

Washington area. This is designed to cover a greatly enlarged area as compared with the original District Flora. Such a work when completed will represent the efforts of many botanists, and is planned to serve as an authoritative flora for many years to come for botanical students interested in this area. For this reason, a proper evaluation of the hybrid or non-hybrid status of some of our variant oak material is particularly urgent at the present time.

WASHINGTON, D. C.

HIBISCUS MOSCHEUTOS AND H. PALUSTRIS

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For three and a half centuries three variations of the native *Hibiscus* of the Atlantic slope of the United States, with lance-ovate to subrotund leaves green and glabrous or merely scabridulous above and soft-pubescent beneath, have been cultivated in Europe. These include (1) the more northern plant with the principal cauline leaves, below the inflorescence, broadly ovate to suborbicular in outline and often angulate-lobed (suggesting maple leaves), averaging three fourths as broad as long but sometimes even broader than long, with most or all peduncles free, except sometimes at base, from the subtending petioles, the petals pink to purple, with deeper-colored base, the branches of the style pilose or hirtellous, the capsule subglobose or depressed; (2) a plant quite similar to no. 1 but with creamy-white corolla with red center; and (3) a very different plant, with the principal leaves narrowly ovate to ovate-lanceolate and unlobed or only obsoletely so, or the lower tricuspidate, long-acuminate, averaging only one-third as wide as long, some of the peduncles fused to the lower halves of the subtending petioles, the corolla white or whitish with crimson or red eye, the long styles with glabrous branches, the unexpanded capsules conic-ovoid.

So generally were no. 1 (with relatively broad and short leaves, free peduncles and pink corollas) and no. 3 (with narrower and proportionately longer leaves, often fused peduncles and petioles, and white corollas with red centers) in European gardens and so frequently were they illustrated in full color and so generally described that it was surprising (to put it mildly) to have a

white-flowered plant of cultivation put forward as a brand new species in 1903, as if nothing of the sort had previously been known. At that time, having received from Pitcher & Manda, horticulturists, a plant they were selling as "Crimson-eyed Hibiscus" or *Hibiscus Moscheutos albus*, Britton wrote: "*Hibiscus Moscheutos* has the pink flowers as above noted, a nearly globular, blunt pod, and its calyx-lobes are triangular-ovate, about as broad as long. The crimson-eyed one has an ovoid pod with a long point, and its calyx-segments are triangular-lanceolate, nearly twice as long as broad. I propose that it shall have the botanical name *HIBISCUS OCULIROSEUS*."—Britton in Journ. N. Y. Bot. Gard. iv. 219, 220, pl. xviii (1903). In his plate representing the rose-flowered plant (pl. xvii), which he mistakenly identified as *H. Moscheutos* L., Britton showed a fruiting summit, with globose-ovoid capsules terminating naked peduncles; in his plate of his supposedly new *H. oculiroseus* some of the peduncles fused to the petioles and the capsule conic-ovoid. Although the accompanying quotation seems to indicate that the original wild plants, from which *H. oculiroseus* was developed, came from stations on the Atlantic side of southern New Jersey, it is presumable that some mixture had occurred, since for centuries *H. oculiroseus* had been in cultivation. At least, the hundreds of sheets representing the group in the herbaria of the New York Botanical Garden and of the Academy of Natural Sciences of Philadelphia, kindly loaned me for comparison, show no New Jersey specimens like the long-fruited plant illustrated by Britton as his new *H. oculiroseus* nor like the flowering specimen from Pitcher & Manda marked clearly by Dr. Britton as TYPE of *H. oculiroseus*. The latter has the style-branches glabrous. The white-flowered, like the roseate-flowered, material from New Jersey, New York and New England all has pubescent style-branches and characteristic foliage and lower peduncles identifying it with form no. 2 of my preliminary grouping, one of the plants long cultivated in Europe and beautifully illustrated in full color as *H. Moscheutos* (from the gardens of A. B. Lambert) by Sweet, British Flower Garden, iii. t. 286 (1829), Sweet not only showing the white corolla with red center and the pubescent style-branches, but explicitly describing the "lower leaves broadest, and more or less three-

lobed, the side lobes short and acute. . . *Peduncles* . . . the lower ones longest and axillary. . . . *Style*. . . smooth below, but hairy above the stamens." The purple-flowered plant, so general from Massachusetts to New Jersey, Delaware, eastern Maryland, and less so to eastern Virginia, with similar leaves and peduncles and with pubescent style-branches (*H. palustris* L.) was to Sweet merely *H. Moscheutos*, β . *purpurascens* Sweet, l. c. (1829). Nearly 60 years later this albino of *H. palustris* was again described and illustrated in natural color, this time as *H. palustris* (as *paluster*), var. *albi-*

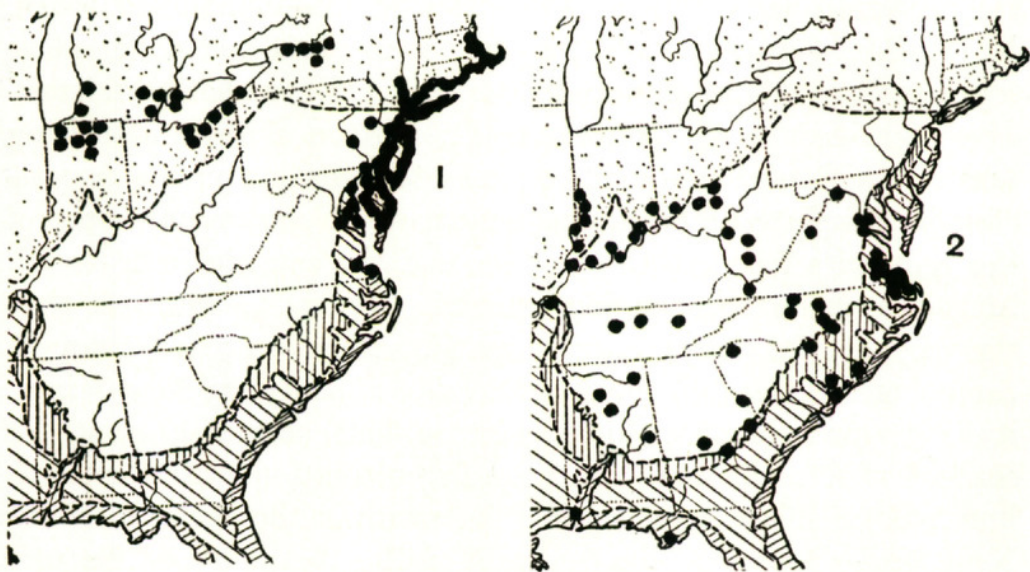


FIG. 1, Range of *HIBISCUS PALUSTRIS*; FIG. 2, of *H. MOSCHEUTOS*.

florus Leichtlin ex Kolb in Neubert's Deutsch. Gart. Mag. xl. 193, t. 10 (1887).

Unfortunately, color alone became the one test of the supposedly new *Hibiscus oculiroseus* and on the sheet with the plate of that plant at New York there was mounted a memorandum by Dr. Britton, that *H. oculiroseus* fills a marsh on Staten Island "all with crimson eye, but petals either white or pink on adjacent plants but not on same plant"; and on the same sheet, marked as *H. oculiroseus*, there was mounted a beautiful photograph, taken by Arthur Hollick on Staten Island, of the white-flowered *H. palustris* (with broad 3-lobed maple-like leaves). Quite similar material, with broad maple-like leaves and pubescent style-branches, was distributed as *H. oculiroseus*

from the New York Botanical Garden. Thus, confusion at the source promptly discredited *H. oculiroseus* and completely obscured morphological and geographic differences between the series which abounds from Massachusetts to New Jersey and on to eastern Virginia and inland across New York and southern Ontario and westward along the Great Lakes, and a more southern plant, found from northern Florida northward to Chesapeake Bay and Anacostia and Potomac Rivers, Virginia, and to West Virginia, Ohio and Indiana. The former is *H. palustris* L., the latter, not definitely known in Delaware, eastern Pennsylvania, New Jersey, New York and New England, is *H. Moscheutos* L. After making thousands of measurements of the many hundreds of specimens in the four collections, those of the Gray Herbarium, the New England Botanical Club, the New York Botanical Garden and the Academy of Natural Sciences of Philadelphia (including a tremendous local representation) I find that the northeastern and the usually more southern plants are separated on the following lines.

H. PALUSTRIS: median cauline leaves (below inflorescence) usually broadly ovate to roundish and commonly 3-lobed, 7–18 (av. 12) cm. long and 4.5–11.5 (av. 8) cm. broad, sometimes as broad as or broader than long; peduncles all or nearly all leafless or united close to base with subtending petiole (only exceptionally, about 3 %, leafy-bracted), the joint or node 0.5–2 (av. 1) cm. below the calyx; petals pink, purple or white, usually with red or crimson base; staminal column 0.8–2 (av. 1.4) cm. in diameter; style (from summit of ovary) 3–6 (av. 4.4) cm. long, the exerted half (from summit of staminal tube to tips of branches) 1–3 (av. 1.8) cm. long, the branches pubescent (usually heavily so); capsule subglobose, with depressed or broadly rounded summit, blunt or abruptly short-tipped, 2–2.5 cm. high. —Massachusetts to eastern Virginia, inland from western New York to southern Ontario, southern Michigan and northern Indiana (MAP 1).

H. MOSCHEUTOS (*H. oculiroseus* as to TYPE): median cauline leaves narrowly ovate to lanceolate, 8–22 (av. 13) cm. long and 3–9 (av. 5.3) cm. broad, *i. e.*, averaging 2.7 cm. narrower than in *H. palustris*, unlobed or the middle and lower tricuspidate; one to several peduncles usually fused for one third to three fourths their length to subtending petiole, the node 1–5 (av. 2.25) cm. below the calyx; petals white or creamy with purple or red base; staminal column 1.2–2.5 (av. 2) cm. in diameter; style 4–8 (av. 6) cm. long, its exerted half 1–3.5 (av. 2.6) cm. long, the

branches glabrous (or very rarely remotely hispid); capsule conic-ovoid, tapering to erect beak, 2.5–3 cm. long.—Northern Florida and Alabama, northward to Chesapeake Bay and tributaries, Maryland and Virginia, West Virginia, southern Ohio and southern Indiana (MAP 2).

Linnaeus, knowing two of these American plants, as his *Hibiscus Moscheutos* and his *H. palustris*, confused with them quite different elements from Africa and elsewhere; but when his treatments of 1753 are analyzed and the extraneous (African and other Old World) matter excluded we have left a core of data under each which shows that he had primarily in mind (from Virginia), the two elements which had been collected there and described by Clayton.

The two temperate eastern North American species of Linnaeus (1753) were as follows:

1. HIBISCUS foliis ovatis acuminatis serratis, caule *Moscheutos*.
simplicissimo, petiolis floriferis. *Hort. ups.* 205.
Hibiscus foliis ovatis crenatis: angulis lateralibus obsoletis. *Hort. cliff.* 349. *Gron. virg.* 79. *Roy. lugd.* 358.
Alcea rosea, peregrina, forte *Rosa moscheutos* plinii.
Corn. canad. 144. t. 145. *Moris. hist.* 2. p. 532. s. 5.
t. 19. f. 6. ♀
Habitat in Canada, Virginia.
2. HIBISCUS caule herbaceo simplicissimo, foliis ovatis *palustris*.
subtrilobis subtus tomentosis, floribus axillari-
bus.
Althaea palustris Bauh. pin. 316. (ex horto C. B. Burserus).
Althaea hortensis s. peregrina. *Dod. pempt.* 655 [644]
Habitat in Virginia. *Gronov.* Canada. *Kalm.* ♀
Habitus *H. Moscheutos*. Caules sesquipedales, non ramosi, annui. Folia lato-ovata, obtuse serrata, trinervia, acuminata, subtus tomentosa. Pedunculi ex axillis foliorum superiorum solitarii, petiolo longiores, uniflori, non e petiolo enati, geniculati. Flos maximus.

The reference to Cornut's misnamed *Canadensium Plantarum* (1635) leads to a plant of Africa, thought by Cornut to be Pliny's *Althaea* (changed by Linnaeus to *Alcea*) *rosea*, a bushy-branched plant shown with strongly depressed and long-beaked fruiting calices such as never occur in our American species. The reference to Morison leads to the same African plant, Morison copying his illustration directly from Cornut, while the Royen reference gives no further light. Taking into account

chiefly the references to plants actually or presumably studied by Linnaeus from Virginia we do better. According to the late Dr. B. Daydon Jackson, there was no material of *Hibiscus Moscheutos* in the Linnean Herbarium. The Hortus Cliffortianus plants "*Hibiscus foliis ovatis crenatis*," etc. with the synonyms *Ketmia africana* and *Althea rosea* were based in part on a plant which "*Crescit in Africa*", while a specimen labeled by Linnaeus "*Hibiscus Moscheutos*" in the Clifford Herbarium is *Kosteletzkya virginica* (L.) Presl, var. *altheaefolia* Chapm. Furthermore, the statement by Linnaeus that his *H. Moscheutos* grows in Canada was evidently derived from the misleading title of Cornut's work. We have left, then, the original account in Hortus Upsaliensis (1748), the account in Gronovius and the diagnosis in 1753. Cutting out the misleading references already discussed for an American plant, to Royen, Cornut, Morison and others, there are left the following very clear diagnosis and observation in Hortus Upsaliensis:

1. *HIBISCUS foliis ovatis acuminatis serratis, caule simplicissimo, petiolis floriferis.*

Hibiscus foliis ovatis crenatis: angulis lateralibus obsoletis.

Hort. Cliff. 349. Gron. virg. 76. Ketmia americana, populi folio. Tourn. inst. 100.

Habitat in Canada, Virginia.

Obs. Caulis quotannis perit, illeque simplicissimis est & pedunculus exit e petiolo, non vero e caule, quod indicat affinitatem cum Turnera. Flos vere speciosus & pulcherrimus.

The Tournefort reference, misquoted by Linnaeus "*Ketmia americana, populi folio*", was originally *Ketmia Africana, Populi folio* and based directly on the African *Althea rosea* of Cornut; but turning to what Linnaeus himself had studied, besides the plant of the Upsala garden so vividly described, we come to the account by Gronovius. Here again, omitting the literary guesses, the kernel is in the original account by Clayton of the living plant: "*Ketmia palustris frutescens, flore maximo candido, umbilico purpureo, foliis Aceris mollioribus.*—*Clayt. n. 122.*"

Reassembling the accounts of the actual material studied by Linnaeus and omitting all the erroneous synonyms, we get a simple-stemmed perennial, with ovate, acuminate leaves (Clay-

ton's "foliis Aceris" could have been based on the albino of *H. palustris*), the petioles and peduncles connate, the corolla white with purple center. The white corolla with purple center and the relatively unlobed acuminate leaf were two of the characters emphasized by Britton in describing his *H. oculiroseus*. The bearing of a leaf on the peduncle was not mentioned by him but his artist caught this character, one peduncle in his plate showing a leaf below the fruiting calyx, two each with a leaf borne high on a peduncle with the calyx gone. Just such plants were frequently illustrated and often described by early post-Linnean botanists of Europe as *H. Moscheutos*. Cavanilles, Willdenow, Persoon, DeCandolle, Sprengel, Don and others maintained *H. Moscheutos* and *H. palustris* as distinct on the Linnean characters, Cavanilles, Diss. 163, t. 65, fig. 1 (1785) showing the peduncles of *H. Moscheutos* leafy-bracted and describing the "Corolla magna luteo-albicans; petalis unguibus incarnatis"; Willdenow Sp. Pl. iii¹. 806 (1800), concocting the German name for it "Blattstielblütiger Hibiscus"; Persoon, Syn. ii. 254 (1806) adding to the leaf-outline and the "petiolis floriferis", "Cor. albida, fundo purpureo"; and so on with many authors. Walter, familiar only with the southern species, described as *H. Moscheutos* a very large-flowered plant with leaves silky on both sides, presumably *H. lasiocarpus* Cav., and for true *H. Moscheutos* he misused the name *H. palustris*, "petiolis floriferis; floribus . . . albis fundo purpureo"; but the most beautiful demonstration of the early correct interpretation of *H. Moscheutos* was by Nees & Sinning in their Samml. Schönblühende Gewächse, 87, t. 37 (1831). Their description of *H. Moscheutos*, Der blattstielblüthige Hibiscus, was explicit: "Diese Pflanze ist dem, in dem zweiten Heft beschriebenen, *Hibiscus palustris* zwar sehr ähnlich, aber doch durch folgende Merkmale hinlänglich verschieden:

Die Blätter sind nur an dem untern Theil des Stengels dreispitzig (tricuspidata), an dem obern Theil eiförmig und in eine lange Spitze ausgedehnt.

Die Blütenstiele entspringen an der Spitze des Stengels aus den Blattstielen, oder sind vielmehr mit diesen bis über die Mitte in eins verwachsen, und sind oberhalb der Mitte mit einem verdickten Absatz versehen; doch kommen auch besonders nach unten einzelne Blütenstiele ganz aus den Winkeln der Blattstiele hervor.

Die Blüten sind noch grösser, schön weiss mit einem purpurrothen Flecken am Grunde . . . "

Nothing could more perfectly display the full beauty of true *Hibiscus Moscheutos* than the great folio plate of Nees & Sinning, showing life-size and in perfect color the lance-ovate leaves, the several peduncles leafy-bracted near or above the middle and great white but red-eyed corollas 2 dm. broad, with style nearly 6 cm. long, its branches glabrous. Had Dr. Britton taken a moment and looked back merely to Nees & Sinning he would have seen a superb picture of *H. oculiroseus*, correctly called *H. Moscheutos* L.

With true southern *Hibiscus Moscheutos* having a white corolla with a red eye, with the northeastern *H. palustris* often having an albino of similar flower-color and with exceptional peduncles uniting at base with a petiole, it is natural that, by neglecting the different proportions of leaf-breadth to -length and the differences in style and capsule and the thickness of staminal column, students should have thought of the two species as one. In 1806, in Curtis's Bot. Mag. xxiii. t. 882, Sims described and illustrated as *H. palustris* the plant of Linnaeus—with broad-ovate angulate-lobed leaves, pink petals, short style, and ebracteate peduncles; and he then suggested the possible identity of *H. palustris* and *H. Moscheutos*. This suggestion of Sims was not generally followed, but Torrey & Gray, familiar only with the plant of New Jersey and southeastern New York, where either pink or white corollas occur, considered this circumstance sufficiently conclusive and wrote: "Flowers . . . rose-color, or sometimes nearly white, crimson at the centre. . . . From numerous observations, we are convinced that *H. Moscheutos* and *H. palustris* are not distinct species. It is not uncommon to find the peduncles and petioles both distinct and united on the same plant."—T. & G. Fl. N. Am. i. 237 (1838). From then on the two were generally merged as *H. Moscheutos*, although Hochreutiner argued in Ann. Conserv. Jard. Bot. Genève, iv. 140 (1900), that the suggestion of possible identity by Sims in 1806 constituted reduction of *H. Moscheutos* to *H. palustris*; and in RHODORA, xli. 112 (1939) I followed Hochreutiner in taking up *H. palustris* to include *H. Moscheutos*; and, without in the least understanding the plants, I published the combination *H. palustris*, forma *oculiroseus* (Britton) Fernald. At that time I had looked into the other characters

of the two quite as little as have most botanists; I should not now unite them.

I have repeatedly referred to the northern plant with broader-ovate leaves, mostly naked peduncles, roseate (or sometimes white) flowers, pubescent styles and subglobose capsules as true *H. palustris*. Linnaeus's account in 1753 has already been quoted (p. 270). His diagnosis and critical comments are clear. The only *Hibiscus* given by Gronovius, besides the one cited by Linnaeus under *H. Moscheutos*, was described "flore carneo speciosa, umbilico purpureo". The only other references given by Linnaeus are to Dodens (1583) and to Bauhin (1633). Dodens gave a remarkably good illustration of the plant so common from Massachusetts to New Jersey, etc., then cultivated in Belgium, with a special figure of the subglobose capsule, and his description said "flos . . . dilutè in rubro purpureus, aut ex albido purpurascens . . . : fructus . . . rotunda ferè ac globosa"; but the very condensed series of bibliographic references by Bauhin (including Theophrastus) is wholly inconclusive.

Until the ill-advised reduction of *H. palustris* to *H. Moscheutos*, the former was clearly understood. Just as they correctly defined *H. Moscheutos*, so Cavanilles, Willdenow, Persoon, DeCandolle, Sprengel and others up to Torrey & Gray understood *H. palustris* and many good plates, suggesting that of Sims, were published of it. In Bot. Reg. xvii. t. 1463 (1832) Lindley had a beautiful plate of it, and a clear description, including "Folia ovata v. cordato-ovata, triloba . . . Flores . . . maximi, rosei"; but, influenced by the verdict of Torrey & Gray, Lindley in Bot. Reg. xxxiii. t. 7 (1847), showed it again as *H. Moscheutos*. That the northern plant may have the petals roseate or sometimes white with crimson base was recognized by the best early field-botanists of New England, New York, New Jersey and Pennsylvania. Torrey & Gray have already been quoted. Similarly, Barton, describing the plant of the Delaware said "reddish-purple; rarely white".—Bart. Comp. Fl. Phila. ii. 65 (1818).

I have gone into considerable detail in bringing forward the evidence, as I at present see it, that *Hibiscus Moscheutos* and *H. palustris* are perfectly distinct species, although the occurrence

of color-forms with white flowers with crimson centers in the latter has produced a confusion resulting in their merging by those who have not realized their other characters. When we know more intimately the degree of variation of the two in the area, Maryland and eastern Virginia, where both are found, they may prove to merge. At present I lack conclusive evidence that there is more transition than might result from hybridizing¹. Unusually long-styled plants from the Eastern Shore of Maryland and from Cape May, New Jersey, may eventually prove to be transitional, especially if the smooth-styled plant with conic-ovoid capsule described as *H. oculiroseus* actually originated in southeastern New Jersey. Furthermore, pink-flowered forms of the southern *H. Moscheutos* are suspected; their actual occurrence is not satisfactorily demonstrated. It would have been possible and much quicker² dogmatically to assert that the two are distinct, without an analysis of the fundamental literature and the overlooked morphological characters of the two. In view of a rather deeply intrenched conviction that they are merely color-forms of one species, this longer consideration has seemed desirable; too dogmatic assertions, without careful checking of these matters, have already produced sufficient confusion.

Since reaching these tentative conclusions I find that the late Edward Lee Greene, in his characteristically rhetorical manner and without pointing out new characters, came to the same conclusion. In his Leaflets, ii. 64, 65 (1910) Greene wrote:

Taking Gray's Synoptical Flora for the authority upon our hydrophile kinds of *Hibiscus*, a northern botanist would believe without a doubt that the broad-leaved pink-flowered plant of New England marshes is to be *H. Moscheutos*, Linn. Nevertheless Linnaeus, who rarely distinguished species where they were not well marked, said that this northern plant should be called *H. palustris*. Its leaves are not only broad, but are lobed, and this with some suggestion of the outline of maple leaves. They say that the flowers of this, commonly of a pinkish or light rose-color, are sometimes white. But let the New England plant lover, taught that his northern plant is *H. Moscheutos*, come southward in summer time to the marshes of Chesapeake Bay and its tributaries, and he will be apt to ask

¹ See comments of Dr. A. B. Stout in *Addisonia*, iii. under *H. oculiroseus*, t. 88 (1918), the flowering specimen not too good a match for Britton's original plate of a fruiting tip nor for the flowering specimen designated by him as TYPE of *H. oculiroseus*.

² As the late George Foot Moore used to say⁷ "It isn't the time it takes to point out evident facts which troubles one; it is the time it takes to demonstrate that they have always been known and are not new."

what this hibiscus is that has always large cream-colored corollas, and with long narrow lanceolate and wholly uncut foliage; for he will not believe, unless his faith in great books is immovable, that this and the other are the same.

The northern plant is *H. palustris*. Only the great yellowish-white southern one is *H. Moscheutos*, and it is improbable that any man, either botanist or botanophile, knowing both, will doubt their distinctness. Indeed, one of the most capable of northern botanists, though of an earlier generation, namely Bigelow, knew nothing of any other native hibiscus in Massachusetts than *H. palustris*. A living botanist of the North, and one well travelled, once asked me what this great cream-colored narrow-leaved plant of these southern marshes could be; so confident had he been that the maple-leaved red-flowered one of the North had been authoritatively determined by great men to be what they had called it; and he seemed to think that our plant of these regions must be nondescript.

Nevertheless, Hitchcock & Standley, in Fl. Distr. Columb. 203, 204 (1919), got the wires crossed and defined *H. palustris* as having "Leaves . . . lanceolate or ovate; flowers cream-colored, with crimson eye", a plant known in their area on "Tidal marshes along the Potomac and Eastern Branch [Anacostia] . . . Southeastern U. S."; and they added the comment: "This species has been confused with the pink-flowered *H. Moscheutos* L., found north of our region". Greene had correctly pointed out that the northern plant (see MAP 1) is *H. palustris*, the southern (see MAP 2) *H. Moscheutos*. That much seems certain. Whether they are finally to be considered as two quite distinct species or as extremes of one specific type can be satisfactorily determined only when we understand the series from Cape May, New Jersey and from Chesapeake Bay to False Cape, Virginia. Greene and, after him, Hitchcock & Standley, implied that in the region covered by the Flora of the District of Columbia the only representative of the series is the narrow-leaved and white-flowered southern plant. Similarly in the new Checklist of Plants in the Washington-Baltimore Area (Sept., 1941), covering "the territory extending from the Pennsylvania-Maryland boundary to the Rappahannock River", only this extreme (as *H. palustris*, forma *oculiroseus*) is given. One would, therefore, conclude that the "pink-flowered" plant "found north of our region" does not grow in the Washington-Baltimore area. It is, consequently, important to record that on August 3, 1910, Dr. Francis W. Pennell collected near Alexandria (only a few miles below Washington) three numbers,

2582, 2585 and 2586, which are exceptionally interesting. The first, typical *H. Moscheutos* as here defined (with narrow leaves, white flowers with red eye, leafy-bracted peduncles, and glabrous style-branches) he correctly determined as *H. oculiroseus*; the second, broad-leaved, with roseate corolla and pilose style-branches (true *H. palustris* "found north of our [the Washington] region") he correctly identified, in contrast with *H. oculiroseus*, as *H. Moscheutos* sensu authors of the period; while the third was considered a hybrid between the other two. The characteristic specimen of *H. palustris* from Alexandria is in the Herbarium of the Academy of Natural Sciences of Philadelphia. Other broad-leaved plants with pilose style-branches, depressed capsule or other traits which put them into *H. palustris* are before me from the following stations in the Washington-Baltimore area of Maryland: along the canal, Chesapeake City, Cecil County, *Tidestrom*, no. 11,446 (Gray Herb.); Back Creek, north of Chesapeake City, *B. Long*, no. 42,289, very characteristic fruit (Phil. Acad.); Back Shores, Baltimore, *C. C. Plitt*, no. 686 (Gray Herb.); Back Bay, near Annapolis, *Tidestrom*, no. 11,484 (Gray Herb.); Plumpoint, *G. H. Shull*, no. 167 (Gray Herb.; N. Y.); Patuxent River east of Upper Marlboro, *Wherry & Pennell*, no. 12,402 (Phil. Acad.). It is certainly to be hoped that the projected work, to which the Checklist of September, 1941 is a forerunner, will not merit the criticism of its predecessor: "The logical conclusion actually seems to be that the aim of the new Flora is not to open the path of knowledge to the Flora of the District of Columbia, but to the Flora of the National Herbarium"¹.

Farther south the poorly understood *Hibiscus incanus* Wendl. comes into the problem. Originally described and illustrated as having small and narrow leaves and sulphur-yellow corollas, it is stated by Small to have the relatively short petals sometimes white or pink and to differ from *H. Moscheutos* (*H. oculiroseus* of Small's treatment) in having the capsule ellipsoid and hirsute, instead of conical and glabrous. Considerable material of *H. Moscheutos* from the Carolinas has recently been distributed as *H. incanus* or as a variety of *H. palustris* based upon *H. incanus*. With only inadequate material of the latter species its status in the series remains doubtful.

¹ Theo. Holm, *Am. Midl. Nat.* v. 175 (1921).

In the following paragraphs I attempt to summarize the more significant bibliography of *Hibiscus palustris* and *H. Moscheutos* and to cite some characteristic illustrations. This treatment, it should be understood, is not necessarily final; in a group with plastic characters finality of judgment is not easily reached.

H. PALUSTRIS L. Sp. Pl. 693 (1753) as to descr. and citations of Dodens and Gronovius; Willd. Sp. Pl. iii¹. 806 (1800); Sims in Curt. Bot. Mag. xxiii. t. 882 (1806); Allg. Deutsch. Gart. Mag. iii. t. 19, fig. 2 (1806); Pers. Syn. ii. 254 (1806); Bigel. Fl. Bost. 164 (1814); Barton, Compend. Fl. Phila. ii. 65 (1818); DC. Prodr. i. 450 (1824); Torrey, Compend. 256 (1826); Spreng. Syst. 105 (1826); Nees & Sinning, Samml. Schönblühender Gewächse, 33, t. 15 (1831); Lindl. Bot. Reg. xvii. t. 1462 (1832); Géel. Sert. Bot. Cl. xvi. t. (unnumbered) (1832). *H. Moscheutos* sensu Lindl. Bot. Reg. xxxiii. t. 7 (1847); sensu Meehan's Mo. ii. t. 11 (1892); sensu Dana, How to Know the Wild Fl. t. 75 (1894); sensu Britton in Journ. N. Y. Bot. Gard. iv. 219, t. xvii (1903); sensu Stone, Pl. So. N. J. t. 81 (1911); sensu Stout in Addisonia, iii. t. 99 (1918); sensu House, Wild Fl. N. Y. i. t. 129 (1918); not L. (1753). *H. Moscheutos*, *β. purpurascens* Sweet, Brit. Fl. Gard. iii. sub t. 286 (1829). *H. opulifolius* Greene, Leaflets, ii. 65 (1910).—For statement of characters and range see p. 269.

Forma PECKII (House) House, Bull. N. Y. State Mus. no. 254: 490 (1924). *H. Moscheutos*, f. *Peckii* House, Bull. N. Y. State Mus. nos. 243-244: 54 (1923). *H. palustris* sensu Cav. Diss. 162, t. 65, fig. 2 (1785), descr. "corolla . . . luteo-albicans; petalis unguibus incarnatis". *H. Moscheutos* sensu Sweet, Brit. Fl. Gard. iii. t. 286 (1829). *H. palustris*, var. *albiflorus* Leichtlin ex Kolb in Neubert's Deutsch. Gart. Mag. xl. 193, t. 10 (1887).—The albino.

H. MOSCHEUTOS L. Sp. Pl. 693 (1753); Cav. Diss. 163, t. 65, fig. 1 (1785); Willd. Sp. Pl. iii¹. 806 (1800); Michx. Fl. Bor.-Am. ii. 47 (1803); Pers. Syn. ii. 254 (1806); DC. Prodr. i. 450 (1824); Torrey, Compend. 255 (1826); Spreng. Syst. i. 104 (1826); Nees & Sinning, Samml. Schönbl. Gew. 87, t. 37 (1831); Darby, Man. 50 (1841); Gray, Gen. ii. t. 133 (1849); Schnitzlein, Iconogr. iii. t. 209, fig. 24 (1855); Chapm. Fl. So. States, 57 (1860). *H. palustris* sensu Walt. Fl. Carol. 176 (1788); sensu Hitchc. & Standley, Fl. D. C. 204 (1919); not L. (1753). *H. oculiroseus* Britton in Journ. N. Y. Bot. Gard. iv. 219, t. xviii (1903), as to type and original plate; Small, Man. Se. Fl. 856 (1933). *H. pinetorum* Greene, Leaflets, ii. 66 (1910). *H. palustris*, forma *oculiroseus* (Britton) Fernald in RHODORA, xli. 112 (1939), as to type.



Fernald, Merritt Lyndon. 1942. "HIBISCUS MOSCHEUTOS AND H. PALUSTRIS."
Rhodora 44, 266–278.

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