



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Royal Botanic Gardens, Kew.

February 27, 1922.

My dear Britton,

In continuation of my letter of 14 Feb. - I may best begin by saying that I cannot make anything of

R. S. Williams 593 from Panama.

This cannot be a Dioscorea, however widely we spread the limits of the genus. It is a very interesting thing, all the same; I wish we knew what its flowers are like.

R. S. Williams 838 from Panama is interesting also. The leaf agrees with that of Dioscorea cymulosa, Hemsl. from Panama, collected by Sutton Hayes. The fruit of this species has never been described and so far as I know Williams 838 is the first fruiting specimen communicated.

Turning to najania I find in the Berlin herb. that your 6290 is written up by R. Kunth as najania herradurensis (type). It is, as you know = Wright 3255 and therefore is a perfectly good Dioscorea which Oline has already named in MS. D. Wrightii Oline. You will know which specific name should stand.

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- (1) najania angustifolia, Sw. which is the plant that Kunth named R. cucensis, is represented among the specimens sent by you to Kew by the following:-
Cuba: Madruga, Bro. Leon 3327.
San Domingo: Barahona, Pater Fuertes 576.
Other specimens of this at Kew are:-
Cuba: Poeppig; La Sagra 157; Wright 1713;
Camus 236.
San Domingo: Jaeger 329.
Specimens at Berlin include:-
Cuba: Prov. Matana, Saker and van Hermann 1973;
Wright 241 (♂); Wright 324.
San Domingo: Preneloup 607.
- (2) najania mucronata, Willd.
(a) Specimens from New York:-
Cuba: Bro. Leon 7776; van Hermann 188; Bro. Leon 1311; Bros. Leon & Clement 5428;
Britton & Wilson 13; Bro. Hioram 1361.
(b) Specimens at Kew:-
Cuba: Wright 3253 mainly; Schomburgk 40.
(c) Specimens at Berlin:-
Cuba: Poeppig; Wright 3253 wholly; Wright 1713 partly; Wright 241 (♀).
San Domingo: Preneloup 606; Poiteau (two gatherings neither of them with any number

or locality beyond S. Domingo); Turckheim 3672; Mayerhoff s. n.

3. Rajania quinquefolia, Linn.
I feel satisfied that Eggers 1650 from San Domingo is a form of the plant intended by Linnaeus; but whether it is more than a condition of R. angustifolia I must leave to your judgment.
4. Rajania minutiflora.
in Herb. Berlin only.
Haiti: Anse à veau, Picarda 1283 (♂).
A perfectly good species of which you have sent no gathering.
5. Rajania cyclophylla, R. Knuth
This is Harris 9402 from Jamaica which Urban inadvertently mistook for a Dioscorea.
6. "Rajania cordata".

(a) pleioneura. I find that in Herb. Berlin Uline and R. Knuth have both refused to recognise the existence of R. pleioneura, Griseb. as a distinct species. I may say that it is just possible that Grisebach's "pleioneura" does pass into cordata proper but I do not find any great difficulty in separating it from the plant that comes from San Domingo which must be taken as the basis of the Linnaean species.

I will take our new material first in this case:-

Dominica: Remate; J. Jones. This is the "waw-waw" of that island.

Trinidad: Urena. This is part of Sieber's Fl. Trinitatis No. 179 but I have always thought there might be a mistake as to the locality and that it might have been collected at Martinique along with the specimens of Dioscorea martinicensis. Nobody else has met with a Rajania in Trinidad and I doubt the existence of the genus in that island. You have sent it from Martinique (Duss 511) and also from Guadeloupe (Duss 3285) which rather helps to confirm my suspicion.

Jamaica: Dr. Wright. This was purchased from Forsyth in 1835 and as Forsyth's plants came from various islands I sometimes have suspected this locality though there is no doubt as to the identity of the plant. However, I find in Herb. Berlin a sheet of Harris 9398 which agrees well with it.

Porto Rico: Sintenis 4525 Yabucca seems to me to be good "pleioneura".

Now I will take the Berlin specimens of R. "pleioneura"

Dominica: Inray 122 quoted by Urban as the type of R. pleioneura.

Martinique: Duss 511, Duss 4010.

Guadeloupe: Duss 3285, Duss 3985.

Jamaica: Harris 9398 already mentioned.

Porto Rico: Sintenis 4526, Sintenis 5262.

Besides these, however, there is one specimen from San Domingo (Fuertes 881 from Barahona prov.)

which has exactly the leaves of H. pleioneura, but which though named "H. cordata" by Knuth has much larger fruits rounded at the apex. I do not say it is "pleioneura" - I do say it differs from anything else in "H. cordata" as understood by Knuth.

(b) "venosa" - Of this you have sent what is a co-type in: Porto Rico: P. Wilson 163. The type itself in Hb. Berlin is written as H. venosa R. Knuth typus. But all the other specimens there that seem to me to agree with "Wilson 163" are named H. cordata.

I take the following New York gatherings to agree with Wilson 163, viz.: Britton & Cowell 947; Stevens & Hesa 2782.

At Kew the only one exactly the same is Sintenis 1384 which number, however, is wrong as it belongs to another species (a Dioscorea).

At Berlin there are the following which I cannot separate from H. venosa, Knuth:-
P. Wilson, 163; Sintenis 1727; Sintenis 1383b; Sintenis 1384b (not 1384 see above); Sintenis 1320b; Sintenis 4185; Sintenis 6184; Sintenis 4032; Sintenis 4680.

Now all of these are from Porto Rico and it is pretty clear that it is a common plant there. The fruits are exactly like those of H. pleioneura Griseb. and my belief is that what Knuth terms "venosa" is only a local form or variety of Griseb.'s plant. That you write "pleioneura" and "venosa" or keep them distinct, I do not believe that either of them is what we should take as H. cordata proper.

(c) "ovata" Griseb. non Sw.

In this case I will again take our Kew specimens first because it is here that we have Griseb.'s type - collected in Jamaica by Purdie. This is a plant with fruits exactly as in "H. pleioneura" but leaves almost truncate at the base. It is quite distinct from H. ovata Sw. Very near to this comes Harris 8760 from Jamaica near Troy, which is at Berlin but not at Kew, and near it also is your own 638 also from Troy. Porto Rico gatherings that agree with this are one in ripe fruit collected by Brq. Hiram at Finca Sanchez Bayamon in Oct. 1912, also P. Wilson 215 from Luquillo and Stevens and Hesa 3459.

My own feeling is that the three forms (a) (b) and (c) are all one species and that whatever we name it, it is not H. cordata, the San Domingo plant meant by Linnaeus. But from that species we shall have at least for the present to exclude the San Domingo plant Tuertes 881, which is neither this rather widened H. pleioneura nor is it the original plant intended as H. cordata by Linnaeus.

(d) the true "cordata".

Among the specimens at Berlin there seems to me

to be some confusion and difficulty in making up their minds both in the case of Uline and of Knuth. For example Sintenis 5217 from Porto Rico was originally named H. cordata var. scorpioides by Uline, but I see from the Berlin sheets that Uline himself altered this name to var. cymulifera. Now I can see nothing to separate this from Sintenis 2495 from Porto Rico, which Uline names H. cordata. But this is not the only case of the kind. Sintenis 109 from Mayaguez was sent out by Prof. Urban as H. cordata and I have a note here taken from one of your letters that you had learned that Uline had named this H. Sintenesii. Uline has not used that name in Herb. Berlin on the contrary, this very gathering, Sintenis 109, has been written up H. cordata Linn. var. microcarpa Uline. This looks as if Uline's first idea was to treat the plant with fruits smaller than those of "H. pleioneura," Griseb. as a distinct variety, and that the decision to treat the small-fruited one as a species was an afterthought. I am satisfied that the afterthought is right. But I am also satisfied that the suggested H. Sintenesii is the genuine H. cordata, Linn.

I do not see any difficulty if we accept this view, in the retention of the name H. pleioneura Griseb. for everything with the oblong larger fruit and the use of the name H. cordata for everything with the smaller irregularly ovate fruits. Among the sheets which you sent me to name and return, which are going back to you this week, I should accept Britton Stevens & Hess 2609 as very nearly typical H. pleioneura, Griseb. and should take B. Wilson 209 to be the same, though the latter and to a more striking degree also Britton Cowell & S. Brown 5233 serve as transitions from H. pleioneura Griseb. to H. "ovata" Griseb. non Sw. from Jamaica (I have as you know seen Dr. Britton's plants the same transition in Jamaica as we meet with in Porto Rico, while in the Porto Rico plant (Hess 1426 from Monte Alegre) we have practically the "pseudo-ovata" of Grisebach as collected in Jamaica. In Stevens & Hess 2782 we have I think exactly what H. Knuth has named H. venosa and I take H. venosa to be merely a smaller-leaved form of H. pleioneura Griseb. On the other hand in the two unnumbered sheets collected by B. Nicoram at Finca Santa Ana on 28 Sept. 1912, I see the male and the female of what Uline called H. cordata var. cymulifera and H. cordata var. microcarpa, with proof that these two are the same thing and with a firm belief that they both belong to the real H. cordata, L.

Taking H. cordata proper in this sense we find then that this species is represented by the following numbers forwarded by you:- Vieques Island: Shaffer 2631. Porto Rico: Stevens 3739, J. R. Johnston 670.

Our Kew specimens of this are:- St. Thomas: Hagers 184. Porto Rico: Sintenis 109; Sintenis 5217; Sintenis 2495 (I have no flowers of this).

The Berlin specimens are:- Porto Rico: Krus 1147; Sintenis 2495; Sintenis 4962; Sintenis 5343; Sintenis 4394b Sintenis 441.

You have sent me from Cuba a specimen, Wilson & Leon 11551, determined by H. Knuth as H. cordata var. microcarpa. I am almost certain that this is not identical with Sintenis 109 from Porto Rico and Hagers 184 from St. Thomas which are the real plant intended by Uline. But I cannot, till we get flowers, say definitely what this is; it may be a new species near H. Wrightii Uline.

I ought to add with regard to Huertes 881 that though its leaves are like those of H. pleioneura its fruits are like those of H. ovata.

7. Rajania psilostachya Uline (Helmia psilostachya Kunth).

I said in my last letter that I thought Britton & Wilson 230 was the plant which R. Knuth has named Dioscorea Ekmani; I think so still. It is certain that it is what Kunth long ago named Helmia psilostachya. I see one specimen at Berlin has fruits and that it is really a Rajania.

The specimens of this at Berlin are:- Cuba: Kugel 392; Poeppig; Wilson 1207; Alambique: Wright 1712 partly.

Griseb named Kugel's plant "Rajania hastata"; Poeppig named his one Smilax arisoloclochioides; Wilson's is the one that almost exactly matches Dioscorea Ekmani, Knuth This particular mixture of Wright 1712 is not repeated at Kew.

8. Rajania Scorpioidea, n. comb. (Dioscorea scorpioidea, Wright)

Curiously there is no example of Wright 3746 at Berlin, but I suspect that Uline has seen this number somewhere and agreed that this is a Rajania; otherwise I do not see why he altered his own name R. cordata var. scorpioidea to R. cordata var. gymnolifera.

9. Rajania cvata Sw.

New York examples of this are:- Cuba: Shafer 2985; Shafer 7747. Haiti and San Domingo: Nash 711; Nash 524; Nash & Taylor 1175; Fuertes 956.

New examples are:- Cuba: Wright 691; Eggers 4894; Eggers 4842.

Berlin ones are:- Cuba: Wright 691 (3 sheets); Eggers 4894, 4894b and 4894c; Eggers 4892; Linden 1793. Haiti and San Domingo: Nash & Taylor 1175; Christ 1794; Fuertes 956; Eggers 1657; Christ 1794; Picard 771, and at any rate as a provisional determination, Fuertes 881.

10. Rajania tenuiflora, R. Knuth.

Cuba: Shafer 3016; Shafer 3149.

This must be very near R. cvata but I think it may pass as distinct.

11. Rajania Wrightii Uline.

New York examples:- Isle of Pines: Curtis 506 in part-- I mentioned in my last letter that Curtis had two things under this number - the other being Dioscorea tampoidea; Curtis 505; A. E. Taylor 74; Cuba: Shafer & Paon 13629.

Kew examples:- Isle of Pines: Curtis 506 in part. Wright 1712 in part; Valenzuela (ex herb. La Sagra).

This is what is figured in Icones Plantarum t. 1392 as the fruit of "R. hastata".

12. Rajania aphylocarpa Uline.

New York examples are:- Cuba: Britton Barle & Gaer 6476; Leon & Hieron 4886.

New examples are:- Cuba: Wright 1712 partly.

Berlin examples are:- Cuba: Wright 1712 partly; van Hermann 779; van Hermann 905.

Whether Uline's two species can be sustained you will have to decide as the result of further careful field study. As they appear in Ms. Berlin Uline's separation of them seems quite justified. But before I saw his sheets I had thought the two were different forms of one species for which I had proposed the name "R. punctata" a name that must now in any case be dropped.

13. Rajania spiculiflora Uline.

This is based on two specimens in Hb. Berlin collected by Poiteau in San Domingo and given to Berlin by the Acad. Sc. Philadelphia in 1891. One of them is named in a very old script Rajania cordata ms., the other Rajania cordata Leina. They represent a very distinct species quite unlike anything you have sent and quite unlike anything else at Berlin.

14. Rajania microphylla Kunth (R. ponderosa, Knuth).

This is based on a plant which Poeppig collected in Cuba. What is more this is the plant that we find in Linnaeus' own Herbarium written up as R. hastata ! But it is very different from the San Domingo plant of Plumier which is the basis of R. hastata, Linn. Knuth is quite right in regarding it as a distinct species but he has overlooked the fact that Kunth described it long ago as R. microphylla.

New York examples are:- Cuba: Shafer 2952, which is the type of R. porulosa, R. Knuth; Leon 4637; Leon & Clement 6651; Leon & Clement 6600; Leon & Clement 6639.

New example:- Cuba: Poeppig.

Berlin example:- Cuba: Shafer 2952.

15. Rajania bahamensis Knuth.

As you know I had long ago decided that there is only one Rajania in the Bahamas, and I had besides come to the conclusion that this species is not distinguishable from R. microphylla Kunth, from Cuba. I am of this opinion still though I believe that the leaf of the Bahama plant is rather thinner in texture than the leaf of the Cuban one. If you agree with me as to this then the name R. bahamensis will have to be dropped. If you agree with Knuth rather than with me you must at least unite R. bahamensis Knuth and R. Ursaniana Knuth - there is nothing to separate these two.

New York examples are:- Northrop 203; Small & Carter 8615; P. Wilson 7171; Britton & Grace 184; Britton & Millspaugh 2601; Brace 5308; Britton & Millspaugh 5859; Brace 4844; Britton & Grace 236.

New examples are:- Small & Carter 8615; Northrop 203; Brace 133; P. Wilson, 7171.

16. Rajania hastata Linn.

This is the Haiti and San Domingo species which is represented among New York specimens by:- Haiti: Nash 595; Nash & Taylor 1457 (this agrees with R. Knuth's var. incisa represented at Berlin by Picarda-Christ 1716, and by Fuertes 86 and Christ 2128 though Fuertes 86 and Christ 2128 are written up by Knuth as var. elatior).

The Berlin examples which I take as typical R. hastata are:- Beckers 2284 (though Knuth calls it var. triloba); Turckheim 3195 (though Knuth calls this var. infastata); Picarda 1638 (though Knuth calls it var. elatior); Picarda 501 (which he calls var. infastata); Picarda 574 (also written up var. infastata); Christ 1832; Bertero 67 (written up as var. infastata by Knuth); Meyeroff ('infastata' according to Knuth); Fuertes 1233 (also called infastata). You will see from this that I cannot follow Knuth with his varieties. As a matter of fact what he speaks of as var. infastata is my conception of the original Linnean plant.

Among the specimens that might be accepted as a variety hastata are the New York Taylor 113 and Nash & Taylor 1326 and the Berlin Buch 717 and Christ 1715 but frankly I don't think these so-called varieties are worth troubling about.

The variety angusta proposed by Knuth might be kept up, however, if only because it shows us that H. hastata passes gradually into something hardly distinguishable from H. angustifolia!

We had no example of this curious form at Kew. But you have sent it to us in the shape of Nash 634; Fuertes 1037; and Nash 812. Berlin has it in Picarda 104 (which really is very near H. angustifolia); in Fuertes 576 (where the lower leaves are good H. hastata and the upper ones are good H. angustifolia); also Fuertes 1037 (the Berlin specimen of which shows leaves that might belong to H. hastata and leaves that might belong to H. angustifolia mixed indiscriminately throughout).

While on the subject of H. hastata I would like to call your attention to Shafer 1828 from Cuba. The scrap you have sent me almost makes me think this is H. hastata though I do not like to accept it as such because it is glaucous. You will be better able to decide with the complete material before you. If it be H. hastata then it is the only specimen of that species so far found outside San Domingo (Haiti). As it comes from Eastern Cuba this is just a possibility, but on the whole I imagine you will decide that Shafer 1828 is not H. hastata. If so you might tell us later what you have made of it.

Another specimen from Cuba that I cannot give you a name for is Norman Taylor 188. It may be H. wrightii but I hardly think so.

Yours sincerely,

(Signed) D. Prain.