

Allia praesertim Sinensia nova vel minus cognita.

BY

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Conante auctore specimina sinensia *Allii* generis in Herbario Kewensi asservata secundum monographiam Regeli rite disponere, exortae sunt notulae qualescumque sequentes, nunc tandem in lucem pedetentim editae. Quod specimina omnia Edinensia libenter mihi commodavit, opem magnam tulit Custos Herbarii Hort. Bot. Reg. Edinensis, cui gratias quam maximas agere nunc libet. Specimina citata, nisi "Herb. Edin." vel "[E.]" notata, in Herbario Hort. Bot. Reg. Kewensi inveniuntur.

Sectio SCHOENOPRASUM.

Allium macrostemon Bunge Enum. Pl. Chin. bor. coll. 1831, 65 (1834) (Mém. Sav. Étr. Acad. St. Pétersb. ii. 139); Regel, All. Monogr., in Act. Hort. Petrop. iii. 2. 105 (1875).—*A. chinense* C. H. Wright in Forbes et Hemsl., Enum. Pl. China, in Journ. Linn. Soc. xxxvi. 120 (1903), non Don. *A. lineare* C. H. Wright l.c. 123 (1903), non L.

Ob hanc speciem frequentissime in herbariis perperam determinatam, delectum speciminum ampliusculum sequentem spero non inutile fore. Speciem primum e regione Pekinensi a cl. Bunge descriptam perisque in provinciis Sinarum inque Iaponia crescere nunc patet.

MANCHURIA. FENGTIEN: Chien-shan, 14 Jun. 1876, *J. Ross* 501; Mukden to Liao-yang, *J. Ross* 348, 444; Tung-che-shien (? = Tung-hwa-hsien), Mai.-Aug. 1886, *H. E. M. James*.

KOREA. CHEL-LA SOUTH: growing amongst stones near beach, P[ort]. H[amilton], Korean Archipelago, 13 Jun. 1863, *R. Oldham* 875. "Corea, west coast," in woody places, *Wykeham Perry* 45. KYENG-SANG NORTH: circa Tai-Kou, 30 Mai. 1906, *Faurie* 260. QUELPAERT: sine loc. spec., Aug. 1907, *Faurie* 2126; in agris, Yokan, Mai. 1908, *Taquet* 1572; in herbis littoris, Sept. 1909, *Taquet* 3311.

CHINA. SHENSI: apud Fu-kio, Apr. 1895, *Giraldi* 5954. CHIHLI: Pekin, 1877, *Bretschneider* 783; Peking, moist place south of city, 13 Jun. 1920, *N. H. Cowdry* 2175. SHANTUNG: near rubbish heaps, Chefoo, Jun. 1881, *Wykeham Perry*. CHEKIANG: on the City Wall, Ningpo, Jun. 1861, *R. Oldham* 82 ("flowers rose-coloured").

[Notes, R.B.G. Edin., No. LXXVIII, February 1931.]

KIANGSU : Shanghai, 1861/2, *A. C. Maingay* 410 ; Nanking, 14 Sept. 1920, *Herb. Univ. Nanking* 134. FUKIEN : in insulis Lam-yet maris chinensis, Jul. 1860, *Swinhoe* in *herb. Hance* 6509. KIANGSI : Kewkiang, 1873, *Shearer* ; Kewkiang, city wall, 27 Mai. 1892, *T. L. Bullock* 249 ("pale lilac"). HUPEH : Ichang, Patung District, *Henry* 563. KWEICHOW : Pin-fa, 27 Sept. 1902, *Cavalerie* 543 in *Herb. Kew.*, *pro parte*. YUNNAN : *Ducloux* 400 in *Herb. Kew.*, *pro parte* ; very dry, rocky situations amongst scrub on low foot-hills at south end of the Lichiang Range, lat. 27° 5' N., alt. 2400-2700 m., Jun. 1906, *Forrest* 2459 : "plant of 2-4 ft., flowers rose-pink ;" dry, barren, stony ground along the base of the eastern flank of the Lichiang, lat. 27° 15' N., alt. 2700 m., Jul. 1906, *Forrest* 2593 : "plant of 1-2 ft., flowers greenish-white" (*vivipari*) ; amongst scrub on the Lichiang plain, lat. 27° 10' N., alt. 2550 m. Jun. 1913, *Forrest* 10308 : "plant of 3-4 ft., flowers pale rose."

var. *urattense* (*Franch.*) var. nov. ad spectu a typica planta saepe valde abhorrens, sed re vera nullo modo nisi umbellis bulbillis omnino expertibus densifloris plerumque globosis rarius hemisphaericis distinguenda.—*A. urattense* Franch. in *Nouv. Arch. Mus. Hist. Nat. (Par.) sér. 2, vii. 114* (1884) ; *Pl. David.* 304 (1884). *A. chinense* C. H. Wright *l.c.* 120 (1903), *non* Don. *A. lineare* C. H. Wright *l.c.* 123 (1903) ; *Dunn* in *Kew Bull.* 1912, 109 (quoad specim. Koreanum) ; *non* L.

MANCHURIA. KIRIN : Chang-pei-shan, 300-2250 m. alt., 1886, *H. E. M. James* ; sine loc. spec., 6 Jul. 1896, *Komarov* 376. FENG TIEN : Chien-shan, moist shade, 14 Jun. 1876, *J. Ross* 477 ; *ibidem*, 15 Jun. 1876, *J. Ross* 558 ; Lao-yeh Ling and other hills near Mukden, 1886, *H. E. M. James*.

KOREA. PHYENG-AN NORTH : Kang-kai [-kyei, -ge], 24 Jun. 1910, *Dr. Ralph G. Mills* 77.

CHINA. KANSU : sine loc. spec., 1914, *Purdum*. CHIH LI : border of irrigation ditch, Kalgan, 18 Jun. 1921, *N. H. Cowdry* 1515. SHANTUNG : Chefoo, 5 Jun. 1874, *Dr. Carmichael*. KWEICHOW : Pin-fa, 27 Sept. 1902, *Cavalerie* 543 in *Herb. Kew.*, *pro parte* ; sine loc. spec., *Cavalerie* 7753.

Specimen inter typum varietatemque medium (umbellis densifloris bulbillis singulis praeditis) : HUPEH : S. Wushan, Jul. 1900, *Wilson* 1369.

JAPAN. YEZO : Hakodadi, Jul. 1859, *Wilford* 1026 ; Hakodate, 1861, *Maximowicz* ; sine loc. spec., 1879, *Maries*. HONDO : Yokohama, 1862, *Maximowicz*. KIU-SHIU : common on hedgerow banks, Nagasaki, Mai. 1862, *R. Oldham* 683 ("flowers white") ; Nagasaki, Jun. 1862, *R. Oldham* 876.

LIU-CHIU IS. Sine loc. spec., 1853-56, *C. Wright* 333 ; *ibidem*, *Beechey*.

*Allium eusperma** sp. nov. ab *A. macrostemone* Bunge, cui arte affinis, habitu humiliore, pedicellis flore duplo tantum triplove longioribus, capsulis semina matura ferentibus discedit.

Perennis. Rhizoma non visum. *Bulbus* subglobosus usque 2 cm. longus 1.5 cm. diametro, tunicis integris tenuiter hyalino-membranaceis pallide roseo-suffusis. *Folia* duo, rarius tria, linearia, plana, tres partes caulis aequantia vel caulem nonnunquam superantia, 0.5–1.5 mm. lata, vaginis usque 6 cm. longis. *Caules* solitarii usque 25 cm. longi, erecti vel subflexuosi, 1–1.5 mm. diametro. *Spatha* parva alba bivalva usque 1 cm. longa breviter rostrata. *Umbella* (fructu iam maturo) hemisphaerica vel subglobosa usque 2.5 cm. diametro, bulbillis exsertis. *Pedicelli* 6–9 mm. longi filiformes gracillimi sed floribus fecundatis serius crassiores facti, floribus sterilibus pendulis pedicellis tenuissimis immutatis. *Flores* rosei. *Perianthii* segmenta 3–4.5 mm. longa exteriora interioribus fere aequilonga, oblonga, apice subacuta vel subobtusula subcucullata. *Staminum* filamenta filiformia, basi leviter dilatata et inter se brevissime connata, perigonium c. 1 mm. superantia; antherae non visae. *Ovarium* 1.5–2 mm. longum et aequale latum, trigastro-obovoideum; stylus filamenta excedens. *Capsula* 3 mm. longa, seminibus trigonis nigerrimis 2–2.5 mm. longis, stylo persistente.

YUNNAN. Valley of the Yang-tse below Pung-tzu-la†, dry limestone country, 2700 m. alt., Sept. 1904, *Forrest* 107 [Edin.]. "Flower pink."

Certe peraffinis *A. macrostemoni* Bunge, speciei per terram sinicam late vulgatae; quod tamen capsula plantae descriptae semina ut videtur matura et viabilia ferunt (cum ceteris notis supra animadversis), hanc speciem ab illa satis distinguere valere videtur. Apparet enim, e speciminibus permultis exsiccatis quae contigit mihi videre, *A. macrostemonem* nisi bulbillis non propagari, adeo ut umbellas omnino bulbilliferas saepe profert; confer tamen rem contrariam in var. *uratensi* supra descripta; sed semina bona in capsulis non vidi. *A. eusperma* praeterea staturā multo humilior est; *A. macrostemon* contra quadrupedale non raro fit.

SECTIO RHIZIRIDIUM.

Allium chalcophengos‡ sp. nov. affinis *A. monadelpho* Turcz. ex Less. MS. apud Kunth, a qua specie caule humiliore, floribus maioribus staminibus styloque ad duas partes corollae longitudinis attingentibus abhorret.—*A. Semenovi* Baker in sched. in Herb. Kew.; C. H. Wright in Journ. Linn. Soc. xxxvi. 125 (1903); non Regel. *A. monadelphum*

* Nomen ex εὖ bene et σπέρμα semen, quia semina bona parit.

† S.E. of A-tun-tse and almost due E. of Tse-ku, lat. 28° 10' N., long. 99° 45' E.—Also spelt *Pang-tse-la*.

‡ Nomen e χαλκός aes et φέρω nitor vel fulgor: perianthium "brassy yellow" a lectoribus dicitur.

Turcz., var., Auctt. Edin. in Notes Roy. Bot. Gard. Edinb. xiv. 118 (1924) et xvii. 58 (1929). *A. sp. aff. monadelphum* Turcz., id. ibid. xvii. 214 (1930).

Perennis. Rhizoma verticale, usque 3 cm. (vel ultra) longum, 5–10 mm. diametro, radices numerosas 16 cm. longas usque 1 mm. crassas emittens. *Caulis* in apice rhizomatis terminalis, usque 22 cm. longus, compressus, usque 6 mm. diametro, levis, inferne subglaucus. *Folia* sub anthesi pauca (2–4), lamina plana carinata conduplicata usque 1 cm. lata, vaginis hornotinis latis membranaceis caulem usque dimidiam partem saepissime vaginantibus, annotinis nonnunquam induratis vel laciniatis sed nunquam reticulato-solutis. *Umbella* globosa, densiflora, usque 4 cm. diametro. *Spatha* bivalva, sordide caerulescens vel fere decolorata. *Pedicelli* 5–10 mm. longi. *Flores* maiusculi valde fulgido-nitidi, auri vel aeris colorem simulates vel apice vel basi saturate rubescentes. *Perianthii* segmenta erecta vel parum patentia, 1.2 cm. longa, basi libera, exteriora oblongo-ovata, 4 mm. lata, interiora fere oblonga, basi angustata, 2.5–3 mm. lata, omnia rotundato-obtusa. *Staminum* filamenta usque 8 cm. longa, in cupulam circiter tertiam partem eorum longitudinis aequantem connata; antherae parvae oblongae nigrae. *Ovarium* obovoideum, 3 mm. longum; stylus usque 7 mm. longus; stigma brevissime bi- vel trifidum. *Capsula* non visa.

SZECHUAN. Near Tachienlu, 2700–4050 m. alt., 1889–90, Pratt 733; in bogs [sine loc. spec.], 4500 m. alt., Jul. 1904, Wilson (Exped. Veitch.) 4679 (typus! Herb. Kew.).

YUNNAN. Sine loc., Jul. 1918, Forrest 16642; open, stony pasture on ledges of cliffs and on screes on the Bei-ma Shan, lat. 28° 18' N., long. 99° 10' E., alt. 4350 m., Jul. 1921, Forrest 19820: "Plant of 6–12 ins. Flowers deep rose crimson, yellowish at base."

S.E. TIBET (TSARONG). On ledges of cliffs and stony pasture on Ka-gwr-pw, Mekong-Salwin divide, lat. 28° 25' N., alt. 3900 m., Jul. 1917, Forrest 14297: "Plant of 4–8 ins. Flowers crimson, tipped brassy yellow."

Species austro-occidentali-sinensis, *A. monadelphi*, *A. atosanguinei*, *A. Kaufmanni* necnon *A. Semenovi* centrali-asiaticorum ut videtur vicaria; excellit tamen floribus maioribus staminibus styloque perianthii longitudinem fere aequantibus (nec ut in *A. monadelpho* brevissimis).

Notandum est, hunc gregem *Alliorum* e rhizomatibus crescentium in sectionem *Rhiziridium* nec *Schoenoprasum* collocandum, ut iam observavit cl. Lipsky, Contrib. Fl. As. Med., in Act. Hort. Petrop. xviii. 113–114 (1900).

Allium Hookeri Thwaites Enum. Pl. Zeyl. 339 (1864); Regel (sub *A. Wallichii* Kunth), All. Monogr., in Act. Hort. Petrop. iii. 2. 143 (1875); Hook. fil. Fl. Brit. Ind. vi. 341 (1892); Auctt. Edin. in

Notes Roy. Bot. Gard. Edinb. xvii. 373 (1930).—*A. victoriale* var. *angustifolium* Diels in Notes R.B.G. Edinb. vii. 173 (1912), non *A. Victorialis* L. var. *angustifolium* Haller e Don.

Huius speciei, hucusque e montibus Ceyloniae Khasiisque tantum cognitae, specimina sequentia aream geographicam aliquanto latiore docent.

TIBET. Nambu La, 3000–3600 m. alt., 13 Aug. 1924, *F. K. Ward 6084* [vide Journ. Linn. Soc. xlviii. 226 (1929)]; Tsarong, open stony pasture on the margins of forests on the Salwin—Kiu-chiang divide, lat. 28° 40' N., long. 98° 15' E., Aug. 1919, *Forrest 18988*: "Plant of 16–20 inches. Flowers white."

YUNNAN. In rupestribus herbosis humidis montium niveorum prope Li-chiang, 1 Sept. 1914, c. 3600 m. alt., *Schneider 2335*: "fl. flavo-viridi;" moist shady situations in pine forests on the eastern flank of the Li-chiang range, lat. 27° 25' N., alt. 3150–3300 m., Sept. 1906, *Forrest 2891*: "Plant of 9–16 inches with a pungent odour. Flowers white;" stony mountain pasture on the margin of pine forests, eastern flank of the Li-chiang range, lat. 27° 30' N., alt. 3600 m., Sept. 1910, *Forrest 6701*: "Plant of 1 ft. Flowers greenish-white."

SZECHUAN. Yangtze-kiang, E. Szechuan, 1887, *Faber 318*; cliffs [3 days east of Ta-chien-lu], 1440 m. alt., 26 Jul. 1903, *Wilson* (Exped. Veitch.) 4686: "Flowers white."

var. **muliense** var. nov. gracilior et humilior (usque 20 cm.), foliis multo angustioribus usque 4 mm. latis, umbellis minoribus sed floribus magnitudine paribus.—*Allium* [sp.], Auct. Edin. in Notes Roy. Bot. Gard. Edinb. xiv. 259 (1924). *A. Hookeri* id. ibid. xvii. 212 (1930), non Thwaites.

YUNNAN. Open stony pasture, Mu-li mountains, lat. 28° 12' N., alt. 3900–4200 m., 1917–19, *Forrest 16607*: "Plant of 6–9 inches, with pungent odour. Flowers clear yellow. Foliage and stems an article of food of local natives—Tibetans and Moso" (typus! Herb. Kew.); open alpine meadows on the mountains N. E. of Mu-li, lat. 28° 24' N., long. 101° 6' E., alt. 4200 m., Jun. 1922, *Forrest 21455*: "Plant of 6–9 inches. Flower pale yellow."

Verisimiliter forma plantae typicae excelso-alpina.

Allium Bulleyanum Diels var. **tchongchanense** (Lévl.), var. nov., ab *A. Bulleyano* differt floribus varie coloratis, albis vel griseis vel roseis vel pallide purpureis, haud atro-kermesinis vel atropurpureis, pedicellis ovarisque interdum conspicue glaucis.—*A. tchongchanense* Lévl. in Fedde, Rep. Spec. Nov. vi. 263 (1909).

YUNNAN. Mont. Tchong-Chan, 17 Sept. 1905, *Ducloux 424* (typus! Herb. Edin.); *Ducloux 400* (pro parte, Herb. Kew.); *E. E. Maire 39* [K., E.]; rochers des montagnes derrière Tong-tchouan, alt. 2700 m.,

Oct., *Maire* 225 [E.]: "grand *Allium* vivace, fleurs violettes ou violet-sombres"; sous bois, colline de Tcheou Kia, alt. 2550 m., Nov., *Maire* 318/1914 [E.]: "fleurs grises"; *Maire* 401 [E.]; 524 [E.]; pâturages des montagnes à Tong-tchouan, alt. 2700 m., Sept., *Maire* 1170/1913 [E.]: "*Allium* vivace, fleurs grises"; *Maire* 1634 [E.]; 2304 [E.]; plaine de Tong-tchouan, 2500 m., Jul. 1910, *Maire* 7477B [E.]: "fleurs roses"; Mengtze, *Henry* 9156: "rock hills, 6000'; flowers both white and pink occur" (Herb. Edin.), "E. mts., 6000'; pink flowers" (Herb. Kew.); *Henry* 9156 A: "grass mts., 6000', pink flowers" (Herb. Edin. et Kew.); west of the Mekong, en route from Pingpo to Youngchang and Tengyueh, Salwin watershed, Oct. 1922, J. F. Rock 6955.

Hae specimina, quamquam adspectu ab *A. Bulleyano* discrepant, nulla nota graviore quam colore re vera differre videntur. Typum *A. tchongchanensis* Lévl. vidi (*Ducloux* 434), nec speciem propriam consistere potest.—Specimina Henryana glaucescentia manifesta gaudent.

Allium funckiaefolium Hand.-Mzt. in Anzeig. Akad. Wiss. Wien, Math.-Nat. lvii. 175 (1920) (Pl. Nov. Sinens., Forts. 5, p. 3).

HUPEH occ. Sine loc. spec., Jul. 1900, *Wilson* (Exped. Veitch.) 2269.

Huius speciei non inveniuntur specimina in herbariis (saltem britannicis) nisi typus et specimen supra citatum.

Allium caput-Medusae sp. nov. ex affinitate *A. funckiaefolii* Hand.-Mzt., sed pedicellis floribusque pendulis perianthii segmentis angustis staminibus longissimis inordinaliter exsertis in genere unica.

Rhizoma ignotum. *Radices* fasciculati 0.5 mm. diametro. *Bulbus* cylindricus tunicis reticulato-fibrosis circiter 6 cm. longis arte inclusus. *Folia* bina ovata vel elliptico-ovata cordata subacuminata acuta integerrima usque 13 cm. longa, 7.5 cm. lata, glaberrima, nervis praecipuis utrinque 3-4 e basi costae angulo acuto ortis, nervis intermediis permultis intervallo circiter 1 mm. seiunctis stricte parallelis; petioli plani 2 mm. lati, 6-10 mm. longi, in vaginam clausam membranaceam apice truncatam 5-9 cm. supra terram decurrentes. *Scapi* rigidi erecti teretes 3-4 dm. alti glaberrimi. *Spatha* (in speciminibus aegre visibilis) haud minus quam 1 cm. longa. *Umbella* (vel potius umbrella!) usque 40-flora, mirabilis. *Pedicelli* ebracteati graciles 1-2 cm. longi penduli. *Perianthii* segmenta purpureo-rubra, linearia, subacuta, usque 1.2 cm. longa, 1 mm. lata. *Staminum* filamenta simplicia lineari-subulata usque 1.8 cm. longa, basin versus 1 mm. lata, apice filiformi-attenuata; antherae oblongae luteae 1.0-1.5 mm. longae. *Ovarium* alte trilobum, 2 mm. longum et latum. *Stylus* filiformis usque 1.5 cm. longus. *Fructus* ignotus.

UPPER BURMA. Valley of the Chawng maw hka, alt. 2400 m., undergrowth beneath bamboos, where these do not grow too thickly;

also in open spaces in bamboo forest, 29 Jul. 1919, *F. K. Ward 3416* (Herb. Edin.). "Flowers maroon red with cream-coloured stamens. The flowers point directly downwards and the stamens are exserted." "Found also on spur of Imaw Bum at 3000 m."

Propter tunicas reticulato-fibrosas atque folia conspicue ovato-cordata nullis speciebus nisi *A. funckiaefolio* Hand.-Mzt. et *A. ovalifolio* Hand.-Mzt. (*A. Victorialis* L. affinibus) comparabilis, quamquam umbellae florumque indolem mire alienum praebeat. Affinitas tamen cum hisce speciebus vix dubitari potest.

Allium nanodes* sp. nov. ex affinitate *A. Prattii* C. H. Wright, sed scapo humillimo foliis brevibus plerumque falcatis distinctissima.

Perennis. Radices quam in *A. Prattii* crassiores. Bulbus cylindricus totus tunicis reticulato-fibrosis inclusus. Folia bina basalia plerumque conspicue falcato-patentia oblongo-linearia acuta cuspidata vel acuminata in petiolum membranaceum vaginantem angustata, circiter 6-7 cm. longa 1-2 cm. lata glaberrima margine fuscescente. Scapus satis robustus erectus brevissimus tertiam vel quartam partem foliorum aequans, circiter 2-4 cm. longus, glaberrimus. Spatha bivalvis, valvis ovatis circiter 5-10 mm. longis. Umbella 10-15-flora (raro tantum 4-flora), ebullilosa. Pedicelli erecti stipati robusti, usque 1 cm. longi, basi ut videtur ebracteati, apice ampliati, striati, glaberrimi. Flores "albi, extra rosei." Perianthii segmenta suberecta lineari-oblonga acuta, exteriora carinata 5.5-8 mm. longa, interiora 6-9 mm. longa, omnia 1.0-1.5 mm. lata. Stamina filamenta libera, subulata, interiora latiora, basi tepalis breviter adnata, iis subbreviora; antherae oblongae circiter 1 mm. longae basi cordatae apice obtusae vix retusae. Ovarium trigono-obovoideum, 2 mm. longum; stylus subulatus 2-3 mm. longus. Fructus maturus non visus.

YUNNAN. Kari Pass, Mekong—Yangtze divide, lat. 27° 40' N., stony moist pasture, 3300 m. alt., Jul. 1914, *Forrest 12927* (typus! Herb. Edin.): "Plant of 2-3 inches. Flowers white flushed rose exterior"; in regione Chungtien in pratis alpinis, circiter 3800 m. alt., Aug. 1914, *Schneider 2392* (Herb. Kew.).

A. nanodes, in grege difficili polymorpho *A. Prattii*, species admodum distincta videtur.

Allium pyrrhorrhizum sp. nov. *A. Mairei* Lévl. proxima; recedit tamen radicibus iunioribus plus minus rubescentibus, foliis flaccidis (nec strictis), scapis plerumque humilioribus, floribus plus minus nutantibus (nec stricte erectis) paucioribus (usque 5) multo saturatius coloratis.—*A. yunnanense* Diels in Notes Roy. Bot. Gard. Edinb. v. 301, 302 (1912), pro minore parte; op. cit. vii. 189 (1912); Auctt. Edin. in Notes R.B.G. Edinb. xiv. 291, 330 (1924); xvii. 235 (1930).

* Nomen e $\alpha\lambda\lambda\acute{o}\delta\eta\varsigma$ pusillus.

Perennis. Rhizoma non visum (?verticale). *Radices* iuniores conspicue rubellae, usque 1 mm. crassae. *Bulbi* angustissime cylindrici vel subnulli, annotini scapigeri foliis plerisque delapsis sed basibus persistentibus parallele fibroso-laciniatis cincti, hornotini foliiferi tantum. *Folia* filiformia vel angustissime linearia vix ultra 1 mm. lata scapos subaequantia plus minus erecta sed flaccida, vaginis membranaceis angustis apice integris purpurascens. *Scapi* erecti 10–20 cm. alti circiter 1 mm. diametro, levissime striati apicem versus plus minus ancipites. *Spatha* angustissima acuminata primum purpurea alabastra obtogens, tandem sub anthesi pedicellos subaequans cito decolorata atque marcescens. *Umbella* 2–5-flora. *Pedicelli* suberecti apice cernui 1.0–1.5 cm. longi. *Flores* intense rosei. *Perianthii* segmenta anguste vel latiuscule oblongo-elliptica, apice obtusa rotundata vel acuta vel subacuminata, plana vel plus minus carinata apice saepe brevissime recurva, 1.0–1.5 cm. longa, 1.5–3.0 mm. lata, suberecta. *Staminum* filamenta simplicia subulata basi connata dimidium perianthii circiter aequantia vel raro breviora; antherae oblongae 1 mm. longae. *Ovarium* ovoideum 2 mm. longum apice subtruncatum. *Stylus* simplex lineari-subulatus circiter 2.5 mm. longus stamina haud adaequans. *Fructus* non visus.

YUNNAN. Ad latera orientalia montium niveorum, prope Lichiang, in pratis calcareis alpinis, 3600 m. alt., 20 Jul. 1914, C. K. Schneider 2994: "flores intense lilacino-purpurei." In decliviis herbosis saxosis ad latera orientalia montium niveorum prope Lichiang, 31–3500 m. alt., 4 Sept. 1914, C. K. Schneider 3122 (typus!). Dry rocky situations amongst scrub on the eastern flank of the Lichiang range, lat. 27° 25' N., 33–3600 m. alt., Sept. 1906, G. Forrest 3049 (Herb. Edin.): "Plant of 4–9 inches. Flowers bright rose." Mountains N.E. of Chungtien, open stony meadows, lat. 28° N., 39–4200 m. alt., Sept. 1918, G. Forrest 16918: "Plant of 6–9 inches. Flowers rose-crimson." Chien-chuan-Mekong divide, open alpine meadows, lat. 76° 36' N., long. 99° 40' E., 39–4200 m. alt., Aug. 1922 G. Forrest 22001: "Plant of 6–10 inches. Flowers magenta-crimson." [Specimina etiam sub hoc numero in Hort. Kew. culta, 23 Jul. 1924.] Open rocky meadows and slopes on the N.W. flank of the Lichiang range, lat. 27° 20' N., long. 100° 10' E., 36–3900 m. alt., Sept. 1923, G. Forrest 22356: "Grass-like plant of 6–10 inches. Flowers magenta-rose."

*Allium paepalanthoides** sp. nov. *A. Bakeri* Regel affinis, a qua differt bulborum tunicis firmis lutescentibus opacis (nec membranaceis hyalinis), foliis latioribus caulis basin multo longius vaginantibus, pedicellis longissimis, filamentis interioribus latioribus dentibus longioribus.—*A. Bakeri* Baker in sched. in Herb. Kew.; C. H. Wright

* Nomen dedi quia umbella inflorescentiam *Paepalanthi umbellati* Kunth aliquantum simulat.

in Forbes et Hemsl., Enum. Pl. China, in Journ. Linn. Soc. xxxvi. 120 (1903); *non* Regel.

Perennis. *Rhizoma* non visum. *Bulbi* ut videtur in terra alte sepulti anguste ovoidei vel oblongi, tunicis integris papyraceo-chartaceis ochraceo-lutescentibus. *Folia* 5-6, siccitate tenuiter papyracea, late linearia, 15-25 cm. longa, usque 1.5 cm. lata, basi in vaginam longissimam apice integram truncatam attenuata (usque 30 cm. longam), apice conspicue obtusa, plana, glaberrima. *Scapus* teres, 35-45 cm. longus, 1-2.5 mm. diametro. *Spatha* in speciminibus Henryanis vix satis visibilis, ut videtur angustissima usque 4 cm. longa. *Pedicelli* basi nudi (raro bracteolati?), inaequilongi, exteriores longissimi, fructiferi usque 5 cm. longi, patentes vel subdeflexi sursum arcuato-recurvati, interiores breviores plus minus erecti. *Flores* "albi vel rosei." *Perianthii* segmenta elliptico-oblonga 4-5 mm. longa fere 2 mm. lata obtusiuscula carinato-convexa subaequilonga. *Stamina* exserta 7-9 mm. longa subaequilonga basi brevissime connata, exteriora simplicia e basi subulata filiformia, interiora basi latissima 2-2.5 mm. lata tricuspidata, cuspidate media antherifera filiformi, cuspidibus lateralibus maiusculis subdeltoideis leviter divergentibus, 3-4 mm. longi (a basi filamenti) apice acutis vel saepe bidentulis vel irregulariter denticulato-laciniatis; antherae non visae (caducae). *Ovarium* obovoideum trilobatum, basi sacculis 3 parvis cum loculis alternantibus deorsum apertis (more *A. sacculiferi* Maxim.) praeditum. *Stylus* filiformis 5-6 mm. longus. *Capsula* usque 6 mm. longa et lata.

SZETCHUAN. North Wushan, 12-2100 m. alt., on cliff wall, 1885-88, Henry 7038 [Herb. Kew. (typus!) et Edin.]: "Flowers white in some, pink in others."

Allium cyathophorum Bur. et Franch. in Morot, Journ. de Bot. v. 154 (1891); Pl. Nouv. Thib. Chine Occ. 48 (1891).—*A. venustum* C. H. Wright in Journ. Linn. Soc. xxxvi. 126 (1903).

SZETCHUAN. Ta-tsien-lou (loc. class.!), 1893, Soulié 609.

YUNNAN. Ka-gwr-pw Temple, gully, 4200 m., 27 Jul. 1913, F. K. Ward 893 [Herb. Edin.].

In flore unico scrutato typi (*Bonvalot et H. d'Orléans* sine num., prope Ta-tsien-lou; Herb. Mus. Par.), ovarium 2 mm. longum, stylus 1.5 mm. longus est (i.e. vix "perbrevis" ut descripserunt Bureau et Franchet l.c.), cum stigmate conspicue trifido.

Specimen yunnanense a szechuanensi recedit omnibus partibus robustioribus, scapo valde bi- vel trialato.

Allium Henryi C. H. Wright in Kew Bull. 1895, 119.

HUPEH. Fang, in grass on mountain, 2100 m., Henry 6739: "Blue flowers."

Planta ut videtur rara; confer supra iam dicta de *A. funckiaefolio* Hand.-Mzt. (p. 140).

Series *Tenuissima*.

Allium tenuissimum L. Sp. Pl. i. 301 (1753); Ledeb. Fl. Alt. ii. 23 (1830).—*A. tenuissimum* a *typicum* Regel, All. Monogr., in Act. Hort. Petrop. iii. 2. 105 (1875).

De hac specie monendum est, plantam veram Linnaei *l.c.* extra montium altaicorum confines non crescere videri. J. G. Gmelinus, qui speciem primus animadvertit, eam optime delineandam curavit in tabula sua [Fl. Sib. i. t. xv. fig. 2, 3 (1747); optime etiam serius Ledebourius, Ic. Pl. Ross. Alt. t. ccclviii. (1833)]; "varietas" tamen "minima" (Fl. Sib. i. 62) a Stellero variis in locis Dahuriae observata huic speciei pertinere vix potest (an *A. caespitosum* Siev. ?); sed planta "paullo altior *Krasnoiarii* in campis," etc., a Gmelino ipso reperta haud scio an sit *A. tenuissimum* verum. Quod vero probabilius videtur e loco natali citato, nam de planta typica (scilicet in icone depicta) iucunde observat Gmelinus: "Russis *Krasnoiarensibus* мышей чеснокъ dicitur, quia mures campestres comedunt, et in penum hiemalem colligunt." Iam *Krasnoyarsk* urbs altaica est, atque specimen ex illa vidi *Turczaninovianum* cum figura Gmelini ad amussim congruens. Specimina alia simillima adsunt e montibus altaicis loco speciali haud indicato a *Ledebourio* et *St. George Littledale* allata, de quibus ut de *Turczaninoviano* verbis Gmelini "flores... breves, in modum globosorum florum fere clausi" accurate dicere potest. Huic etiam pertinent specimina (in Herb. Mus. Brit. et Kew. asservata) in montibus altaicis orientalibus inter fl. *Tschegan-Uzun* et *Elangasch* in rupestribus, 7 Jul. 1901, a *P. Krulovio* lecta.

Allium anisopodium Ledeb. Fl. Ross. iv. 183 (1853).—*A. tenuissimum* β *anisopodium* (Ledeb.) Regel, All. Monogr., in Act. Hort. Petrop. iii. 2. 157 (1875), excl. loc. "insula Formosa." *A. tenuissimum* auctt. perplurim., non L.

Recte hanc plantam pro specie ab *A. tenuissimo* L. distincta descripsit Ledebourius, et male pro varietate eiusdem habebat Regelus. De illa specie confer supra iam dicta; *A. anisopodium* contra aream geographicam multo magis extensam incolit, nempe Dahuriam, regionem Amurensensem, Mandschuriam, Mongoliam, complures denique Sinarum provincias: itaque simul non crescunt. Ab *A. tenuissimo* verbis succinctis *Ledebourii l.c.* facile distinguitur.

Allium omiostema* sp. nov. valde affinis *A. anisopodio* Ledeb., cuius vero forsitan varietas vel potius subspecies, floribus subduplo maioribus pedicellis brevioribus inter se aequilongis flores subaequantibus filamentis interioribus late oblongis sub cuspidate antherifera truncatis vel quasi humerulo (unde nomen) vel denticulo utrinque praeditis distincta.

* Nomen ex ὤμιον *humerulum* et στήλας *stamen*, formam filamentorum in mentem revocans.

Omnia fere *A. anisopodii* Ledeb., sed characteribus supra indicatis facile separanda. Praeterea flores semper pulchre rosei videntur, saturatius quam ii *A. anisopodii* vel *A. tenuissimi* L., perianthii segmentis interioribus usque 6 mm. longis. Stamina exteriorum filamenta simplicia subulata nec ut in *A. anisopodio* basi utrinque unidentata, ea interiorum ob structuram supra descriptam notabilia.

E regionibus admodum seiunctis specimina a me visa provenerunt, nullo tamen discrimine inter se differre censeo.

CHINA. CHIHLI: Mt. Gulick, Kalgan, 11 Aug. 1921, *N. H. Cowdry* 1889 (typus! Herb. Kew.); high exposed rocks, Kalgan, Aug. 1921, *N. H. Cowdry* 1982; Leichwang, Tientsin, 28 Aug. 1912, *Mary Strong Clemens* 1746 (in Herb. Edin., quoad specimina "b" adscripta). KANSU: in regione Tangut (? ad fluvium Tetung, 2250 m. alt.), 1880, *N. M. Przhevalsky*.

SIBERIA. TRANSBAIKALIA: "Dahuria," *Fischer*; in campis apricis Transbaicalensibus, 1833 [*Turczaninov*]; lacus Baical, pars borealis, *Radde*; Nertschinsk, in Steppen, 1889, *F. Karo* 120.

Allium Zimmermannianum Gilg apud Gilg et Loesen., Fl. Kiautsch. [Beibl. 75 zu Engl. Bot. Jahrb. (Bd. xxxiv. Hft. 1)], 23 (1904).—? *A. tenuissimum* γ *purpureum* Regel in Act. Hort. Petrop. x. 342 (1885).

Species egregia pulcherrima, digna vero quae nomine pulchriore commemorata esset! Cl. auctor nescio qua ratione cum *A. Schoenopraso* L. collocavit, quae species cum nostra ne sectionem quidem communem habet. Species Gilgiana, cui specimina sequentia tribuenda sunt, speciebus tribus praecedentibus Sect. *Rhiziridii*, praesertim *A. anisopodio*, arte affinis est. Propter caules pedicellosque sub lente valde papilloso-scaberrimos (id quod cl. Gilg in descriptione sua vix satis commemorat) in genere omnino miranda.

CHIHLI. Kalgan, mountain side, 7 Jul. 1921, *N. H. Cowdry* 1625; Kalgan, high rock ledges, 29 Jul. 1921, *N. H. Cowdry* 1830: "Flowers crimson."

SHENSI. Wu-tai-shan, 1876, *W. Hancock* (Kew distrib. no. 78).

Clavem ad determinandas species quatuor praecedentes hic subiungo.

Caules (maxime superne) pedicellique sub lente valde papilloso-scaberrimi - - - - - *Zimmermannianum*
Caules pedicellique leves, foliis tantum interdum papilloso-scaberulis (in *A. anisopodio*)

Flores pedicellis $\pm$ aequilongi, raro 2-3-plo breviores, filamenta interiora oblonga sub cuspidate antherifera fere truncata
omniostema

Flores pedicellis multoties breviores, filamenta interiora ovato-attenuata

Perigonii segmenta latissime obovata apice truncata vel obtusissima (unde flores subglobosi videntur), umbella pauciflora - - - - - *tenuissimum*

Perigonii segmenta angustiora, exteriora obtusa vel subtruncata, interiora subacuta (unde flores saepius oblongo-elongati videntur), umbella plerumque multiflora
anisopodium

SPECIERUM LEVEILLAEANARUM DETERMINATIONES.

Facultas nuper mihi est facta amicitia Custodis Herbarii Hort. Bot. Reg. Edinensis specimina ibi asservata videndi specierum *Allii* generis novarum ab Hectore Leveillaeo descriptarum. Quae igitur e studiis meis evenerint, in tabula sequente identificationum exposita reperiuntur.

- A. Argyi* Lévl. Nouv. Contr. Lil., etc., Chine (in Mem. Pont. Acc. Rom. Nuov. Linc. xxiv.) 16 (1906)—Kiangsu = *odorum* L.
A. Bodinieri Lévl. et Vant. ex Lévl. Lil., etc., Chine (*op. cit.* xxiii.) 38 (1905)—Kweichow - - - - - = *Bakeri* Regel
A. cannaefolium Lévl. in Fedde, Rep. Spec. Nov. xiii. 339 (1914)—Yunnan - - - - -
 teste Lévl. Cat. Pl. Yunn. 163 (1915-17) = *Victoralis* L.
*A. Chanetii**† Lévl. l.c. xii. 184 (1913)—Chihli-Shansi front. - - -
 = *macrostemon* var. *uratense* (Franch.) A.-S.
A. Feddei Lévl. l.c. xii. 288 (1913)—Yunnan = *Bulleyanum* Diels
A. Giraudiasii Lévl. Cat. Pl. Yunn. 163 (1915-17), nom. nov.: *A. Mairei* (2) Lévl., q.v.
A. Itasen Lévl. Nouv. Contr. Lil., etc., Chine (in Mem. Pont. Acc. Rom. Nuov. Linc. xxiv.) 17 (1906)—Kiangsu - - - - -
 = *macrostemon* Bunge
A. Mairei (1) Lévl. in Fedde, Rep. Spec. Nov. vii. 339 (1909).—*A. yunnanense* Diels in Notes Roy. Bot. Gard. Edinb. v. 302 (1912), *pro maiore parte*.—Yunnan—Sp. propr
A. Mairei (2) Lévl. (non praec.) l.c. vii. 384 (1909). *A. Giraudiasii* Lévl. (nom. nov.) Cat. Pl. Yunn. 163 (1915-17)—Yunnan
 quoad specimen citatum
 (*Maire 439!* Herb. Lévl. in Herb. Edin.) = **A. Mairei** (1) Lévl. !
 sed cum descriptione vix quadrat.
A. Martini Lévl. et Vant. ex Lévl. Lil., etc., Chine (in Mem. Pont. Acc. Rom. Nuov. Linc. xxiii.) 40 (1905).—*A. Bodinieri* Lévl. Pl. Kouy-Tch. 247 (1914-15), non Lévl. et Vant.—Kweichow
 = *Bulleyanum* Diels

* An *A. Grayi* Regel [= *macrostemon* Bunge], var. *Chaneti* Lévl., Cat. Pl. Yunn. 163 (1915-17), huic speciei tribuendum?

† *A. Chanetii* Gandoger in Bull. Soc. Bot. Fr. lxvi. 290 (1919), non Lévl.—China merid. probabiliter = *anisopodium* Ledeb.

- A. Ophiopogon** Lévl. in Fedde, Rep. Spec. Nov. xii. 184 (Mai. 1913);
ex Takeda in Jap. Bot. Mag. Tok. xxvii. 215 (Nov. 1913)—
Korea (Ins. Quelpaert).—Sp. propr. (ut videtur).
A. praelatitum Lévl. in Fedde, Rep. Spec. Nov. xii. 288 (1913)—Yun-
nan - - - - - = **Bulleyanum** Diels
A. Simethis Lévl. et Giraud. in Fedde, Rep. Spec. Nov. xii. 288 (1913)
—Yunnan - - - - - = **macranthum** Baker
A. Taqueti Lévl. in Fedde, Rep. Spec. Nov. v. 283 (1908)—Korea
(Ins. Quelpaert) - - - - - = **japonicum** Thunb.
A. tchongchanense Lévl. l.c. vi. 263 (1909).—*A. odorum* Lévl. Cat. Pl.
Yunn. 163 (1915-17), non L.—Yunnan - - - - -
= **Bulleyanum** var. **tchongchanense** A.-S.

New Species of *Viola* from South-East Asia.

BY

WILHELM BECKER.

***Viola Unwinii* W. Bckr., sp. nov.**

Sect. *Nomimium* Ging.; ex affinitate *V. annamensis* Baker f., quae foliis ovato-oblongis basi plus minusve cuneatis margine plus minusve serratis differt.

Planta acaulis, glaberrima, 8 cm. alta, stolonifera. Rhizoma verticale, flexuosum, non crassum, articulatum, radicellatum. Stolones 1 (vel plures?) tenues, plus minusve ascendentes, ad finem foliati et denique radicanes rosulam formantes. Stipulae lanceolatae, 1-1.5 cm. longae, virides, plus minusve dense longifimbriatae; fimbriae usque ad 2 mm. longae. Folia basi plane cordata, ovato-lanceolata, 2.5-4.5 cm. longa et 1.2-2.2 cm. lata, acutiuscula, plane crenato-serrata (circ. 10-12 crenis), glaberrima, longe petiolata. Flores albi, folia non superantes; pedicelli in parte superiore bracteolis circ. 8 mm. longis remote longifimbriatis muniti; sepala anguste lanceolata, 6 mm. longa, brevissime appendiculata; petala apice rotundata, superiora obovato-oblonga 7 mm. longa et 3.75 mm. lata, lateralia oblonga 8 mm. longa et 3 mm. lata ebarbata; pet. infimum abbreviatum, 7.5 mm. longum (calc. inclus.), naviculare, angustatum, acutiusculum, breviter calcaratum; calcar crassum, 2 mm. longum et latum; ovarium conoideum; stylus basi geniculatus, apice horizontaliter deplanatus, submarginatus, brevissime rostellatus.

Burma: Mt. Victoria, Kanpetlet, 6250 ft., on steep mossy banks; coll. R. Unwin 14.4.1926, 3017. Typus in Herb. Royal Bot. Gard. Edinb., Cotyp. in W. Bckr. Herb. Viol.