Jeffersonia and Plagiorhegma

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leaves 1277 C of the Catalogue with the Rishikunda* label and allows one field label for each of the sheets enumerated in the catalogue, whilst at the same time it makes Wallich's naming consistent. The confusion arose evidently, like many similar cases, when the distribution sets were made up. Sheet "1278, i." is quoted in the catalogue under "*Sphaerosacme Rohituka*, Wall.; *Andersonia Rohituka*, Roxb." This *Sphaerosacme Rohituka*, Wall., is really *Amoora cucullata*, and the quotation is correct as far as the detached large inflorescence of that sheet (left-hand bottom corner) is concerned. Otherwise it represents, as stated above, *Sphaerosacme spectabilis*, Wall. = *Amoora spectabilis*, Miq.

I may add that the tree of *Amoora spectabilis* in the Botanic Garden at Calcutta, from which Wallich took specimens in 1824, was most probably introduced there in 1808 when Hamilton stayed at Goalpara. Wallich's uncertainty as to the Roxburghian species of *Andersonia* is easy to understand. Although they are mentioned already in *Hortus Bengalensis*, 1811, they were then still undescribed. It was not until 1832 that the descriptions which Roxburgh drew up subsequently were published in Wallich's edition of Roxburgh's *Flora Indica*.

Whilst writing this note I came across a very fine drawing of *Amoora spectabilis* (*A. Wallichii*), in our collection of drawings. It is no. 351 of a set which was taken over from the East India Museum, and marked on receipt, "Royle, Carey & others." It is written up on the back, "*Sphaerosacme spectabilis*, Wall. *Aglaia? Milnea?*" and then, written at a later date, "This belongs to Roxburgh's *Andersonia*, which has since been superseded." All this is in Wallich's handwriting. On the front, there is written against 351 "*Sphaerosacme spectabilis*, Wall.," in Royle's hand. There is then no doubt as to what Wallich meant by *Sphaerosacme spectabilis*, namely the plant you are dealing with. Royle helped Wallich with cataloguing, and that may be how he got connected with the drawing, which is most probably one of Wallich's own collection. Unfortunately our list of Wallich's drawings breaks off with no. 208, after which there are only few entries with very much higher numbers (up to 835).

XXXVII.—JEFFERSONIA AND PLAGIORHEGMA.

J. HUTCHINSON.

In the *Genera Plantarum*, vol. i. p. 44, Bentham and Hooker united the genera *Jeffersonia*, Bart., and *Plagiorhegma*, Maxim., from the Eastern United States and North-East Asia, respectively. In making this reduction they remark:—

"*Plagiorhegma*, Maxim. Prim. Fl. Amur. 34, t. 1, † species Mantchuriensis, ex habitu et fructu certe *Jeffersoniae diphyllae* congener videtur. Flores adhuc ignoti, illi enim quos auctor dilapsos invenit descriptisque, ipso fatente abnormes erant."

* Rendered Rohilkund in the catalogue which is clearly an error. Hamilton was in Monghyr in 1811, and Rishikunda is near Monghyr.

† Should be tab. II.

It is true that Maximowicz had only a fruiting specimen before him when he described *Plagiorhegma*, and, in failing to discover any trace of stamens, he came to the erroneous conclusion that the flowers were unisexual. But I can see no reason for the statement that the flowers were abnormal. Maximowicz's figure is an excellent one and depicts *P. dubia* just like his type specimen, and as the plant grows in the Rock Garden at Kew. Subsequently flowering specimens were gathered in North-East China by John Ross, and were received at Kew in 1877, an additional specimen being received from the Petrograd herbarium in 1910. On dissecting these I find good differences in the flowers, as well as in the leaves and fruits as noted by Maximowicz. These differences are shown in the following table:—

***Jeffersonia*, Bart.**

Leaves bifoliolate (fig. A). Sepals 4. Petals 8. Stamens 8. Capsule (fig. B) opening by a horizontal slit near the apex (half circumscissile).

Native of the Atlantic States of North America, in woods, Eastern Pennsylvania, New York and Ontario to Wisconsin, Iowa, Virginia and Tennessee, ascending to 2500 ft. in Virginia.

***Plagiorhegma*, Maxim.**

Leaves unifoliolate (figs. C and D). Sepals 3. Petals 6. Stamens 6. Capsule (fig. E) opening by an oblique and almost vertical slit extending from near the style to almost the base of the capsule.

Native of North-Eastern Asia, from Shengking Province (China) and Corea to the Amur River.

A and B, leaf and fruit of *Jeffersonia diphylla*; C, D, E, leaves and fruit of *Plagiorhegma dubia*.

These three important differences in the leaves, flowers and fruits, coupled with the separate geographical distribution, seem quite adequate for the re-establishment of *Plagiorhegma* as a valid genus. Bentham and Hooker no doubt paid little attention to the difference in the distribution because of the analogous cases in other genera of *Berberidaceae*,* some of which show a close relationship and ancient connection between the floras of North-Eastern Asia and North America, especially Atlantic North America. The following genera or species of *Berberidaceae* are common to these two areas:—

Podophyllum (*P. peltatum* in Canada and E. Un. States; five species in China and Himalaya).

Diphylleia (*D. cymosa*, high altitudes, Virginia to Georgia and Tennessee, and in Central and Western China; *D. Grayi* in Japan).

Achyls (Pacific N. Amer. and Japan; 2 very closely allied species, *A. triphylla*, DC., and *A. japonica*, Maxim., respectively).

Caulophyllum (*C. thalictroides*, Atlantic N. Amer. and N.E. Asia and Central China).

I give below a revised description of the genus and single species of *Plagiorhegma*.

Plagiorhegma, Maxim. Prim. Fl. Amur. 34, t. 2 (1859); *descr. emend.*

Herba polycephala, rhizomate perenni tenui suberecto foliorum basibus vaginantibus membranaceis costatis persistentibus induto. *Folia* radicalia, unifoliolata, longe petiolata, apice leviter et late biloba, basi cordata, palminervia. *Scapus* nudus, uniflorus. *Sepala* 3, petaloidea, mox decidua. *Petala* 6, plana, sepalis multo majora. *Stamina* 6, libera; antherae extrorsae, valvulis 2 sursum dehiscentes. *Ovarium* sessile, stylo brevissimo crasso in stigma cupularem undulate lobatum dilatato; ovula numerosa, ad ventrem circiter 5–6-seriata, adscendentia, anatropa. *Capsula* parva, coriacea, ab apice fere usque ad basin oblique dehiscens. *Semina* breviter arillata, arillo carnosio demum lacerato.

P. dubia, Maxim. l.c.

Jeffersonia dubia, Benth. et Hook. f. ex Baker et Moore in Journ. Linn. Soc. xvii. 377 (1879); Gard. Chron. lxiii. 149, fig. 68 (1918). *J. manchuriensis*, Hance in Journ. Bot. ix. 258 (1880).

Herba perennis fructifera usque ad 30 cm. alta; rhizoma tenue, suberectum, radicalibus fibrosis numerosis instructum, foliorum basibus vaginantibus membranaceis arcte indutum. *Folia* numerosa, longe petiolata, subreniformia, basi cordata, apice late bilobata, subanthesi circiter 3 cm. diametro et marginibus undulato-lobulata, maturitate multo majora et fere integra (minute denticulata), usque ad 10 cm. diametro, palmatim 9–10-nervia, nervis utrinque conspicuis multiramosis; petioli straminei, sulcati, glabri. *Pedunculi* floriferi 9–12 cm. longi,

* Excluding *Lardizabalaceae*, a distinct family included by Bentham and Hooker in the *Berberidaceae*.

fructiferi usque ad 20 cm. longi, sulcati, glabri. *Sepala* 3, petaloidea, mox decidua, oblongo-lanceolata, subobtusa, circiter 6.5 mm. longa, striata, glabra. *Petala* 6, obovata, 1 cm. longa, 6 mm. lata, ad basin angustata. *Stamina* 6, ovario aequilonga; filamenta complanata, 2 mm. longa; antherae 4 mm. longae. *Ovarium* 4 mm. longum, glabrum; stylus crassus, fere 2 mm. longus, in stigma cupularem undulate lobatum expanso. *Capsula* 1.4 cm. longa, carnosa, extra rugulosa, stylo persistente 3 mm. longo coronata. *Semina* brunnea, obovoidea, 3 mm. longa.

Manchuria: Lower Amur River, in pine forests near Pachale, fr., *Maximowicz*; near Vladivostok, fls., *Palczewsky* in *Herb. Komarov* 734. Corea: Chemulpo, fr., *Carles* 68. Shengking Province: shady wood, Fungshan, fls., *Ross* 29; wooded valleys, Corean Gate, fr., *Ross*. Mukden to Yaloo River, near Laoling, fls., *Webster* 136.

Vernacular name in Manchuria, *Kámbalta*.

Hance (see above) proposed the new name *manchuriensis* for *dubia*, because of the latter's unsuitability; a course, however, which we are unable to follow. For such a trivial reason the changing of specific names would have no end.

XXXVIII.—DECADES KEWENSES

PLANTARUM NOVARUM IN HERBARIO HORTI REGII
CONSERVATARUM.

DECAS XCIX.

981. *Xanthophyllum Burkilli*, *Drummond et Dunn* [Polygalaceae]; e speciebus adhuc cognitis vix ulli arcte affinis, floribus magnitudine et structura ad *X. Schortechini*, King, aliquanto approximata ab ea ob filamenta pilosa, ovarium vix longe-stipitatum, folia chartacea aliasque notas facile distincta.

Arbor modicae altitudinis, ramis irregulariter flexuosis, cortice cinereo-albido. *Folia* lanceolata, ovato-oblonga vel elliptica, basi cuneata vel subrotundata, versus apicem subito acuminata, apice subobtusa, basi obscure quinquenervia, omnino glabra, superne virentia, subtus glaucescentia, duobus nervis marginalibus marginem subcrassam formantibus, lateralibus ad decem intra marginem anastomosantibus conspicuis pallidis, petiolis coloratis circa 7 mm. longis suffulta. *Flores* usque ad 1.6 cm. longi, in racemos cernuos circa 3.5 cm. longos paniculatim confertos dispositi; pedicelli puberuli, bracteolis cymbiformibus basalibus apice villosis circa 1.5 mm. longis muniti. *Sepala* 5, imbricata, inaequalia, pubescentia, posticum quam alia conspicue majus. *Petala* 5, omnia fere longitudine aequalia, sepalis 3-plo longiora, vix unguiculata, dorso carinata, carina versus basin angustata. *Filamenta* basi dilatata, pilosa, duo cum alis inferne connata, tertia petalo superiore plus minus adhaerens, caetera libera, stamina ad basin connectivi pilis satis longis ornata. *Discus* patelliformis, margine crenato. *Ovarium* distincte stipitatum, obverse turbinatum, sericeo-pubescent; stylus circa 3 mm. longus, subulatus, pilis sericeis instructus; stigma capitatum;