2.5-5 cm. longo glabro praedita; lamina vulgo 12-26 cm. longa, 5-8 cm. lata, anguste elliptica vel suboblonga, apice subacuta nunc breviter acuminata, basi subrotundata vel late cuneata, utrinque glaberrima, infra pallida glaucescens, costa media supra impressa subtus valde eminente rubida, nervis plerumque 5-6 paribus inter se saepe 2.5 cm. distantibus prominulis. Paniculae ad apicem ramorum numerosae circ. 12 cm. longae multiflorae, pedunculis validis minute araneoso-puberulis, pedicellis circ. 5 mm. longis puberulis. Perianthii segmenta 6, ovata vel lanceolata, 5-8 mm. longa, utrinque sericeo-puberula. Stamina 9 circ. 5 mm. longa, plerumque omnia glandulis binis breviter stipitatis munita, nunc 1-2 eglandulosa, ea ordinis tertii extrorsum dehiscentia, filamentis glabris; staminodia ordinis quarti magna. Pistillum circ. 5 mm. stylo ovarium excedente. Fructus (si planta sub num. 10809 Henry huc recte allocatus) globosus 2.5 cm. diametro paulo superans.

"West China:—Hills to the north-east of Tengyueh, Yunnan, in thickets. Lat. 25° 10' N. Alt. 6-7,000 ft. Tree of 30-40 ft. Flowers dull olive-yellow. March 1913." G. Forrest, No. 9716.

"Shweli Valley, Yunnan, in forests. Lat. 25° N. Alt. 6,000 ft. Tree of 40-50 ft. Flowers greenish-yellow. February 1913." G. Forrest. No. 9594.

"Shweli-Salween divide, Yunnan, in open thickets. Lat. 25° 20' N. Alt. 7,000 ft. Shrub of 15-20 ft. Flowers dull olive-orange. February 1914." G. Forrest. No. 12216.

"Shweli-Salween divide, in thickets. Lat. 25° 30' N. Alt. 8-9,000 ft. Shrub of 10-15 ft. In fruit. (Immature.) August 1917." G. Forrest. No. 15753.

Probably conspecific:—

"Mengtze Woods, Yunnan; 5,500 ft.; tree 20 ft.; fruit plum-black." A. Henry 10809 in Herb. Edin.

"Upper Burma:—Bhamo; alt. 5,500 ft. March 1909." G. E. S. Cubitt. No. 397.

The stamens of this last specimen are likewise all biglandular.

Machilus shweliensis, W. W. Sm. Sp. nov.

Species ex affinitate *M. bracteatae*, Lec. et *M. yunnanensis*, Lec. a quibus foliis pluriveniis atque perianthiis sericeis differt; basis inflorescentiae ut in speciebus affinibus, bracteis imbricatis magnis permultis fulvo-sericeis circumdata est.

Arbor 9-12 m. alta ramis glabris nigrescentibus. Folia persistentia petiolo circ. 1.5 cm. longo mox glaberrimo suffulta; lamina vulgo 11-18 cm. longa, 2.5-4 cm. lata, lanceolata vel elliptico-lanceolata, longiuscule acuminata, basi cuneata, coriacea, utrinque glaberrima, supra subnitens, infra paulo pallidior, costa media supra impressa subtus eminente rubida, nervis 16-20 paribus, superficie minute et pulchre reticulata. Inflorescentiae ad apices ramorum plures bracteis imbricatis fulvo-sericeis basi praeditae; paniculae 7-9 cm. longae; ramuli glabri vel glabrescentes; pedicelli 3-5 mm. longi. Perianthii segmenta 4-5 mm. longa lanceolata vel anguste elliptica utrinque sericea. Stamina 9 circ. 3 mm. longa filamentis undique villosulis, eis ordinis tertii glandulis binis cordatis longe stipitatis (stipitibus villosulis) praeditis; antherae ordinis tertii extrorsum dehiscentes; staminodia haud conspicua. Ovarium subglobosum 1.5 mm. diametro stylo gracili 2.5 mm. longo munitum. Fructus globosus 2.5 cm. diametro, perianthii segmentis refractis, tubo haud incrassato.

"West China:—Shweli Valley, Yunnan, in open forests. Lat. 25° N. Alt. 6-7,000 ft. Tree of 30-40 ft. Flowers yellow." G. Forrest. No. 9624.

"Divide between the Shweli and Tengyueh Valleys, Yunnan, in thickets. Lat. 25° N. Alt. 7,000 ft. Tree of 30-40 ft. May 1912." G. Forrest. No. 7908.

Quite distinct from the known Chinese species. In its many-nerved leaves it is akin to *M. odoratissimus*, Nees, but it differs in the large mass of sericeous bracts at the base of the inflorescence (the bracts persisting until the inflorescence is almost completely developed), in the hairy filaments, and in the large fruit an inch in diameter.

Meliosma dumicola, W. W. Sm. Sp. nov.

Species affinis *M. Fischerianae*, Rehder et Wils. a qua foliis oblanceolatis integris subtus praesertim ad costam nervosque pilosulis, petiolis longioribus, inflorescentia terminali, floribus flavidis inter alia divergit.

Frutex ex collectore 9 m. altus; ramuli annotini sat crassi pilosuli tarde glabrescentes. Folia subcoriacea, persistentia, petiolo 2.5-3.5 cm. longo suffulta; lamina 10-13 cm. longa, 3-4 cm. lata, anguste oblanceolata, acuminata, basi anguste cuneata,

integra, supra glabra vel ad sulcum costae nunc minute puberula, saturate viridis, nitens, subtus pallidior sparsim pilosula, ad costam nervosque densius, nervis utrinsecus circ. 8 leviter curvatis omnibus intra marginem anastomosantibus. Paniculae terminales ramulo ex axilla folii supremi persistentis addito, circ. 13 cm. longae, 10 cm. latae, dense fulvo-pilosulae; paniculae ramuli ascendentes. Flores flavidi sessiles vel subsessiles, in axibus ordinis tertii, bracteis ovatis circ. 1.5 mm. longis fulvo-pilosulis. Sepala 4-5 imbricata late ovata circ. 1.5 mm. longa ciliolata. Petala exteriora suborbicularia ad 2.5 mm. diametro concava staminibus sterilibus adnatis; interiora duo multo minora oblonga integra vel nunc apice brevissime biloba staminibus fertilibus adnatis, filamentis antheras aequantibus. Discus parvus 5-dentatus. Ovarium glabrum stylo subulato. Fructus deest.

"West China :—Ma-chang-kai Valley, Yunnan, in open thickets. Lat. 25° 20' N. Alt. 8,000 ft. Shrub of 30 ft. Flowers creamy-yellow. August 1913." G. Forrest. No. 11879.

Ophiopogon grandis, W. W. Sm. Sp. nov.

Inter congeneres rhizomate praelongo crassissimo, scapo valido multifloro, floribus bracteisque pro genere maximis bene notatus.

Planta robusta ad 60 cm. alta rhizomate valde lignoso orta. Caulis epigeus brevis. Folia numerosissima valde congesta ad 50 cm. longa, 5-6 mm. lata, linearia, acuta, basi petiolatim angustata, textura firma, nervis prominulis. Scapus foliis multo brevior ad 20 cm. longus robustus 12-20-florus. Bractee ovato-lanceolatae acuminatae atrovirides margine albido-scariosae persistentes inferiores 10-12 mm. longae, superiores sensim decrescentes. Pedicelli ad 5 mm. longi glabri. Perianthii segmenta 11-12 mm. longa erectiuscula alba extra purpurea ovata subacuta. Stamina filamenta vix 1 mm. longa; antherae 6 mm. longae. Stylus 6 mm. paulo superans gracilis.

"West China :—Hills to the east of Tengyueh, Yunnan, in crevices of rocks and cliffs in side valleys. Lat. 25° N. Alt. 6-7,000 ft. Plant of 1-2 ft. Flowers fragrant, creamy-white, flushed purplish-lake on exterior; anthers green. May 1912." G. Forrest. No. 7961.

"Shweli-Salween divide, Yunnan, in shady mixed forests. Lat. 25° 30' N. Alt. 7,000 ft. Plant of 1-1½ ft. Flowers white. July 1918." G. Forrest. No. 17670.

"Shweli-Salween divide, amongst boulders in shady gullies. Lat. 25° N. Alt. 7,000 ft. Plant of 2 ft. Flowers ? April 1919." G. Forrest. No. 17807.

"Jang-tzow Shan, Shweli-Salween divide, in shady situations in thickets and among boulders. Lat. $25^{\circ} 10'$ N. Alt. 7-8,000 ft. Plant of 12-14 inches. Flowers dull creamy-yellow. August 1919." G. Forrest. No. 18319.

"S.E. Tibet :—Salween-Kiu-chiang divide, Tsarong, on shady, dry banks amongst boulders in ravines and forests. Lat. $28^{\circ} 40'$ N. Long. $98^{\circ} 15'$ E. Plant of 12-20 inches. Flowers fragrant, interior creamy-yellow, exterior brownish-white. July 1919." G. Forrest. No. 19028.

"Upper Burma :—Naung Chaung Valley, in forest under deep shade, damp but not wet places. Alt. 5-9,000 ft. Flowers white. July 1914." F. K. Ward. No. 1723.

Oxygraphis tenuifolia, W. E. Evans. Sp. nov.

Species distinctissima, ab omnibus descriptis habitu caespitoso estolonifero, foliis angustissimis longe petiolatis apice integris bene cognita.

Planta 3-6 cm. alta pusilla dense caespitosa glaberrima. Radices numerosae paulo carnosae graciles. Folia omnia radicalia multa cum petiolo 3-6 cm. longa; lamina 10-15 mm. longa, 2 mm. lata, lineari-lanceolata supra in apicem integrum obtusiusculum sensim angustata infra in petiolum complanatum anguste alatum basi membranaceo-expansum contracta. Scapi solitarii vel plures folia fere aequantes simplices aphylli uniflori; in specimine uno scapus supra bifurcatus biflorus bractea foliacea praeditus. Flores 10-12 mm. diametro. Sepala 5-6, virescentia, 2-3 mm. longa, elliptica vel lati-ovata vel suborbicularia, obtusa integra paululo alutacea persistentia. Petala 10-13, flava, 5 mm. longa, circ. 1 mm. lata, ungue 1.5 mm. longo uninnervio glandulam prominulam flavidam supra gerente, lamina anguste lanceolata trinervia acutiuscula integra ungue duplo latiore. Stamina haud numerosa ad petalorum unguem plus minusve pertinentia. Carpella sat numerosa sub anthesi 2 mm. longa; ovarium laeve lateraliter compressum; stylus 1 mm. longus fere rectus supra sensim gracilior apice haud hamatus.

"China :—Yunnan, mountains in the N.E. of the Yangtze Bend. Lat. $20^{\circ} 45'$ N. Alt. 13-14,000 ft. Tufted plant of 1-1½ inches. Flowers golden-orange. Moist, stony pasture." Fl. July 1913. G. Forrest. No. 10632.

Parnassia Cooperi, W. E. Evans. Sp. nov.

Inter species petalis per totam marginem fimbriato-ciliatis haec tantum cum *P. Davidi*, Franch. est comparabilis; habitu et magnitudine et folio caulino solitario quadrat; petalis angustissimis, staminodiis trifidis lobis lateralibus majoribus late divaricatis in-

termedio multo minore, ovario distincte trigono angulis supra valde carinatis et incrassatis divergit.

Planta 12-16 cm. alta erecta sat gracilis glaberrima. Rhizoma breve paulo adscendens, radicibus fibrosis praeditum, supra foliorum vaginis membranaceis brunneis onustum; caules flori-feri 1-2 simplices uniflori paulo supra medium folium unicum gerentes. Folia radicalia pauca petiolo ad 7 cm. longo gracillimo suffulta; lamina late ovata vel orbicularis 1-2.5 cm. diametro apice breviter et obtuse apiculata basi cordata integra in sicco subcoriacea supra atroviridis infra glauca; folium caulinum sessile auriculis basi paulo superpositis amplexicaule caeterum radicalibus simile. Calyx fere ad imum in lobos circ. 6 mm. longos ovato-lanceolatos vel lanceolatos apice truncatos margine integros fissus. Petala 14 mm. longa, 2 mm. lata angustissime lanceolata calycem plus duplo superantia apice saepe bifida infra in unguem angustum 4-5 mm. longum subito contracta margine remotiuscule fimbriato-ciliata nisi ad unguem. Stamina 5 calycis lobis multo breviora petalorum unguem vix aequantia circ. ad medium triloba, lobis lateralibus late divergentibus latiusculis planis intermedio brevissimo deltoideo-dentiformi. Stamina filamenta vix ad mediam corollam pertinentia; antherae delapsae. Ovarium fere omnino superius globoso-trigonum angulis supra valde incrassato-carinatis; stylus dimidium ovarii fere aequans in lobos angustos patentes trifidus; stigmata recurva apice acuta.

"Sikkim:—Above Toong. Alt. 10,000 ft. White flowers on sandy banks. 18:9:13." R. E. Cooper. No. 907 in Herb. Edin.

Parnassia Esquirolii, Lév. Descr. emend. W. E. Evans.

Species *Parnassiae Faberi*, Oliv. structura atque magnitudine valde affinis; sepalis multo angustioribus vulgo recurvato-patentibus, petalis angustioribus in unguem sensim angustatis, staminodiis anguste linguliformibus planis supra paulo auctis apice integerrimis haud capitatis nec cupuliformibus, stylo distincto recedit.

Planta parvula rosulata glaberrima ad 6 cm. alta. Radices numerosae capillares cum foliis radicalibus in glebam congestae e rhizomate brevissimo repente orientes. Folia omnia integra stipulis filiformibus nigris integris ad 1 mm. longis munita; radicalia 12-25 patentia arcte rosulata cum petiolo 1-2 cm. longa orbiculari-spatulata vel obovato-spatulata obtusa vel acutiuscula paulo apiculata, laminis 7-15 mm. longis, 5-9 mm. latis in petiolum 2-3 mm. longum saepius sensim angustatis; caulina oblato-orbicularia circ. 3 mm. diametro subsessilia late et obtuse apiculata trinervia. Scapi 3-12 graciles usque ad 6 cm. attin-

gentes uniflori folium caulinum solitarium ad florem plerumque valde approximatum gerentes, raro aphylli. Flores parvi circ. 6-8 mm. diametro; calyx fere ad imum in lobos circ. 4 mm. longos 1 mm. latos lineari-lanceolatos obtusos integros uninervios vulgo recurvato-patentes undulatos fissus, processum capillarem nigridum inter lobos gerens. Petala ad 5 mm. longa, 2 mm. lata, anguste obovato-spatulata plus minusve acutata integra alba in unguem obscurum circ. 1 mm. longum sensim angustata. Stam-inodia circ. 1.25 mm. longa 0.3 mm. lata ad dimidium staminum attingentia anguste linguliformia applanata haud capitata ad apicem integerrimum obtusissimum haud cupuliformem paulo aucta. Antherae late ellipticae 0.5 mm. longae; ovarium superum sub anthesi conicum, circ. 3 mm. longum, basi 1.5 mm. latum, fructu triangulari-globosum 3 mm. diametro acute trigonum, stylo abbreviato distincto, stigmatibus tribus magnis patentibus. Semina 0.4 mm. longa ovato-elliptica laevia.

West China :—"Kouy-Tchéou. Fleur blanche. Sous arête des rochers humides à Lang-tchang-po. Mai 1910." Jos. Esquirol, No. 3147. (Mgr. Léveillé's type).

"Fleur blanche. Bas des roches, Tchang-tang, Hoang-tsaopa. Juin 1909." Jos. Esquirol, No. 1574.

"Fleurs blanches. Majo rochers. Juli 1908." J. Cavalerie. No. 2965.

This interesting plant very much resembles *Parnassia Faberi*, Oliv., the chief difference being its very distinct staminodes. As these are not alluded to in the original description in Fedde, Rept. Nov. Sp. Band xiii (1914), p. 258, the present emended description is necessary. The collectors' notes attached to the three gatherings of the plant, all now in Herb. Edin., are also given: in the original description the number of the type is misquoted.

Parnassia Farreri, W. E. Evans. Sp. nov.

Inter species staminodiis integris munitis haec caulibus floriferis simplicibus, petalis niveis infra longe fimbriatis, stigmatibus sessilibus est valde distincta.

Planta 4-10 cm. alta erecta gracilis glaberrima partibus omnibus parvis. Rhizoma verticale breve infra radicibus fibrosis praeditum supra foliorum vaginis membranaceis onustum; caules floriferi 1 rarius 2 simplices uniflori circ. medium folium unicum parvum gerentes. Folia radicalia plura petiolo sat gracili 1-3 cm. longo laminam multo superante suffulta, lamina 2-9 mm. diametro orbiculari apice obtusa basi cordata integra in sicco subcoriacea; folium caulinum radicalibus minus cordato-triangularae amplexicaule. Calyx in lobos circ. 2 mm. longos anguste ovatos obtusos integros profunde fissus. Petala in vivo nivea in

siccio fuscopicta 5 mm. longa spatulata, limbo late elliptico vel subrotundato supra obtuso integro infra longe fimbriato in unguem aequilongum calycem aequantem subito contracto. Stam-inodia late spatulata plana petalorum unguem haud aequantia, limbo integro supra obscure sinuato ungui subaequilongo atque circ. duplo latiore. Stamina longitudine variabilia ad tertiam partem corollae vel ad duas partes attingentia, filamentis ultra antheras breves latas haud productis. Ovarium late ovatum basi liberum apice breviter contractum, stylo nullo, stigmatibus tribus rectis sessilibus.

"Upper Burma :—Chimili Valley. Alt. 11,000 ft. Flowers white. Characteristic situations in the middle alpine zone. 15.8.19." R. Farrer, No. 1211. Type!

"Imaw Bum. Alt. 12,000 feet. Petals pure white, anthers dull orange. On grassy rocks, ledges and slopes, in black soil. Common and now prominent as there is not much in flower. Grows in patches. 30.8.19." F. Kingdon Ward. No. 3599.

Petrocosmea Wardii, W. W. Sm. Sp. nov.

Species sectionis *Eupetrocosmeae*, Craib, affinis *P. grandiflorae*, Hemsl. a qua habitu multo minore, staminum filamentis brevissimis quam antherae multo brevioribus, antheris ipsis obtuse rostratis recedit.

Herba nana, rhizomate brevi, basi pilis ferrugineis bene induta. Folia omnia radicalia petiolo 1-2 cm. longo pilis longis ferrugineis atque nonnullis brevioribus incanis densissime tomentoso suffulta; lamina majorum in speciminibus nostris circ. 2 cm. longa, ad 1.5 cm. lata, ovata vel subelliptica, apice obtusa vel subrotundata, basi rotundata, margine interdum hic illic denticulata, in sicco tenuiter papyracea, supra densissime incanotomentosa pilis longiusculis ferrugineis intermixtis, infra densissime furfuraceo-tomentosa. Pedunculi plures, uniflori, ad 2.5 cm. alti, pilis longis articulatis patentibus dense cinereo-pilosi. Calyx circ. 5 mm. longus, ut pedunculi dense indutus, in segmenta 5 lineari-lanceolata acuta partitus. Corolla circ. 1.2 cm. longa alba extra minute pilosula; tubus circ. 3.5 mm. longus; corollae labia subaequalia. Stamina fertilia duo, circ. 4 mm. longa, filamentis vix 1 mm. longis minute fulvido-pilosulis, antheris circ. 3 mm. longis in rostrum obtusum excurrentibus, connectivo sub lente valido minute pilosulo. Ovarium cum stylo fere 1 cm. longum pilosulum. Fructus deest.

"West China :—Above the Nam Ting, Yunnan. Lat. 23° 40' N. Long. 99° 15' E. Alt. 6,000-7,000 feet. On bare limestone rocks in deep shade of elfin wood, where the ridge ends in a scarp facing east and north. April 23rd 1921." F. Kingdon Ward. No. 3772.

Phoebe Forrestii, W. W. Sm. Sp. nov.

Species affinis *P. neuranthae*, (Hemsl.) Gamble a qua ramulis et pedunculis et perianthiis longe fulvo-villosis, foliis basi anguste rotundatis nec cuneatis inter alia differt.

Frutex 3-6 m. altus ramulis primum longe et densissime fulvo-villosis, annotinis glabris cinerascentibus. Folia saltem ad anthesin persistentia, novella tunc bene evoluta, petiolo 4-6 mm. longo dense fulvo-piloso (in adultis glabrescente) munita; lamina vulgo 8-16 cm. longa, 1.5-3.5 cm. lata, plerumque anguste lanceolata, longiuscule acuminata basi anguste rotundata, adulta firme papyracea vel subcoriacea, supra atroviridis glabra sulco costae pilis fulvis impleto excepto, infra cinerea praesertim ad costam nervosque eminentes subsparsim fulvo-villosa; nervi vulgo 10-14 paria. Inflorescentiae numerosae in axillis superioribus solitariae, pedunculis 3.5-6 cm. longis dense fulvo-villosis gracilibus suffultae 4-8-florae; pedicelli 4-7 mm. longi pilis dense induti. Perianthii segmenta circ. 5 mm. longa ovata obtusa utrinque villosula. Stamina perfecta 9, ea serierum exteriorum eglandula, antheris quadrilocellatis, filamentis sparsim pilosis, ea seriei tertiae biglandulosa, antheris dorso atque filamentis dense pilosis; staminodia in serie quarta conspicua. Ovarium globosum circ. 1.5 mm. diametro stylum aequans stigmatem magno coronatum. Fructus fere maturus subglobosus circ. 12 mm. longus, 10 mm. latus perianthii persistentis segmentis erectis suffultus, perianthii tubo haud incrassato.

"West China:—Valley of the Shweli (Lungchiang), Yunnan, amongst scrub. Lat. 25° N. Alt. 5,000 ft. Shrub of 10-20 ft. Flowers bluish-yellow. May 1912." G. Forrest. No. 7835. "July 1912." G. Forrest. No. 8745.

Of the close allies of this species, *P. neurantha*, Gamble, *P. nanmu*, Gamble, and *P. Sheareri*, Gamble, the first and third occur also in Yunnan, as shown by the Forrestian specimens. *P. nanmu* is common in Szechwan and may also be expected in Yunnan.

Phyllanthus Franchetianus, Lévl. Descr. ampl. W. W. Sm.

Species sectionis *Reidiae*, ex affinitate *P. pulchri*, Wall. a quo ramulis glabris, foliis multo minoribus praeter alia signa differt.

Frutex 1.2-1.3 m. altus ramulis senioribus gracilibus cinereis, junioribus gracillimis glabris a basi ad summum foliis imbricatis praeditis. Folia petiolo brevissimo vix 0.5 mm. superante praedita, 5-7 mm. longa, circ. 3 mm. lata, asymmetrice subelliptica, apice obtuse acutata mucronulata, basi rotundata, in sicco membranacea, glabra, supra glaucescentia, infra glauca nervis subobsoletis; stipulae lineari-lanceolatae acuminatae ad 2 mm.

longae. Flores ut in *P. pulchro* dispositi rubri. Perianthii ♂ segmenta 4, circ. 2 mm. longa, margine lacerata, staminibus 4, antheris sessilibus reniformibus, glandulis haud connatis subquadratis. Perianthium fl. ♀ circ. 5 mm. diametro (vi complanatum); segmenta 6, ovario stylisque eis *P. pulchri* simillimis (ut in Bot. Mag. tab. 5437), glandulis in discum cupularem margine lobatum coalitis.

"Yunnan:—Rives du fleuve Bleu, à Siao-ho; alt. 400 m. Arbuste à feuilles caduques, buissonnant, haut 1.20 m. Fl. rougeâtres, sur le pourtour des feuilles. Drupes vertes, acidulées en forme de cerises. Mai." E. E. Maire in Herb. Lév.

"Rives du fleuve Bleu à Mong-Kou; alt. 400 m." E. E. Maire. No. 815 in Herb. Edin.

A very graceful plant closely allied to *P. pulcher*, Wall. It may here be noted that *Phyllanthus Mairei*, Lév. in Bull. Geog. Bot. xxv. (1915), 23 = *P. Emblica*, Linn.

Phyllanthus tsarongensis, W. W. Sm. Sp. nov.

Species ex affinitate *P. Clarkei*, Hook. f. et *P. Leschenaultii*, Muell. Arg. et *P. parvifolii*, Ham.; foliis 1 cm. vix superantibus valde approximatis plus minusve oblongis breviter mucronatis, stipulis simplicibus subulatis, floribus pernumerosis breviter pedicellatis, perianthii ♂ et ♀ segmentis sex, staminibus tribus, filamentis in columnam coalitis, stylis tribus, stigmatibus dilatatis deflexis bilobulatis bene notata.

Frutex 2.4–3.6 m. altus ramis senioribus robustis cinereis, ramulis floriferis 6–8 cm. longis gracillimis viridibus glabris a basi ad summum crebre et quasi imbricatim foliosis. Folia petiolo vix 0.5 mm. superante suffulta, membranacea, mediana et superiora in ramulo florifero circ. 1 cm. longa, 5 mm. lata, oblonga, basi rotundata vel paulo cordulata, apice rotundata atque abrupte mucronulata, integra, glaberrima supra laete viridia, infra pallido-olivacea, nervis pagina inferiore conspicuis 5–6-paribus; folia ad basim ramuli minora, nunc 5 mm. longa, 3 mm. lata, saepe ovato-oblonga, infima etiam minora; stipulae subulatae integrae. Flores in axillis foliorum fere omnium 4–6-glomerati, monoeci, parvi, olivaceo-flavi, e dispositione foliorum quasi a rachi folii pinnati dependentes; pedicelli circ. 1 mm. longi glabri bracteis subulatis multo longiores. Perianthii ♂ segmenta 6, circ. 1 mm. longa, oblonga, integra; glandulae 6 minimae globosae; stamina 3 perianthium subaequantia, filamentis in columnam coalitis, antheris oblongis majusculis. Perianthii ♀ segmenta 6, eis fl. masculini subsimilia; discus carnosulus cupularis fere integer; ovarium depresso-globosum stylis tribus robustis, stigmatibus apice dilatatis breviter lobulatis decurvis. Fructus deest.

"S.E. Tibet :—Province of Tsarong, Salween-Kiu-chiang divide, in thickets by streams. Lat. $28^{\circ} 40'$ N. Long. $98^{\circ} 15'$ E. Shrub of 8–12 ft. Flowers olive-yellow. July 1919." G. Forrest. No. 18946.

Potentilla eriocarpa, Wall., var. *tsarongensis*, W. E. Evans.

Var. nov.

A typo ramis crassioribus cum squamis 1–2 cm. diametro, foliis junioribus longe albo-sericeis vetustioribus utrinque laxe sed distincte adpresse hirtis, calyce distincte hirtis divergit.

"S.E. Tibet :—Tsarong, Salween-Kiu-chiang divide. Lat. $28^{\circ} 40'$ N. Long. $98^{\circ} 15'$ E. Loose cushion plant of 2–4 inches. Flowers pale yellow. Ledges and crevices of cliffs and on screes. Fl. July 1919." G. Forrest. No. 19272.

Though both Indian and Chinese specimens of *P. eriocarpa*, Wall. may show slight hairiness of the leaves and even of the calyx, which is described as glabrous, both by Sir Joseph Hooker in Flor. Brit. Ind. ii, 349, and by T. Wolf in Bibl. Bot. Heft. lxxi, 81, the present plant much exceeds any specimens I have seen in this respect, as well as in the peculiarly thickened branches, and seems well worthy of varietal distinction.

Pueraria Forrestii, W. E. Evans. Sp. nov.

Species *Puerariae* Laccé, Craib affinis; foliis valde latioribus apice obtusissimis margine irregulariter lobatis, racemi pedunculo basi haud bracteato, floribus majoribus, petalorum omnium unguibus multo brevioribus, vexilli apice haud emarginato facile atque certe distinguenda.

Suffrutex late scandens ad 5.5 m. attingens; ramuli 4–6 mm. diametro saepe irregulariter torti patentim ferrugineo-hirsuti. Folia pinnatim 3-foliata petiolo 8–12 cm. longo suffulta; stipulae oblongae obtusae 2 cm. longae dense pilosae basi bilobae, lobis linearibus ipsis 1 cm. longis; foliola lateralia irregulariter suborbicularia, terminale oblatum, apice obtusissima basi late rotundata 8–14 cm. longa, 6–8 cm. lata subchartacea, margine irregulariter pauci-lobata lobis (apiceque) longe et tenuissime mucronatis, ciliata tenuiter adpresse sericea subtus pallidiora, nervis lateralibus 5–6 remotis supra conspicuis subtus prominentibus, nervulis transversis subtus distinctis parallelis; petioluli circ. 5 mm. longi, foliolo terminali a lateralibus usque ad 4.5 cm. remoto; stipellae lineares acutae ad 1.5 cm. longae vix 1 mm. latae. Racemi axillares solitarii sub anthesi saepe 20 cm. longitudine excedentes infra (circ. ad 5 cm.) nudi haud bracteati supra multiflori; bractae lanceolatae vel ovato-lanceolatae circ. 8 mm. longae pilosae deciduae; pedicelli 4 mm. longi apice bracteolis 2 lanceolatis 3–5 mm. longis instructi. Calycis extra longe ferrugineo-hirsuti intus adpresse hirsuti tubus 4–5 mm. longus;

lobi lineari-lanceolati acuti 13 mm. longi, duo supremi in unum latiore coaliti. Corolla glaberrima longe exserta saturate rosea; vexillum patens suborbiculare apice integrum haud emarginatum basi paulo truncatum atque auriculatum, 1.6 cm. longum, 1.5 cm. latum, ungui brevi 2 mm. longo suffultum; alae irregulariter oblongae basi longe appendiculatae, 1.7 cm. longae, 6 mm. latae, ungui vix 3 mm. longo; carina obtusa 1.7 longa, 5 mm. lata, ungui 3.5 mm. longo. Stamen vexillare ima basi liberum medio cum caeteris connatum; antherae uniformes parvae. Ovarium stipitatum adpresse hirsutum, stylo 5-6 mm. longo glabro, stigmate parvo capitato. Legumen circ. 7 cm. longum, 1 cm. latum, longe et patentim ferrugineo-hirsutum margine sinuatum; semina vix matura pauca reniformia rubro-nigra ad 9 mm. lata.

"West China:—Yunnan, descent to the Yangtze from the eastern boundary of the Lichiang valley. Lat. $27^{\circ} 15'$ N. Alt. 7-8,000 ft. Scandent plant of 9-12 ft. Flowers purplish-rose. On scrub. August 1913." G. Forrest. No. 10732. In flower. Type!

"Yunnan, Yung-peh mountains. Lat. $26^{\circ} 40'$ N. Alt. 8,000 feet. Scandent shrubby plant of 12-18 ft. Flowers deep rose. Open dry situations in scrub. August 1919." G. Forrest. No. 15312. Flower and fruit.

Rubus potentilloides, W. E. Evans. Sp. nov.

Species *Rubo fragarioidei*, Bertol. valde affinis; habitu humili, florum structura, ramis inermibus approximatis; foliis anguste et alte multifidis, stylis vulgo brevioribus circ. 2 mm. longis constanter recedit.

Suffrutex pygmaeus repens 3-8 cm. altus. Rami gracillimi ex toto inermes, juniores pilis pallidis patentim pubescentes, vetustiores prostrati radicanter ramos erectos foliosos flore solitario terminatos emittentes. Folia petiolata; petiolus 1-3 cm. longus gracilis pubescens stipulis liberis circ. 3 mm. longis late ellipticis vel suborbicularibus obtusis integris onustus; lamina glabra setis paucis tuberculatis exceptis, ambitu orbicularis, 2-7 mm. diametro, foliolis 5 rarius 3 divergentibus distincte petiolulatis in segmenta cuneata margine profunde et acute angustidentata fere ad costulam fissis. Flos parvus diametro 15-20 mm., pedunculo pubescente 6-12 mm. longo suffultus; calyx intus fere glaber extra pubescens in lobos 4-5 mm. longos suborbitales (rarius angustiores) vulgo abrupte acuminatos acumine 1 mm. longo nigrescente ad medium divisus; petala nivea 6-7 mm. longa glabra late elliptica integra vel sinuata, apice obtuso vel truncato rarius lobato. Stamina circ. 30 glabra biseriata, exteriora circ. 2 mm. longa, interiora multo minora, filamentis planis e basi gradatim

attenuatis, antheris parvis. Carpella circ. 24 in medio toro aggregata glabra, ovariis sub anthesi 1 mm. longis, stylis circ. 2 mm. longis ad insertionem paulo curvatis parte superiore paulo auctis, stigmatibus truncatis. Achaenia matura ignota.

"Upper Burma :—Naung-Chang—Nwai divide. Alt. 10,000–11,000 ft. Dwarf, with small pure white flowers. Under Bamboo in damp, shady, leafy-soil situations on granite ridge. July 13th 1914." F. Kingdon Ward. No. 1777. Type !

"Valley of the Chang-Maw-Nka. Alt. 8,000–11,000 ft. Dwarf creeper growing in moss on shady banks beneath undergrowth in Bamboo forest, Rhododendron forest, etc. The white flowers stand upright and are quite unprotected. Common all up the granite ridge leading to Imaw Bum to about 11,000 ft. Flowers throughout July. June 3rd 1919." F. Kingdon Ward. No. 3166.

"Chimili Woods. Alt. 10,000 ft. Mossy places in the alpine forest. July 30th 1919." R. Farrer. No. 1132.

A remarkable little plant, in foliage and stature very distinct, though in floral details closely allied to *R. fragaroides*, Bertol. The several gatherings are so constant in their character that it appears certainly a good species. All specimens are in flower only.

Saussurea atrata, W. E. Evans. Sp. nov.

Species *Saussureae Delavayi*, Franch. valde affinis sed caule elatiore crassiore, foliorum inferiorum pagina superiore laxe lanata, foliis supremis purpureo-nigris late lanceolatis haud abrupte acuminatis, receptaculi paleis achenia vix superantibus sat divergit.

Planta robusta circ. 50 cm. alta ex collectore late caespitosa. Radix cum foliis radicalibus ignota. Caules simplices foliosi fistulosi sub capitulis terminalibus arcte congestis ampliati, undique rubidi capillis longis albis laxe lanati. Folia caulina sessilia late linearia, 12–17 cm. longa, 1–1.5 cm. lata, in apicem acutum sensim attenuata, basi decurrentia, margine integra paulo revoluta, supra viridia laxe albo-lanata, infra dense et longe lanata, costa supra conspicua flava infra indumento induta; folia suprema patentia inflorescentiam amplectantia atque ea valde longiora, majora (exteriora) ad 7 cm. longa, 1 cm. lata, omnia late lanceolata in apicem brevem acutum gradatim angustata supra glabrescentia saturate atro-purpurea. Inflorescentia ex capitulis circ. 20 arcte congestis vulgo sessilibus sub anthesi 2 cm. longis 1 cm. latis composita; involucri phylla circ. 4-seriata late lanceolata basi incrassata flavida supra atro-purpurea in apicem longum acutissimum sensim abeuntia extra vulgo pilis longis pallidis conspersa; receptaculi paleae numer-

osae lineari-subulatae achenia vix superantes. Achaenia matura circ. 5 mm. longa 2 mm. lata nigra vel brunnea laevia glabra paulo complanata vix angulata haud rostrata apice truncata; pappi setae rigidae rubro-fuscae subtriseriatae, exteriores breves scabridae, interiores circ. 7 mm. longae plumosae.

"Upper Burma:—Chimili Pass. Alt. 12,000 feet. In big clumps in the open, high-alpine meadows. Flowers and upper leaves of a sombre steely blue-black." Fl. 30:7:19. R. Farner. No. 1135.

Scrophularia chasmophila, W. W. Sm. Sp. nov.

Species affinis *S. Delavayi*, Franch. et *S. alaschanicae*, Batal.; a priore calyce glanduloso-piloso, corolla intra glabra inter alia facile distinguitur; ab altera rhizomate praelongo lignoso, caule plerumque ramoso, foliis utrinque sparsim pilosulis, dimidio minoribus, haud acutis, petiolis inferioribus vix longis, certe superiores plus minusve aequantibus, fasciculis florum in verticillastos 1-4 aggregatis, pedicellis calyces aequantibus, staminodio orbiculari nunc sublineari ex descriptione recedit.

Planta 15-60 cm. alta caulibus vulgo pauciramosis flexilibus glanduloso-pubescentibus infra mox defoliatis, rhizomate nunc valde elongato ad 25 cm. longo. Folia opposita petiolo 5-10 mm. longo pubescente praedita; lamina vulgo 2.5-3.5 cm. longa, 1-2 cm. lata, plus minusve ovata, apice obtusa vel subobtusa, basi lata obliqua abrupte in petiolum angustata, margine pro magnitudine grossidentata, in sicco membranacea, utrinque sparsim pilosula, reticulo nervorum conspicuo. Inflorescentiae terminales glanduloso-pilosae, floribus in verticillastos 1-4 nunc subremotos ad 8-flos aggregatis, pedicellis ad 7 mm. longis densissime glanduloso-pilosis. Calyx 7-9 mm. longus in lobos quinque lanceolatos vel oblongo-lanceolatos obtusos basi haud imbricatos partitus extra pilis glandulosis longiusculis dense obsitus. Corolla circ. 15 mm. longa, 5 mm. lata, extra dense glanduloso-pilosa viridi-flava, tubo fere aequaliter cylindrico 10 mm. longo, lobo summo 5 mm. longo alte bilobo, lobulis sese margine tegentibus, lobis lateralibus et antico tantum 2 mm. longis erectis. Stamina inclusa filamentis minute glanduloso-pilosulis; staminodium nunc orbiculare nunc sublineare. Stylus circ. 7 mm. longus primum sparsim atque minute glandulosus; ovarium glabrum.

"West China:—Mountains in the N.E. of the Yangtze bend, Yunnan, on stony pasture, in rhododendron thickets, and on ledges of cliffs. Lat. 27° 45' N. Alt. 13,000 ft. Plant of 9-24 inches. Flowers dull green-yellow. July 1913." G. Forrest. Nos. 10380 and 10515.

"Eastern flank of the Lichiang Range, in rocky situations in

rhododendron scrub. Lat. $27^{\circ} 30'$ N. Alt. 14-15,000 ft. Plant of 6-9 inches. In seed. September 1910." G. Forrest. No. 6658.

The species is closely allied to *S. Delavayi*, Franch. and *S. alaskanica*, Batal. It is easily distinguished from the former by the glandular calyx with obtuse lobes. It is nearer to the latter, a plant of Western Mongolia, which I have not seen.

Senecio schizopetalus, W. W. Sm. Sp. nov.

Species sectionis *Ligulariae* atque affinis *S. amplexicauli*, Wall. a quo sociisque ligulis usque ad tubum in segmenta tria fissis inter alia recognoscitur.

Planta robusta 1.2-1.5 m. alta radicibus numerosis ad 15 cm. elongatis cylindricis carnosius praedita. Caulis ad 2 cm. crassus, primum araneoso-fulvido-pubescent, tandem glabrescent. Folia radicalia petiolo ad 70 cm. longo praedita, caulina petiolo 1-5 cm. longo atque vagina ampla foliacea ad 5 cm. longa munita; lamina reniformis, 15-20 cm. longa, 20-25 cm. lata, apice rotundata, basi alte cordata, margine dentibus magnis triangularibus apice induratis subregulariter notata, in sicco membranacea, supra glabra, infra indumento tenuissimo tersili praedita, mox glabrescent. Inflorescentia ampla corymboso-paniculata ad 20 cm. alta, ad 30 cm. lata, ramulis pedunculisque fulvido-tomentellis, bracteis 3-5 mm. longis linearibus, capitulis pernumeris mediocribus paulo congestis. Involucri phylla circ. 8, oblonga, 8-9 mm. longa, 1-2 mm. lata, subobtusata, nigrida, sparsim tomentella. Flores in quoque capitulo circ. 12 quorum 3-4 ligulati; ligulae circ. 1.5 cm. longae in segmenta tria linearia usque ad tubum fissae; tubus circ. 5 mm. longus; pappus fulvidus 7 mm. longus; achenia immatura 2.5 mm. longa; disci floris corolla circ. 8 mm. longa.

"West China:—Hills east of Tengyueh, Yunnan, amongst scrub and on the margins of streams in gullies. Lat. 25° N. Alt. 6,500 ft. Plant of 4-5 ft. Flowers fragrant, orange-yellow. October 1919." G. Forrest. No. 18611.

Sloanea Forrestii, W. W. Sm. Sp. nov.

Species affinis *S. sterculiaceae*, (Benth.) Rehd. et Wils. a qua fructuum indumento inter alia longe differt.

Arbor vel frutex 6-15 m. altus, ramulis primum sparsim pilosis tandem glabris cinerascentibus. Folia petiolo plerumque 2-4 cm. longo sparsim piloso (nunc satis dense) suffulta; lamina vulgo 10-18 cm. longa, 4-8 cm. lata, nonnumquam ad 30 cm. longa, 10 cm. lata, oblongo-lanceolata vel subelliptica vel oblanceolata, apice plus minusve acuminata, basi anguste rotundata vel nunc etiam cordulata, margine subregulariter serrata

nunc in foliis maximis denticulis paucis obscure notata, sub anthesin membranacea, ad dehiscentiam fructuum textura firme papyracea atque tactu aspera, supra glabra, infra primum sparsim pilosa praesertim ad costam et nervos tandem glabrescentia sed nonnunquam indumento molli densiusculo diu persistente subtus munita, costa media nervisque 7-12 paribus infra eminentibus, reticulo nervorum distincto. Pedunculi circ. 2 cm. longi albido-tomentosi. Sepala 4, irregulariter late ovata, paulo imbricata, ad 1 cm. longa, fere 1 cm. lata, indumento denso flavido utrinque induta. Petala irregulariter quadrata circ. 1 cm. longa et lata, apice grossidentata, utrinque plus minusve dense pilosula. Stamina numerosissima antheris 3 mm. longis acutatis minute puberulis, filamentis 4 mm. longis puberulis. Discus crassus indumento tenui indutus staminum insertionibus conspicuo foveolatus. Ovarium quadriloculare tomentosum 3 mm. longum stylo subulato ad 7 mm. longo ad medium puberulo. Fructus lignosus cum setis ad 5 cm. diametro; setae circ. 2 cm. longae debiles haud subulatae nec apice spinosae, basi ad apicem setulis hispidae, post dehiscentiam fructuum persistentes; loculi muris crassissimis circ. 2 cm. longi, 1 cm. lati; semina in loculis solitaria oblonga circ. 1 cm. longa, 5 mm. lata nigra nitentia, fere ad medium arillo viridi-flavido margine eroso circumdata.

"West China :—Shweli-Salween divide, Yunnan, in mixed forests. Lat. 25° N. Alt. 7-8,000 ft. Shrub or tree of 30-50 ft. In fruit. April 1919." G. Forrest. No. 17795.

"Eastern flank of the N'Maikha-Salween divide, Yunnan, in open forests. Lat. 26° N. Alt. 8,000 ft. Duplicate of 17795 in flower. Flowers soft yellow. May 1919." G. Forrest. No. 17884.

"Lava bed west of Tengyueh, Yunnan, in open situations on the outskirts of the bed. Lat. 25° N. Alt. 5,000 ft. Shrub or tree of 20-40 ft. In fruit. July 1912." G. Forrest. No. 8535.

"Shweli-Salween divide, Yunnan, in forests. Lat. 25° 6' N. Alt. 7-8,000 ft. Shrub or tree of 20-50 ft. Flowers green-yellow. April 1917." G. Forrest. No. 13656. Also Nos. 16240, 18032, 18390.

Staphylea Forrestii, Balf. f. Sp. nov.

Species affinis *S. holocarpae*, Hemsl. a qua fructibus cylindrico-campanulatis inter alia differt; a *S. Emodi*, Wall. foliolis lateralibus distinctius petiolulatis, petiolis brevioribus, floribus ex ramulis annotinis ortis, capsulis basi latiusculis, seminibus multo minoribus recedit.

Arbor 10-17 m. alta; ramuli glabri. Folia (adulta tantum visa) 3-foliolata, raro 5-foliolata, petiolo 4-9 cm. longo glabro

suffulta; foliola subaequalia 7-10 cm. longa, 3.5-4.5 cm. lata, oblonga-elliptica apice longiuscule acuminata, basi plus minusve late cuneata, textura crasse papyracea, fere ad basim subregulariter serrata, supra atroviridia glabra, infra pallidiora basi; ad axillas nervorum sparsim albo-villosula ceterum glabra; nervi utrinque 6-7 sat conspicui; petioluli laterales 2-3 mm. longi, medianus 2.5-3.5 cm. longus. Flores desunt. Fructus 4.5-6.5 cm. longus, 2-3 cm. latus, cylindrico-campanulatus basi rotundatus vix angustatus. Semina circ. 7 mm. longa nitentia olivacea.

"West China:—In open forests on the Tong Shan, Yunnan. Lat. 27° 20' N. Alt. 9,000 ft. Tree of 30-50 ft. Flowers said to be crimson? In fruit. August 1914." G. Forrest. No. 13344.

The nearest relative of this species is *S. holocarpa*, Hemsl. from which it differs in the leaf characters and the fruit. The seed is somewhat larger than in that species, but much smaller than that of the West Himalayan *S. Emodi*, Wall. The alleged colour of the flower is very doubtful.

Staphylea shweliensis, W. W. Sm. Sp. nov.

Species valde affinis *S. Emodi*, Wall. a qua foliis petiolisque minoribus, foliolis lateralibus bene petiolulatis, floribus multo minoribus praeter alia signa recedit.

Arbor parva vel frutex 6-9 m. altus; ramuli glabri. Folia cum floribus subcoetanea trifoliolata, petiolo vulgo 4-6 cm. longo glabro praedita; stipulae conspicuae ad 2.3 cm. longae lineari-lanceolatae membranaceae; foliola subaequalia vulgo 6-8 cm. longa, 3-3.5 cm. lata, plus minusve elliptica, apice longiuscule et acutissime acuminata, basi plus minusve late cuneata, textura membranacea, regulariter glanduloso-serratula saepius tantum ad medium, supra viridia glabra, infra subglauca glabra; nervi utrinque 5-6 subconspicui; petioluli laterales circ. 3 mm. longi, medianus circ. 1.5 cm. longus. Inflorescentiae ramulos annottinos terminantes 20-30-florae 5-6 cm. longae; pedunculus 4-6 cm. longus; pedicelli circ. 8 mm. longi; bracteae lineares 2-3 mm. longae. Flores ex collectore pallido-flavi. Sepala circ. 6 mm. longa oblonga. Petala obovata calycem subaequantia. Staminum filamenta sparsim pubescentia. Styli in speciminibus dissectis duo cum ovario sparsim et longiuscule villosuli. Fructus deest.

"West China:—Shweli-Salween divide, Yunnan, in thickets. Lat. 25° 20' N. Alt. 9,000 ft. Shrub of 20-30 ft. Flowers creamy-yellow, brown on exterior. July 1917." G. Forrest. No. 15800.

Closely allied to *S. Emodi*, Wall. this species differs in the

smaller glandular-serrulate leaves and much smaller flowers.

Strobilanthes aenobarbus, W. W. Sm. Sp. nov.

Species affinis *S. cyphanthae*, Diels et *S. yunnanensi*, Diels sed caulibus petiolisque longe fulvido-hirsutis, foliis majoribus in sicco tenuiter membranaceis inter alia differt; etiam affinis est *S. rufohirtus*, Clarke qui foliis multo minoribus et indumento diverso recedit.

Planta 60-75 cm. alta erecta subrobusta ramosa. Caules supra pilis fulvidis longis articulatis dense induti, infra glabrescentes atro-virides. Folia petiolo 3-5.5 cm. longo latiuscule alato densissime fulvo-hirto praedita; lamina vulgo 15-21 cm. longa, 7-10.5 cm. lata, ovata vel subelliptica, apice caudato-acuminata, basi late cuneata vel subrotundata, in petiolum alatum abrupte angustata, margine ciliolata regulariter serrato-crenata, crenaturis indurato-apiculatis, in sicco tenuiter membranacea, supra atroviridis setulis vesiculosus conspersa, ad costam dense fulvido-setosa, infra multo pallidior, ad costam eminentem fulvido- vel albido-setosa, ceteroquin sparsim setosula; nervi 8-9 paria. Inflorescentiae terminales et in axillis foliorum superiorum pedunculatae. Flores sessiles; bractae lanceolatae vel ovato-lanceolatae foliaceae vulgo serratae. Calyx 10-11 mm. longus in lobos lineares vel lineari-spathulatos margine scariosos ad partem dorsalem pilis albidis glanduloso-capitatis indutos fere ad imum fissus. Corolla 3-4 cm. longa lavandulaceo-purpurea, multo curvata ad modum *S. cyphanthae*; tubus basi breviter cylindricus mox ventricosus-amplius extra sparsim pilosulus; lobi rotundati circ. 6 mm. diametro. Stamina perfecta 4, filamentis supra glabris infra albobillosulis, polline typico. Stylus apice ad basim pilis glandulosis sparsim praeditus. Fructus deest.

"S.E. Tibet:—Salween-Kiuchiang divide, Tsarong, in shady situations by streams and on the margins of thickets. Lat. 28° 40' N. Long. 98° 15' E. Alt. ? Plant of 2-2½ ft. Flowers pale lavender-purple. August 1919." G. Forrest. N. 19238.

Symplocos Forrestii, W. W. Sm. Sp. nov.

Species affinis *S. sumuntiae*, Buch.-Ham. et *S. botryanthae*, Franch. a quibus floribus remotiusculis brevissime pedicellatis inter alia recognoscitur.

Frutex 2-3 m. altus. Ramuli graciles glabri, seniores cinerascetes lenticellis obscuris. Folia petiolo 1.5-2 cm. longo praedita; lamina plerumque 9-12.5 cm. longa, 3.5-5 cm. lata, oblonga vel elliptica apice longiuscule acuminata, basi cuneata, in parte

superiore minute serrulata, tenuiter coriacea, glaberrima, supra opaco-viridis vel nunc nitidula, infra paulo pallidior; costa media supra impressa, infra multo eminens, nervis venulisque subconspicuis. Inflorescentiae 5-9 cm. longae, in axillis superioribus numerosae, erectae, rigidiusculae, ad 15-florae, pilis ferrugineis sparsim indutae, floribus remotiusculis, pedicellis vix 1 mm. longis calyce brevioribus. Calycis tubus ovoideus circ. 2 mm. longus glaber lobis ovatis obtusis 1 mm. vix aequantibus. Corolla ad 6 mm. longa flava. Stamina circ. 50, in spec. nostris corolla subbreviora. Fructus, si Forrest num. 8241 huc recte allocatus, circ. 6 mm. longus, ovoideus vel breviter cylindricus, brunneus.

"West China :—Shweli-Salween divide, Yunnan, in thickets. Lat. 25° 20' N. Alt. 10,000 ft. Shrub of 6-10 ft. July 1917." G. Forrest. No. 15653.

"Divide between the Shweli and Tengyueh Valleys, Yunnan, amongst scrub. Lat. 25° N. Alt. 6-7,000 ft. Shrub of 6-12 ft. In fruit. June 1912." G. Forrest. No. 8241.

Among the species of the subsection *Lodhra* with racemose inflorescence, the above comes nearest to *S. sumuntia*, Buch.-Ham. The inflorescence is almost spicate but the species is far removed from *S. khasiana*, Brand and its allies.

Teucrium holocheilum, W. E. Evans. Sp. nov.

Inter *Teucria* indo-chinensia haec corollae labio inferiore integro distinctissima est.

Planta repens; caules vetustiores prostrati ad nodos radicanes, ramos floriferos erectos vel decumbentes longitudinaliter sulcatos patenti-glanduloso-villosos (ad 50 cm. attingentes) emittentes. Folia opposita late cordiformia longe petiolata; petiolus 3-4 cm. longus; lamina 3-5 cm. longa, 2.5-5 cm. lata, apice obtusa basi leviter cordata margine regulariter crenata, lobis anterioribus majoribus, parce et adpresse hirsuta. Inflorescentiae breves cymosae axillares laxae corymbiformes 7-13-florae pedunculo petiolum aequante nudo ubique plus minusve glanduloso-hirsuto suffultae; florum pedicelli 2-4 mm. longi ad basim bi-bracteati bracteis viridibus ovatis lanceolatisve integris vel apice paucidentatis saepe basi connatis. Flores mediocres. Calycis viridis tubus campanulatus inconspicue quinquinervius sub anthesi circ. 5 mm. longus, ore obliquo quinquidentato, dentibus anguste triangularibus subaequalibus acutis 2 mm. longis. Corollae roseo-marmoratae tubus anguste cylindricus longe exsertus circ. 11 mm. longus; labium superius valde reductum integrum, inferius concavo-spathulatum 6 mm. longum integrum. Stamina quatuor 2-3 mm. exserta anteriora longiora stylum apice bifidum aequantia. Ovarium glabrum 4-lobatum receptaculo

aucto suffultum, nuculis junioribus glabris nigrescentibus profunde reticulato-foveolatis.

"China :—Yunnan, Shweli-Salween divide. Lat. $25^{\circ} 40'$ N. Alt. 9-10,000 feet. Plant of 6-12 inches. Flowers rose, mottled a deeper shade. Shady pasture on the margin of thickets. June 1919." G. Forrest. No. 18086. In flower.

Thalictrum scaposum, W. E. Evans. Sp. nov.

Inter congeneres filamentis valde dilatatis achaeniis longe stipitatis stylis nullis notatos species haec foliis haud peltatis, caulibus sub-scaposis aphyllis folia aequantibus, achaeniis parvis fere rectis distinguenda est.

Planta glaberrima circ. 15-20 cm. alta. Rhizoma perenne repens curtum, folium radicale unicum atque inflorescentiam breviter subscaposam gerens. Folium biterminalum cum petiolo 10 cm. longo circ. 15-20 cm. longum, foliolis ad 4 cm. longis 3 cm. latis longe petiolulatis subtus glaucescentibus late ovatis vel orbiculari-ovatis obtusis basi cuneatis vel subtruncatis margine irregulariter 3-4-lobatis, lobis latis obtusis. Scapus brevis pauciflorus folium subaequans inflorescentia circ. 10-flora subumbellata terminatus atque vulgo inflorescentiam secundariam, ex axilla bractae parvae viridis trifoliolatae ortam, primariae similem et eam superantem prope apicem emittens. Flores parvi; sepala lactea haud 2 mm. excedentia ovato-lanceolata obtusa integra; stamina circ. 8, circ. 3 mm. longa, filamentis infra angustatis parte superiore magis dilatatis, antheris parvis parallelis. Achaenia staminibus pauciora longe stipitata, juventute erectopatentia stigmatibus sessilibus parvis capitata, maturitate parva, vix 2 mm. longa, 0.75 mm. lata, fere recta haud alata nec compressa longitudinaliter et aequaliter 8-sulcata.

"West China :—Yunnan, Mekong-Salween divide. Lat. $26^{\circ} 40'$ N. Alt. 10,000-11,000 ft. Plant of 6-10 inches. Flowers creamy-white. On cliffs and humus-covered boulders. July 1919." G. Forrest. No. 18194. In flower. Type !

"Upper Burma :—Ridge West of Hpimaw Village. Alt. 9,000-10,000 ft. In shade on limestone cliffs, amongst moss, damp places." F. Kingdon Ward. No. 1759. July 9th 1914. Mature fruit.

An interesting plant, having the foliage of *T. clavatum*, DC. but quite distinct in the short subscapose, few-flowered inflorescence and much smaller, straighter achenes. It is also distinct from the numerous species described by Mgr. L  veill  , with the types of which it has been compared.