

Kew

PLANTS PEOPLE  
POSSIBILITIES

 Springer

---

Decades Kewenses: Plantarum Novarum in Herbario Horti Regii Conservatarum

Author(s): W. J. Bean

Source: *Bulletin of Miscellaneous Information (Royal Botanic Gardens, Kew)*, Vol. 1920, No. 10 (1920), pp. 335-345

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

Stable URL: <http://www.jstor.org/stable/4118597>

Accessed: 19-04-2016 09:42 UTC

---

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at

<http://about.jstor.org/terms>

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



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

acuminata, basi rotundata, 4-4.5 cm. longa, circiter 2 cm. lata, tenuiter chartacea vel submembranacea, glabra, utrinque laxe reticulata; nervi laterales utrinsecus circiter 7, a costa sub angulo fere 90° abeuntes, infra prominentes; petioli 2.5 mm. longi, teretes, glabri; stipulae subulatae, acutae, 3 mm. longae. *Flores* non visi. *Fructus* vesiculosi, magni, circiter 3 cm. diametro, siccitate pallide virides vel straminei, glabri. *Semina* oblique reniformia, circiter 6 mm. lata, striata.

TROPICAL AFRICA. Eastern Sudan: Lado; Yei river, shrub 15-20 ft., *F. Sillitoe* 321.

This is a very remarkable species of *Phyllanthus*, and easily distinguished amongst the African species by its pulviniform older branches and large bladder-like capsules.

1660. **Bobartia Keetii**, *Phillips* [Iridaceae - Aristeae]; affinis *B. gracili*, N.E. Br., et *B. robustae*, Baker, sed ab illa capsulae valvis rugosis, ab hac habitu graciliori pedicello pubescente, bracteis paucioribus differt.

*Planta* 30-60 cm. alta. *Rami* paullo compressi, glabri. *Inflorescentia* 2-4-florifera. *Spatha* 3-6.5 cm. longa, acuminata, glabra. *Bractae* 5, 1.5-2.5 cm. longae, lanceolatae, acutae vel aristatae, glabrae. *Pedicellus* 5 mm. longus, pubescens. *Tubus* 4 mm. longus, 3 mm. latus, glaber; lobi 1.7 cm. longi, 0.6-1 cm. lati, ovato-oblongi, apice emarginati callosique. *Filamenta* 2 mm. longa, linearia; antherae 9 mm. longae, lineares. *Ovarium* 7 mm. longum, 2.5 mm. latum, glabrum, paullo rugosum; stylus 6.5 mm. longus, linearis; lobi truncati, apice papilloso. *Fructus* 0.6-1 cm. longus, 5-9 mm. latus, tuberculatus. *Semina* 3 mm. longa, curvata.

SOUTH AFRICA. Knysna Division, *Keet* 26 and in *National Herbarium* 799.

Approaches *B. gracilis*, N.E. Br., in habit but differs in having rugose valves in the capsule. In this respect it is allied to *B. robusta*, Baker, but has a more slender habit.

Named in compliment to Mr. J. D. Keet, Forest Officer at Knysna, who has been making a careful study of the local flora.

## LIV.—DECADES KEWENSES

PLANTARUM NOVARUM IN HERBARIO HORTI REGII  
CONSERVATARUM.

### DECADES C.—CI.

991. **Berberis Osmastonii**, *Dunn* [Berberidaceae - Berberae]; *B. pruinosa*, Franch., affinis, sed floribus solitariis brevipedunculatis, foliis linearibus distincta.

*Frutex* pumilus, robustus, saepius 15 cm. altus, omnino glaber, ramis hornotinis angulatis lucidis flavis, vetustioribus griseis; spinae trifidae, graciles, 1-1.5 cm. longae. *Folia* 5-7-nim fasciculata, linearia, integerrima, apice pungentia, basi cuneata, sessilia, supra viridia, subtus eburnea, utrinque nitentia, **enervia**,

margine paullo involuta, 1.5–2 cm. longa, 3 mm. lata. *Flores* axillares, solitarii, erecti, flavi, 0.7–1 cm. diametro; pedicelli 5 mm. longi, basi bracteis minutis linearibus suffulti. *Sepala* externa aequalia, lineari-lanceolata, 2 mm. longa. *Petala* gradatim majora, ad 6 mm. longa, obovata, basi attenuata, duobus nectariis instructa. *Stamina* ovarium aequantia. *Ovarium* breviter stylosum. *Fructus* ovoideus, atro-coeruleus, glaucus, 1 cm. longus.

CENTRAL HIMALAYA: Garhawl 2700–3000 m., *Osmaston* 225 (fruit) 18.5–15; Kheta Nawali Reserve at 2900 m., *Osmaston* 894, 919 (flowers) 15.5–18.

*Osmaston's* Barbary should be placed in Schneider's enumeration as No. 35a, next to *B. pruinosa*, Franch. (see C. K. Schneider in *Bull. Herb. Boiss.* Series 2, v. 400).

992. ***Erysimum Melicentae***, *Dunn* [Cruciferae-Sisymbrieae]; ab *E. odorata*, Ehrh., floribus majoribus, petalis aurantiacis, siliquisque erectis distinctum.

*Herba* biennis, 30–70 cm. alta. *Caulis* saepe simplex. *Folia* radicalia et caulina lineari-lanceolata, apice acuta, basi attenuata, sessilia, 6–8 cm. longa, distanter et obscure dentata, pilis bipartitis et tripartitis appressis mixtis obsita. *Racemi* primo densiflori, demum longe extensi. *Flores* magni, 1.5 cm. longi et lati, aurantiaci; pedicelli 5 mm. longi. *Sepala* erecta, lineari-oblonga, obtusa, appresse puberula, membranacea, venosa, 8–9 mm. longa; lateralia basi saccata. *Petala* ampla, sepalis duplo longiora; unguis gracilis, laminae obovatae aequalis. *Stamina* sepalis aequilonga vel sublongiora, longioribus superne dilatatis dorso subalatis. *Antherae* lineares, profunde bilobae. *Ovarium* 4-gonum; stylus elongatus; stigma discoideum, dilatatum. *Siliquae* striatae, erectae, pedicellatae, canae, tetragonae, 4–6 cm. longae, stylo subgracili terminatae; valvae carinatae, nervo medio valido percursae; replum tenue; septum completum, enerve. *Semina* plurima, conferta, 1-seriata; testa punctulata.

INDIA. Kashmir; 2300–2700 m., *T. Thomson*; pass of Darawai, 3000 m., *Winterbottom*; on the South side of Fezipore Nullah close to Gulmarg, *Melicent Wathen*.

In the *Fl. Brit. Ind.* i. 154, Hooker doubtfully refers certain Kashmir specimens to the European *E. odoratum*, Ehrh. (*Beitr.* vii. 157). Further knowledge of that plant justifies Hooker's caution and shows it to be necessary to find a new name for the Kashmir plant. The above diagnosis is drawn from flowering specimens in the Kew herbarium together with Thomson's notes on the fruit. Among the other material at Kew is a small specimen presented along with her other dried plants by Mrs. Wathen, and the opportunity is taken of dedicating it to her and at the same time of placing on record the numerous additions to the Indian flora which have been recognised from her beautiful coloured sketches of Kashmir plants supported by correspondingly numbered dried specimens. Such are *Moneses uniflora*, Gray (previously known no nearer than Turkestan), and *Tulipa praecox*, Ten., from Persia.

993. **Dioticarpus**, *Dunn*, gen. nov. [Dipterocarpaceae]; a *Balanocarpus*, *Bedd.*, sepalis 2 in alas breves auriformes auctis differt.

*Calycis* tubus subnullus, toro adnatus; lobi sub anthesi breves, obtusi, ita imbricati, ut bases interiorum ab exterioribus fere oclusae; lobi maturi 2, caeteris bis longiores, patentes, recurvi. *Stamina* 15; filamenta basi expansa; antherae ovatae, connectivo in capillum producto. *Ovarium* 3-loculare, loculis 2-ovulatis. *Stylus* breviter subulatus. *Fructus* indehiscens, 1-spermus, intra bases calycis loborum inclusus. *Semen* globosum; cotyledones crassi, inaequales, 2-3-lobi, radicula in fossa externa prominente. —Arbores resinosa, inflorescentia cano-tomentosa. Stipulae caducae. Folia integerrima, coriacea, penninervia, reticulato-venulosa. Flores parvi, secus ramos paniculae 1-seriatim subsessiles.

**D. Barryi**, *Dunn*, sp. unica.

*Arbor* magna, praeter inflorescentiam glabra. *Folia* longe petiolata, oblongo-lanceolata, ad apicem rotundatum angustata, basi obtusa, 9-11 cm. longa, papyracea, nervis lateralibus 10-11-paribus cum tertiis prominulis; petioli 2 cm. longi. *Paniculae* axillares, foliis breviores, ut calyces et petala extus omnino breviter albo-tomentosae. *Flores* secundum ramos in uno latere subsessiles, 6 mm. longi. *Calyx* 5-lobus, 2 mm. longus; lobi ovati imbricati, 3 exteriores bases interiorum ocludentes. *Petala* 5, oblonga, unguiculata, torta, apice breviter lacera. *Stamina* 15, 1-1.5 mm. longa; filamenta basi dilatata; connectivum in appendicem capillarem productum. *Ovarium* 3-loculare, 1.5 mm. longum, conicum; ovula 5-6; stylus subularis. *Fructus* indehiscens, globosus, apiculatus, 2 cm. diametro, 1-spermus, in calycis loborum basibus induratis laxè inclusus, lobis 2 exterioribus in alas patulas paullo decurvas 2-2.5 cm. longas auctis.

SOUTH INDIA. Madras Presidency: in evergreen forest near the Kuduvarai river, 300 m., a solitary tree, *Barry*; abundant on the Tinnevely Hills, *Beddome* 27; Kannikatti to Karyar, Tinnevely, *Barber* 3163; Tinnevely, *Hayne* 213B.

The tree is known to yield a very valuable timber, and was considered at the District Forest Office at Tinnevely to be quite distinct from other allied species. Specimens were therefore sent to Kew by Mr. W. C. Hart, Deputy Forest Officer. They proved to represent a new genus near *Balanocarpus*, *Bedd.* It can be certainly distinguished from that genus by the two elongated fruiting sepals and by the fact that all the enlarged sepals are divided nearly down to the fruit-stalk and spread loosely round the ripe nut instead of forming a closely investing gamosepalous cup as in *Beddome's* genus.

994. **Indigofera cedrorum**, *Dunn* [Leguminosae-Galegeae-Indigofereae]; *T. puchellae*, *Roxb.*, racemis pedunculatis floribus minoribus coeruleo-purpureis differt.

*Frutex* 1 m. altus, ramis gracilibus pallidis. *Folia* imparipinnata, 5-10 cm. longa; foliola (2-) 7-11-paria, ovata, mucronulata. 1-2 cm. longa, supra subglabra, subtus tenuiter adpresse

pubescentia; primo stipellata. *Racemi* foliis paullo breviores, pedunculis tandem duplo longiores. *Flores* subsessiles, 0·8–1 cm. longi, coeruleo-purpurei, bracteis cymbiformibus caudatis primo tecti. *Calyx* fere explanatus, 2 mm. longus, ut vexillum molliter sericeus; dentes breves, triangulares. *Vexillum* obovatum, 8 mm. longum, ungue subnullo. *Legumen* cylindricum, in acumen conicum breve subito acuminatum. *Semina* 6–10.

INDIA. Chamba State: the commonest shrub in the undergrowth of the Deodar Forest in Chitrari Reserve, flowering in May and June, fruiting in August, 1300–2000 m., *Parker* 2, 3, 4, 41, 42, 43; Kashmir, 1700–2000 m., *Thomson*.

Mr. Parker first drew my attention last year to the probable existence of this new species in Chamba, and has since sent abundant and excellent material to substantiate his opinion. He notes, incidentally, that the first leaves produced have fewer leaflets than those appearing later in the growing season. Leaflets on the stool-shoots attain as much as 2·5 cm. in length.

995. **Caragana Hoplites**, *Dunn* [Leguminosae-Galegeae-Astragaleae]; a *C. jubata*, Poir., foliolis laxe pubescentibus (non dense villosis) prominenter venosis (nec eveniis) differt.

*Frutex* erectus, ad 2 m. altus, ramosus, cortice rubescente tandem griseo rugoso; rami dense foliati, undique petiolis persistentibus spinosis glabris 2·5–3·5 cm. longis horridi. *Folia* solitaria vel 2–3-na, cum bracteis 4–6 scariosis ovatis 4–5 mm. longis fasciculata, 4–5-juga, petiolata, 2–3 cm. longa; foliola oblanceolato-linearita, apiculata, 7–9 mm. longa, ut calyces laxe pubescentia pilis sericeis, nervis secundariis infra prominentibus 4–6-paribus. *Pedunculi* solitarii, e foliorum fasciculis orti, uniflori, breves, sub flore bibracteolati. *Flores* 2·5–3 cm. longi. *Calyx* tubulosus, 1·5 cm. longus; dentes lanceolati, acuminati, tubum aequantes. *Petala* alba vel pallide rosea, calyce duplo longiora; vexillum late obovatum, longe unguiculatum, lateribus reflexis; alarum auriculae lineares, unguem fere aequantes; carina cum alis vexillo brevior, basi auricula brevi instructa. *Ovarium* dense pubescens. *Legumen* non visum.

INDIA. N. Garhwal: Nandagiri Valley, 3000–3200 m., flowering in June, *Osmaston* 1088.

996. **Centratherum Rangacharii**, *Gamble* [Compositae-Vernoniaeae]; *C. molli*, Benth., et *C. courtallensi*, Benth., affinis; ab utroque capitulis minoribus et foliis fere semper sessilibus differt, ab hoc etiam phyllariis scabridis, ab illo phyllariis non lanatis distinguendum.

*Herba* erecta, annua (?), ramulis elongatis striatis furfuraceo-villosis. *Folia* lanceolata, apice acuta, mucronata, in ramulis foliiferis basi fere amplexicaulia, in floriferis attenuata, supra strigoso-hirsuta, subtus nervis exceptis albo-tomentosa, margine paullo crenulata, 2–7 cm. longa, 1–2 cm. lata; nervi primarii utrinque 8–12, subtus conspicui et nervulis conspicuis juncti; petiolus in foliis ultimis nullus, in inferioribus praecipue in ramulis floriferis brevissimus. *Capitula* solitaria, longepedunculata, bracteis exterioribus 1–2 folia simulantibus munita; phyllaria inferiora basi scariosa, glabra, supra ovata, foliacea,

strigoso-hirsuta, conspicue nervosa, superiora gradatim longiora, ultima omnino scariosa; receptaculum areolatum. *Corolla* tubularis, elongata, purpurea, lobis 5 brevibus angustis. *Achaenia* glabra, obtusa, 10-costata; pappus e setis 1-4 brevibus scabris perdeciduis sistens.

SOUTH INDIA. Tinnevely District: Mahendragiri and Naterikal; 1914 and 1916, *K. Rangachari* Herb. Madras. 10910, 13195, 13356; Kalivayalpil to Travancore boundary, alt. (probably) from 1000 to 2000 m., May, 1901, *C. A. Barber* 3030.

997. **Vernonia anamallica**, *Beddome* MS. (Herb. Madr.) *ex Gamble* [Compositae-Vernonieae]; species distincta ramulis et foliis subtus appresse aureo-tomentosis, achaeniis pentagonis glabris sed glandulosis et corollis brevibus insignis.

*Frutex* erectus, ramulis crassis striatis aureo-fulvis. *Folia* elliptico-lanceolata, apice acuta, margine brevissime crenato-serrata, supra nervis puberulis exceptis glabra, subtus appresse aureo-tomentosa, 6-9 cm. longa, 2-3 cm. lata; nervi primarii utrinque 8-10, graciles, curvati, reticulatione ob lanuginem obscura; petiolus 5-8 mm. longus. *Capitula* 1 cm. lata, in corymbis subterminalibus breviter pedunculatis 5 cm. latis, pedicellata; phyllaria brevia, ovata, mucronata, pubescentia. *Corolla* brevis, 2-3 mm. longa, lobis brevibus tubum aequantibus. *Achaenia* pentagona, glabra, glanduloso-punctata; pappus exterior setaceus, brevissimus, interior ad 5 mm. longus, deciduus.

SOUTH INDIA. Anamalai hills; in the higher ranges, 1873, *R. H. Beddome* (Herb. Madr.).

998. **Vernonia Bourdillonii**, *Gamble* [Compositae-Vernonieae]; *V. Wightianae*, Arn., affinis, foliis minoribus ad apices ramulorum congestis, corymbis paucifloris, phyllariis majoribus acuminatis differt; *V. Ramaswamii*, Hutch., etiam similis, quoad corymbos paucifloros, sed foliis brevioribus subtus fulvo-tomentosis differt.

*Frutex* erectus, plus quam 1 m. altus, ramulis crassis nodosis fulvo-pubescentibus foliis apices versus congestis. *Folia* oblanceolata, apice obtusa, basi attenuata, margine obscure crenata supra ad nervos et subtus dense crispato-fulvo-tomentosa, ad 5 cm. longa, circiter 1 cm. lata; nervi primarii obscuri, utrinque 6-7, curvati; petiolus vix ad 5 mm. longus, basi subamplexicaulis. *Capitula* in corymbis 1-3-natis terminalibus et axillaribus, 1-1.5 cm. lata, pedunculis ad 12 cm. longis supra bracteatis, pedunculis ultimis 1-2 cm. longis; phyllaria lanceolata, acuminata, subaequilonga (circiter 5 mm.), extus crispato-pubescentia. *Corolla* infundibularis, extus puberula, lobis brevibus. *Achaenia* 4-5-gona, plerumque 4-gona, fere glabra sed glandulosa, 2 mm. longa; pappus exterior brevis, paleaceus, fimbriatus, interior lutescens, cito deciduus.

SOUTH INDIA. Hills of Travancore at Chimunji and other localities in grassland at elevations of 1300 m. and higher, April, 1898 and 1903, *T. F. Bourdillon* 972 and 1379; Ponmudi, Feb., 1914, *M. Rama Rae* 2363.

999. **Vernonia gossypina**, *Gamble* [Compositae-Vernonieae]; *V. salvifoliae*, Wight, atnis, capitulis minoribus, foliis latioribus eximie lanatis, achaeniis trigonis glandulosis differt.

*Frutex* erectus, ramulis crassis albo-lanatis, ultimis lanugine longissima inter folia congesta tectis. *Folia* sessilia, lanceolata, apice acuminata, basi subamplexicaulia, margine minute serrata, supra juventute albo-sericea, demum nervis exceptis subglabra, rugosa, subtus semper lanugine alba ad costam longa tecta, ad 15 cm. longa, 5 cm. lata; nervi primarii circiter 15–16 reticulatione areolata et lanata juncti. *Capitula* in corymbis longe pedunculatis terminalibus et axillaribus 7 cm. latis, brevissime pedicellata, vix 5 mm. longa, 3 mm. lata, 5-flora; flores purpurei; phyllaria ovata, parva, marginibus araneoso-lanata, apice acuta, rufescentia. *Corolla* infundibularis, 3 mm. longa, glabra et glandulosa, lobis brevibus recurvis. *Achaenia* trigona, annulo crasso coronata, inter costas multiglandulosa, 1 mm. longa; pappus exterior paleaceus, fimbriatus, interior 3 mm. longus, paucisetosus, cito deciduus.

SOUTH INDIA. Tinnevely District: between Naterikal and Sengalteri; probably about 1000–2000 m., 1916–17, *K. Rangachari* 13624, 14536 (Herb. Madras).

1000. **Vernonia Heynei**, *Bedd.* MS. (in Herb. Madr.) *ex Gamble* [Compositae-Vernonieae]; *V. indicae*, C. B. Clarke, et *V. Fysoni*, Calder, similis, praecipue quoad capitula parva, sed phyllariis obtusis latis differt.

*Frutex* erectus, ramulis crassis sulcatis griseo-puberulis. *Folia* sessilia, elliptico-lanceolata, apice acuminata, basi attenuata et in petiolum decurrentia, margine serrata, mucronata, dentibus recurvis, supra nervis exceptis glabra, subtus dense et appresse albo-tomentosa, 10–12 cm. longa, 4–5 cm. lata; nervi primarii utrinque circiter 10, paralleli, nervulis transversis obscuris juncti. *Capitula* in corymbis pedunculatis terminalibus 10 cm. latis, pedicellata, circiter 1 cm. longa et lata et 12-flora; flores purpurei (?); phyllaria inferiora ovata, acuminata, ciliata, pubescentia, superiora obtusa et fere glabra, mucronata. *Corolla* gracilis, ad 7 mm. longa, lobis brevibus. *Achaenia* eximie 10-costata, glabra; pappus rufescens, 7 mm. longus, seriei exterioris brevissimus.

SOUTH INDIA. Travancore Hills, *R. H. Beddome* 1873 (Herb. Madras).

1001. **Vernonia multibracteata**, *Gamble* [Compositae-Vernonieae; *V. salvifoliae*, Wight, similis, quoad lanuginem ramulorum et foliorum paginarum inferiorum, sed phyllariis et achaeniis omnino discrepans.

*Frutex* erectus, ramulis crassis albo-lanatis. *Folia* lanceolata, acuminata, basi attenuata et in petiolum decurrentia, margine crenulata, supra rugosa et pilis moniliformibus tecta, subtus molliter appresse albo-lanata, ad 20 cm. longa, 6 cm. lata; nervi primarii utrinque 18–20, paralleli et reticulatione obscura juncti; petiolus 1–2 cm. longus, crassus, albo-lanatus. *Capitula* in corymbis terminalibus patulis 10–12 cm. latis, lanugine alba vel

paulla fulvida tecta, pedicellata, oblonga, 1.5 cm. longa, 1 cm. lata; phyllaria permulta, lanceolata, circiter 1 cm. longa, exteriora longe acuminata, albo-araneosa, intermedia fere glabra, scariosa, superiora paullo breviora, mucronata. *Corolla* cylindrica, glabra, 4 mm. longa, lobis brevibus. *Achaenia* tetragona, angulis alatis, glabra, brevia; pappus exterior paleaceus, fimbriatus, interior e setis circiter 5 deciduis sistens.

SOUTH INDIA. Travancore: Peermerd; 1000 m., Dec., 1880, R. H. Beddome.

1002. **Vernonia pulneyensis**, Gamble [Compositae-Vernonieae]; *V. pectiniiforma*, DC., affinis, corymbis paucifloris breviter pedunculatis, phyllariis albidis apice solum coloratis et foliis ovatis paucinerviis margine distanter serratis differt.

*Suffrutex* subherbaceus, ramulis striatis pilis moniliformibus longis tectis. *Folia* ovata, membranacea, apice acuta, mucronata, basi in petiolum attenuata, margine distanter serrata, supra praecipue ad nervos pilis moniliformibus sparsim ornata, subtus villosa, 5–10 cm. longa, 2–4 cm. lata; nervi primarii utrinque 6–7, curvati et reticulatione juncti; petiolus gracilis, circiter 5 mm. longus. *Capitula* in corymbis terminalibus vel aliquando axillaribus subsessilia, 1 cm. longa et lata, 12–15-flora; flores purpurei; phyllaria inferiora ovata, longe mucronata, superiora gradatim longiora, ultima scariosa, straminea, obtusa, 5 mm. longa, omnia rufescentia apice excepto albedo, ciliata et parce araneosa. *Corolla* gracilis, 5 mm. longa, in lobis 5 brevibus divisa. *Achaenia* eximie 10-costata, glabra; pappus albidus 5 mm. longus, cito deciduus.

SOUTH INDIA. Pulney Hills: Banks of the Pambar river at Kodaikanal; 2300 m., in thin forest, April, 1916, P. F. Fyson 4057, 4130.

1003. **Vernonia shevaroyensis**, Gamble [Compositae-Vernonieae]; *V. volkameriaefoliae*, DC., affinis, capitulis unifloris et foliis subtus scabride pubescentibus differt.

*Arbor* parva (?) ramulis crassis ultimis nigris pubescentibus. *Folia* oblanceolata, apice acuta, basi in petiolum brevem crassum attenuata, margine integra vel repando-crenata, supra nervis exceptis glabra, subtus scabride pubescentia, 16–24 cm. longa, 5–8 cm. lata; nervi primarii utrinque 10–12, distantes, prominuli, marginem versus curvati et nervulis irregularibus prominentibus juncti; petiolus vix 1 cm. longus. *Capitula* in paniculis terminalibus numerosa, parva, uniflora; flores purpurei (?); phyllaria oblonga, dorso sericeo-villosa, inferiora parva, obtusa, superiora longiora, acuta. *Corolla* elongata, circiter 1 cm. longa, ad medium in lobos 5 lineares divisa, extus puberula. *Achaenia* obscure 10-costata, costis vix prominentibus, basin versus attenuata, inter costas glandulosa; pappus stramineus, 1 cm. longus, setis exterioribus et interioribus aequalibus.

SOUTH INDIA. Shevaroy Hills; Perrottet collection, no. 376 (Herb. Calcutta).

1004. **Helichrysum perlanigerum**, Gamble [Compositae-Inuloideae]; *H. Wightii*, C. B. Clarke, affinis, lanugine molli



floccosa cinnamomea conspicua, foliis latioribus tenuioribus costis non appressis et bracteis involucri interioribus acutis differt.

*Suffrutex* perlaniger, scaposus. *Folia* basalia stellatim patentia, e basi lata lanceolata, acuta, submembranacea, 5-costata, utrinque lanugine molli cinnamomea praedita, 6–7 cm. longa, 2–2.5 cm. lata, caulina lanceolata, acuta scapo-appressa, 2–3 cm. longa, 1 cm. lata. *Flores* capitulorum exteriores ♀, in una vel aliquando duobus seriebus, interiores permulti, ♂, omnes fertiles; capitula sessilia ad ramos corymbi terminalis congesta, inflorescentiam ad 10 cm. latam formantia; rami et ramuli et capitula ad basin lanugine molli cinnamomea dense tecti. *Bractee* involucrantibus albidae vel flavo-albidae, ovatae, exteriores obtusae, interiores acutae. *Corollae* florum ♀ graciles, 2–3-dentatae, florum ♂ tubulares, lobis 5 patentibus glandulosis. *Achaenia* minuta, obovoidea, minute squamosa; pappus uniserialis, parce plumosus.

SOUTH INDIA. Anamalai Hills of Coimbatore; about 2000 m., *R. H. Bedome* (Herb. Madras).

1005. **Senecio Lawsoni**, *Gamble* [Compositae-Senecionideae]; *S. lavandulifolio*, DC., affinis, foliis minoribus per totum caulem regulariter dispositis, corymbis paucifloris et ligulis plurinerviis differt.

*Herba* perennis erecta, ramulis e basi gracilibus ad 35 cm. longis villosis. *Folia* linearia, sessilia, apice mucronata, marginibus ad costam reflexis, 10–17 mm. longa, costa villosa excepta glabra. *Capitula* in corymbo terminali 1–6-cephalo, circiter 10–15 mm. lata; floribus exterioribus ♀ 15–20 ligulatis, interioribus ♂ tubulosis, omnibus flavis fertilibus. *Phyllaria* circiter 20, lineari-lanceolata, apice acuta ciliata, margine scariosa, dorso albo-villosa, infra bracteis brevibus linearibus munita, 5–7 mm. longa. *Corollae* florum ligulatum reflexae, 2 mm. latae, 5–7-nerves florum tubulorum graciles, 4 mm. longae, lobis 5-parvis. *Antherae* basi ecaudatae. *Achaenia* anguste oblonga, glabra, pauci-costata. *Pappus* albus, disci floribus aequalis.

SOUTH INDIA. Nilgiri Hills: on grassy downs between Avalanché and Sispara; about 3000 m., Nov. 1883, *J. S. Gamble* 13427; Nov. 1887, *M. A. Lawson* 44.

1006. **Diospyros impressa**, *Dunn et R. Williams* [Ebenaceae]; a *D. Brandisiana*, Kurz, cui quoad inflorescentiam floresque consimillima, foliis adultis subtus molliter pubescentibus et nervis circiter 16-jugis supra impressis venisque transversis supra plane obscuris differt.

*Arbor* dioica, cortice griseo-brunneo. *Folia* chartacea, elliptico-oblonga vel oblongo-lanceolata, apice acuminata, basi acuta, adulta supra glabra, subtus ferrugineo-pubescentia, 21–27 cm. longa, 5–9 cm. lata, nervis 16-paribus supra impressis subtus prominentibus, venis transversis plane obscuris. *Cymae* densiusculae, ramosissimae, in ligni vetusti nodis congestae, ut bractee et calyces atro-fusco-tomentosae; bractee minutae, oblongo-lanceolatae. *Flores* ♀ tantum visi.

*Calyx* 2 mm. longus, 5-partitus, lobis acutis. *Corolla* adpresse fulvo-pubescentis; tubus versus basin subampliatu, 5-angularis, 6 mm. longus; lobi 5, oblongi, obtusi, 6 mm. longi. *Stamina* reducta; filamenta ad 3 mm. longa, pubescentia. *Ovarium* dense fulvo-pubescentis, 10-loculare; stylus 4 mm. longus, 5-fidus. *Ovula* solitaria, suspensa.

INDIA. Burma: Papun (about 150 miles N.E. of Rangoon), *Meebold* 17253.

1007. **Trachelospermum anceps**, *Dunn et R. Williams* [Apocynaceae-Echitideae]; *T. laurifolio*, Ridley, similis sed foliis magnis basi obtusis differt.

*Arbor* parva. *Folia* opposita, obovato-lanceolata vel oblongo-lanceolata, apice abrupte acuminata, basi obtusa vel rotundata, 24-38 cm. longa, 9-11 cm. lata, supra chartacea, glabra, subtus pilis brevibus sparsis mollia; nervi 16-pares, subtus prominentes, intra marginem anastomosantes, costa fortissima; petioli 1-1.5 cm. longi. *Flores* in cymis puberulis brevibus umbelliformibus circiter 10-floris; pedunculi 1-2 cm. longi; pedicelli graciles, 2-3 cm. longi, basi fracteis brevibus ovatis instructi. *Calyx* 5-partitus; lobi 5, late ovati, 4-5 mm. longi. *Corollae* tubus supra contractus, intus pilis in fauce dense instructus; lobi 5, lati, contorti, dextrorsum obtegentes, 10 mm. longi. *Stamina* in summo tubo affixa, filamentis brevissimis; antherae exsertae, acutae, basi sagittatae, circa stigma in conum conniventes et ei medio adhaerentes; connectivum dorso basi tuberculo carnosum conspicuo instructum. *Discus* annularis, 5-lobus. *Ovarii* carpella 2, primum connata; stylus filiformis, 5-7 mm. longus; stigma breve, ovatum, apiculo instructum. *Fructus* non visus. *Vallaris* ? *anceps*, Wall. Cat. 1622.

LOWER BURMA. Tenasserim: Tavoy; flowers, April 1911, *Meebold* 14966; Kyautalan, flowers, Mar. 1911, *Meebold* 15408; Mergui; Letpanthaung, flowers, Mar. 1911, *Meebold* 14654.

1008. **Hoya burmanica**, *Rolfe* [Asclepiadeae-Marsdenieae]; affinis *H. lanceolatae*, Wall., sed floribus multo minoribus et coronae lobis latioribus differt.

*Fruticulus* ramosus, 25-40 cm. altus. *Rami* teretes, pallidi, 20-25 cm. longi, subpenduli. *Folia* subpendula, breviter petiolata, anguste ovato-lanceolata, acuminata, subconca, crassiuscula, glabra, glauco-viridia, 5-8 cm. longa, 1.3-2 cm. lata; petioli 5 mm. longi. *Umbelli* terminales et axillares, breviter pedunculati, pauciflori; pedunculi parce pubescentes, 5 mm. longi. *Bractee* squamulosae, pubescentes, 0.5 mm. longae. *Pedicelli* graciles, glabri, 1-1.2 cm. longi. *Flores* circiter 1 cm. diametro, lutei, coronae basi purpureo-suffusi. *Sepala* ovato-lanceolata, suba-cuta, glabra, 2.5 mm. longa. *Corolla* rotata, circiter 1 cm. diametro, velutina; lobi ovati, apice recurvi, acuti. *Coronae* lobi stellato-patentes, elliptico-ovati, obtusi, subconca 2.5 mm. longi, basi purpurei.

INDIA. Burma; Chin Hills.

Flowered in the Orchid House of Lieut.-General Sir Arthur

G. F. Browne, K.C.B., Lower Bourne, Farnham, Surrey, in August, 1920, the plant having been received with a number of Orchids from a friend in the Chin Hills, Burma.

The flowers are deep yellow, with a red-purple stain at the base of the corona-lobes.

1009. **Tupistra veratrifolia**, *Kurz MS. ex Dunn* [Liliaceae-Aspidistreae]; a *T. Stoliczkana*, Kurz, perianthii tubo 1-2 mm. (non 3 mm.) longo, pedunculo spicam aequante (non bis longiore) differt.

*Herba* robusta, rhizomate repente crasso. *Folia* basi cataphyllis oblongis obtusis membranaceis tandem fibrosis cincta, 1-3, oblanceolata, acuminata, 1 m. alta, 10-15 cm. lata, in petiolum 15-20 cm. longum attenuata, integerrima, glabra, nitentia. *Spicae* erectae, densiflorae, sub anthesi ad 7 cm. longae, fructu 25 cm. longae, pedunculo aequilongo suffultae; bracteae floribus brevissime campanulatus, 1-2 mm. longus; lobi 6, patentes, oblongi, obtusi, 3 mm. longi. *Stamina* 6; filamenta brevissima, tubo inserta, perianthii lobis opposita. *Ovarium* parvum, sessile, 3-loculare; stigma peltatum, trilobum, ovario latius. *Bacca* immatura globosa.

INDIA. Khasia Hills and Brahmaputra plains, *Kurz*. EASTERN HIMALAYA. Outer Abor Hills, Janakmukh, *Burkill* 37281. December 19th, 1911.

The two sheets from which the flowering plant is described were found under a cover in the Calcutta Herbarium inscribed with the above name in Kurz's handwriting. They represent the type of the species. Both were lent to Kew to compare with Burkill's fruiting specimen with which they agree. The opportunity is taken of publishing Kurz's MS. name. One of the sheets is returned to Calcutta, the other by Lt.-Col. A. T. Gage's courtesy is retained in the Kew Herbarium.

1010. **Arundinaria Murielae**, *Gamble* [Gramineae-Bambuseae]; species formosa, *A. nitidae*, Mitford, affinis, foliis petiolatis majoribus longissime setaceo-acuminatis differt.

*Frutex* caespitosus, ramosissimus, culmis gracilibus aureis glabris sed juventute insigniter cera alba munitis circiter 7-10 mm. diametro 2-4 m. altis, internodiis inferioribus 20 cm. longis. *Vaginae* culmorum stramineae, striatae, glabrae sed margine ciliatae, apice rotundatae, vix auriculatae, 10-12 cm. longae; pseudophylla reflexa, 4-6 cm. longa, angustissima, ligula perbrevis. *Folia* oblongo-lanceolata, submembranacea, apice longissime setaceo-acuminata, basi plus minusve rotundata, 7-12 cm. longa, 1-1.5 cm. lata, marginibus hyalinis praecipue superne scabris, nervis secundariis utrinque 4-5, venulis transversis permultis conspicuis approximatis; petiolus gracilis, 3-4 mm. longus; vaginae striatae, glabrae, ore paullo productae et ciliis 1-3 cito deciduis munitae; ligula 1 mm. longa, brevissime ciliolata. *Ramuli* foliacei, ad nodos culmorum aggregati, unus vel duo satis longe producti, reliqui breves, omnes basi bracteis stramineis culmorum

vaginis similibus muniti. *Flores* et caryopsis adhuc ignoti. *Arundinaria* sp., Rendle in *Plantae Wilsonianae*, ii. 64.

CHINA. Western Hupeh: Fang Hsien, uplands at 2000–3000 m. alt., *E. H. Wilson* 1462.

Description from specimens taken from clumps cultivated in the Bamboo Garden, Royal Botanic Gardens, Kew, in August 1920 (by W. J. Bean and J. S. Gamble). By Mr. Wilson's special wish the species is dedicated to his daughter, Muriel Wilson.

This Bamboo was presented to Kew from the Arnold Arboretum in the autumn of 1913. A single plant came in a pot, and this was divided up into about half a dozen pieces, which were re-potted and grown for a few months in a greenhouse. They were then planted out in the collection of Bamboos near the Rhododendron Dell where they have grown luxuriantly and promise to be as ornamental as any hardy species. They are at present (October 1920) about 8 ft. high forming dense masses of culms, the outer ones of which arch outwards towards the top and give the plants a very graceful appearance. In growth *A. Murielae* resembles *A. nitida*, Mitford, more closely than any other hardy species in cultivation, but the culms are stouter and the leaves larger. Moreover, Mr. E. H. Wilson, who collected and first introduced it to cultivation, informs me that the old culms are rich yellow; in *A. nitida* they are purple-black. On the whole *A. Murielae* is a distinct and most attractive addition to hardy bamboos.

W. J. BEAN.

## LV.—NOTES ON THE BALSAMS OF CHITRAL AND THE KACHIN HILLS.

By the late MAJOR S. M. TOPPIN, R.A., M.C.

In a previous number (*Kew Bull.*, 1918, 156), the bequest to Kew was announced of a large collection of Indian plants in accordance with the will of Major Toppin. The excellent set of *Impatiens* which it included, accompanied by typewritten descriptive notes by himself and coloured sketches was specially noted. These proved to be of great value and as they were almost ready for publication the following paper has been arranged with such few additions as were necessary by Mr. S. T. Dunn, B.A., Assistant for India in the Herbarium. The paper is followed by some extracts from Sir Joseph Hooker's letters to Major Toppin on the subject of his *Impatiens* collections.

### FERTILIZATION OF BURMESE IMPATIENS.

For the purpose of discussing the fertilization of the Balsams found in Burma, I have divided the species up into three main groups according to the relative positions of the different portions of the flower—

(1) The vexillum and alae patent and in such position to each other as to close the lip.