

THE CORRECT NAME OF THE YAUPON

BY

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DURING a recent conversation with me regarding the nomenclature of the yaupon, Professor Oakes Ames called my attention to a precious remark which Dillenius once wrote in a letter to Linnaeus (Smith, J. E.: "A selection of the correspondence of Linnaeus and other naturalists" 2 (1821) 96). "We all know the nomenclature of Botany to be an Augean stable, which C. Hoffman, and even Gesner, were unable to cleanse." Nothing could be more expressive of the confusion which one encounters in the synonymy of this holly than the term "Augean stable."

There has long been a need for a thorough discussion of the correct name of the yaupon, the source of the black-drink once so commonly used as a ceremonial emetic and stimulant amongst Indians of the southeastern part of the United States.

The monographer of the *Aquifoliaceae*, Loesener (Monogr. Aquifol. in Nova Acta Acad. C. L. C. G. Nat. Cur. 78 (1901)) employed the binomial *Ilex caroliniana* (Lam.) Loes. Most modern taxonomic treatments, however, use *Ilex vomitoria* [Soland. in] Ait.

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Notwithstanding this tendency in botanical works, a most baffling confusion and uncertainty still exists throughout the numerous chemical, pharmacological, anthropological and ethnobotanical publications and hampers understanding and accuracy. In view of the lack of any adequate review of the taxonomic and nomenclatorial history of this plant since 1753, it has seemed advisable to present the following notes in an attempt to set forth the reason why the correct, though not the earliest, name is *Ilex vomitoria* and to discuss the origin, status and significance of the synonymy of this binomial.

Ilex vomitoria [*Solander* in] Aiton Hort. Kew. [ed. 1] 1 (1789) 170.

I. Cassine β Linnaeus Sp. Pl. 1 (1753) 125.

Cassine Paragua Miller Gard. Dict. [ed. 8] (1768)

Cassine no. 2. Non *Cassine Peragua* Linnaeus Sp.

Pl. [ed. 2] (1762) 384. Non *Cassine Peragua* Linnaeus

Mant. 2 (1771) 220.

C. caroliniana Lamarek Dict. 1 (1783) 652, *pro parte*,

I. Cassine Walter Fl. Carol. (1788) 241.

I. ligustrina Jacquin Collect. 4 (1790) 105; Icon. Rar. 2 (1793) 9, t. 310.

Cassine yapon Bartram Travels (1791) 259, *nom. nud.*

I. floridana Lamarek Ill. 1 (1791) 356.

I. Cassena Michaux Fl. 2 (1803) 229.

I. religiosa Barton Fl. Virg. (1812) 66.

? *Cassine ramulosa* Rafinesque in Robin Fl. Lud. (1817) 110.

Hierophyllus Cassine (Walt.) Rafinesque Med. Bot. 2 (1830) 8.

? *Cassine amulosa* Rafinesque Med. Fl. 2 (1830) 205, *nom. sphalm.*

Ageria Cassena (Michx.) Rafinesque Sylv. Tellur. (1838) 47.

? *Emetila ramulosa* Rafinesque in S. Watson Bibl. Ind. N. Am. Bot. (1878) 158, *nom. in syn.*

Cassine yaupon Gatschet in Trans. St. Louis Acad. Sci. 5 (1888) 88, *nom. nud.*

I. Peragua (L.) Trelease in Trans. Acad. Sci. St. Louis 5 (1889) 346, *in obs.*

I. caroliniana (Lam.) Loesener in Bot. Centralbl. 47 (1891) 163.

I. vomitoria [Soland. in] Aiton var. *Yawkeyii* Tarbox Some Nat. Hollies in Brookgreen Gardens (1944) 19, *sine diagn. lat.*

Cassine vomitoria Swanton in Bull. Bur. Am. Ethnol. 137 (1946) 284, *nom. nud.*

Perhaps the earliest widespread reference to the yaupon in a botanical publication was made by Bauhin and Cherler in their encyclopaedic "Historia plantarum universalis" 3 (1651) 681. No description of the plant was given. The title, "Herba Cassiana, famen sitimque retardans," of the brief discussion, which reported the use of the infusion of the leaves as a stimulant, referred to the hunger-allaying properties of the shrub. This reference is an elaboration of an earlier report by Bauhin (Pinax (1623) 170), based upon what appears to be the first account of the black-drink (Nuñez Cabeça de Vaca "Relación y comentarios. . . ." (1542) cap. 26), herein reproduced (Plate XXIV).

Later, Leonard Plukenet described the species as *Cassine vera Floridanorum Arbuscula baccifera Alternati ferme facie, foliis alternatim sitis, tetrapyrene* ("Opera omnia botanica" 3 (1691) 40) and published what is apparently the earliest illustration (loc. cit. 4 (1692) t. 376, f. 2). No mention seems to have been made of the use of the plant.

It is to Mark Catesby ("The natural history of Carolina, Florida and the Bahama Islands" 2 (1754) 57) that we are indebted for the first definite and convincing iden-

tification of the source of the black-drink which, for 235 years previously, had been attracting the attention of travellers. This was accomplished through Catesby's charming plate and his description of Plukenet's *Cassine vera Floridanorum Arbuscula baccifera Alternati ferme facie, foliis alternatim sitis, tetrapyrene*, together with a very lengthy account of the properties and ceremonial uses of the plant.

The earliest tenable post-Linnaean name for the yaupon is found in volume one of the first edition of Aiton's "Hortus Kewensis" (1789). It was here named *Ilex vomitoria*. The specific epithet would indicate that Solander, who described the plant, was familiar with its renown as an emetic, although he made no mention of this in his notes. The original description is short: "I. foliis alternis distantibus oblongis obtusiusculis crenato-serratis: serraturis muticis."

It will be noted that Miller's *Cassine Paragua*, (1768) referring, without any doubt, to the concept now under consideration, antedates *Ilex vomitoria*. We must investigate the reasons for the untenability of Miller's binomial, because of the almost unbelievable confusion of his specific epithet and Linnaeus' several concepts—all named *Cassine Peragua* or the orthographic variant *C. Paragua*. Notwithstanding the unavailability of the epithet *Peragua*, the combination under *Ilex* has been made. We must realize, however, that the author did not urge its acceptance. Trelease, although he accepted *Ilex Cassine* Walt. as the correct name for the yaupon holly, wrote in a footnote (in Trans. Acad. Sci. St. Louis 5 (1889) 346, in obs.): "An effort to improve on the nomenclature of this species, unless it is called *I. Cassine* β L. Sp. (1753) 125, would probably cause it to stand as *I. Peragua* (L.) = *Cassine Peragua* L. Mantiss. (1771), ii, 200."

In 1762, Linnaeus (Sp. Pl. [ed. 2] 1 (1762) 384) published *Cassine Peragua* for an Old World concept. He cited several sources which indicate that the concept was unquestionably an Old World one. Although one of these sources (Hortus Cliffortianus (1737) 72) attributed the plant both to the Cape of Good Hope and to Carolina, it is clear that it was not being confused with the concept now known as *Ilex vomitoria* which was discussed separately (loc. cit. 40) and was attributed to "Carolina Americae."

Cassine Peragua was published again by Linnaeus nine years later (Mant. 2 (1771) 220). In this second Linnaean publication, it referred not to the Old World concept of the earlier (1762) *Cassine Peragua* but to several different concepts.

Linnaeus' *Cassine Peragua* of 1771 has hitherto been considered by some taxonomists as a synonym of *Ilex vomitoria*, either wholly or in part. There has been much uncertainty as to the exact meaning of this name, because, in the Linnaean Herbarium, there are two distinct American plants under the binomial. Loesener (in Engler Bot. Jahrb. 28, 2 (1900) 154-155) considered *Cassine Peragua* L. of 1771 as a *nomen nudum*. Fernald and Schubert (in Rhodora 50 (1948) 169) hold it to be a *nomen ambiguum* and a *nomen confusum* and suggest that it be permanently rejected. Photographs of the two specimens indicate that neither is referable to *Ilex vomitoria*; both are species of *Viburnum* (Fernald and Schubert loc. cit.). Therefore, whether *Cassine Peragua* L. of 1771 be rejected or not, there is no need of considering further the name in any discussion of the synonymy of *Ilex vomitoria*. Trelease's combination, *Ilex Peragua* is untenable since it is based on a homonym.

Cassine Paragua Miller (Gard. Dict. [ed. 8] (1768) *Cassine* No. 2), on the contrary, is very definitely referable to

EXPLANATION OF THE ILLUSTRATION

PLATE XXIV. The earliest European account of the use of the black-drink was written by Nuñez Cabeça de Vaca and published in his "Relación y comentarios. . . ." of which there have been several editions. The illustration is a photograph of the account as it appears in the first edition of 1542. Of this rare and fascinating book only two copies are known: an imperfect copy preserved in the British Museum; and a perfect one in the New York Public Library, through the kind cooperation of which institution the photograph herein reproduced was made available.

Otra se emboirachan cō vn humo y dā quāto tienen
 por el. beuen tambien otra cosa q̄ sacan de las hojas
 de los arboles como de enzina y tuestanla en vnos bo-
 tes al fuego y despues q̄ la tienen tostada hinchē el
 bote de agua ⁊ assi lo tienen sobre el fuego ⁊ quando
 ha heruido dos vezes echan le en vna vasija ⁊ estā en
 friandola con media calabaza: y quando esta con mu-
 cha espuma beuen la tan caliente quanto pueden suf-
 frir: y desde que la sacan del bote hasta que la beuen es-
 tan dando bozes diziendo que quien quiere beber. Y
 quando las mugeres oyen estas bozes luego se paran
 sin osar se mudar y avnq̄ esten mucho cargadas no o-
 san hazer otra cosa. y si a caso alguna dellas se mueue
 la deshonrran ⁊ la dan de palos y con muy gran eno-
 jo derraman el agua que tienen para beber: ⁊ la que an
 beuido la tornan a lançar lo qual ellos hazen muy lige-
 ramente ⁊ sin pena algūa. la razon desta costumbre dā
 ellos y dizen. Que si quādo ellos quieren beber aque-
 lla agualas mugeres se mueuen de donde les toma la
 boz que en aquella agua se les mete en el cuerpo vna
 cōsu mala y q̄ dēde a poco les haze morir. y todo el tiē-
 po q̄ el agua esta coziendo a de estar el bote atapado
 Y si a caso esta desatapado y alguna muger passalo de-
 rramā y no beuen mas de aq̄lla agua es amarilla. y es-
 tan beuiendola tres días sin comer: y cada día beue
 cada vno arroba y media della. E q̄ndo las mugeres
 estā cō su costumbre no buscan de comer mas de para
 si solas porq̄ ninguna otra persona come de lo que ella
 trae. En el tiēpo q̄ assi estaus entre estos vi vna diablu

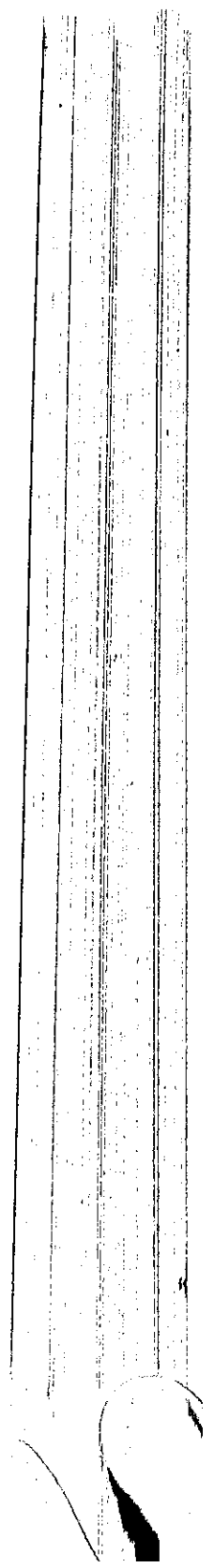
EXPLANATION OF THE ILLUSTRATION

PLATE XXV. The plant which was the source of the black-drink was definitely identified in 1754 by Mark Catesby, as evidenced by this beautiful illustration from his "The natural history of Carolina, Florida and the Bahama Islands" 2 (1754) 57.



Argem. Ac.

Cassia. Ac.



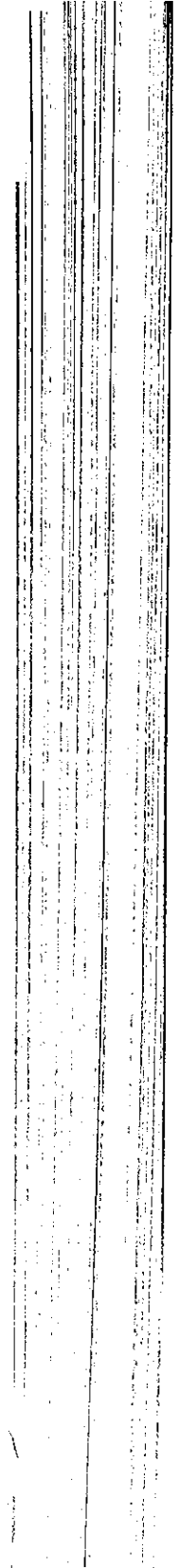
EXPLANATION OF THE ILLUSTRATION

PLATE XXVI. The discussion of the black-drink
accompanying Catesby's plate.

Cassena vera Floridanorum, Arbuscula baccifera Alaterni facie, foliis alternatim sitis, tetrapyrene. Pluk. Mant.

THIS Shrub usually rises from the ground with several stems, to the height of twelve feet, shooting into many upright, slender, stiff branches, covered with whitish smooth bark, set alternately with small evergreen serrated leaves, resembling those of *Alaternus*. Its flowers are small, white, and grow promiscuously amongst the leaves, and are succeeded by small spherical berries on short footstalks: these berries turn red in *October*, and remain so all the winter, which, with the green leaves and white bark, make an elegant appearance. But the great esteem and use the *American Indians* have for it, gives it a greater character. They say, that, from the earliest times, the virtues of this Shrub has been known, and in use among them, prepared in the manner they now do it, which is either having dried, or rather parched the leaves in a porrage-pot over a slow fire, they keep it for use: of this they prepare their beloved liquor, making a strong decoction of it, which they drink in large quantities, as well for their health as with great gust and pleasure, without any sugar or other mixture; yet they drink and disgorge it with ease, repeating it very often, and swallowing many quarts. They have an annual custom in the spring of drinking it with ceremony; the town having notice from the King or principal, the inhabitants assemble at the Town-house, having previously by fire purged their houses of all their old furniture, and supplied them with new, the King is first served with a bowl or conch-shell, never used before, of this emetick broth, by the next to him in eminence, and he by the next is served; and so on, till he comes to the women and children. They say it restores lost appetite, strengthens the stomach, giving them agility and courage in war, &c. It grows chiefly in the maritime parts of the country; from whence those *Indians* supply the *Mountain-Indians* with it; carrying on the like trade with it in *Florida*, as the *Spaniards* do with the South-sea tea from *Paraguay* to *Buenos-ayres*; *Florida* being in the same latitude north, as *Paraguay* is south: and observing, by comparing the leaves of both, no apparent difference in them, induces me to believe they are both the same Plant. In *South-Carolina* it is called *Cassena*. In *Virginia* and *North-Carolina* it is known by the name of *Yapon*; in the latter of which places it is as much in use among the white people as among the *Indians*, at least among those who inhabit the sea-

COET *Arbrisseau* s'élève ordinairement à la hauteur de douze piés, avec plusieurs tiges, qui se divisent en plusieurs branches menues, roides, couvertes d'une écorce lisse & blanchâtre, & garnies de petites feuilles dentelées, toujours vertes, rangées alternativement, & semblables à celles de *Palatemo*. Ses fleurs sont petites, blanches, & viennent çà & là parmi les feuilles. Il leur succede de petites bayes sphériques, attachées à des pédicules courts: ces bayes deviennent rouges au mois d'*Octobre*, & demeurent en cet état tout l'*Hiver*, ce qui, joint au verd des feuilles & à la blancheur de l'écorce, produit un effet très agréable; mais le mérite de cet *Arbrisseau* est encore plus relevé par l'estime que les *Américains* ont pour lui, & l'usage qu'ils en font: ils disent que ses vertus ont été connues parmi eux depuis les premiers temps, & qu'ils s'en sont servis en le préparant de la même manière qu'ils le font aujourd'hui: ce qui se fait en stichant, ou plutôt en grillant sur un petit feu dans un pet les feuilles que l'on veut garder: ils font de ces feuilles une forte décoction, qui est leur breuvage favori, dont ils boivent une grande quantité autant par plaisir & par goût, que pour leur santé: ils n'y mêlent ni sucre ni autre chose; & ils en avalent plusieurs pintes, qu'ils vomissent avec la même facilité, ce qu'ils répètent souvent. Ils ont une coutume annuelle au Printemps de boire cette liqueur en cérémonie: la ville étant avertie par le Roi ou le Chef, les habitants s'assemblent à la maison de ville, après avoir purgé leurs maisons de tous leurs vieux meubles, & les avoir garnies de nouveaux ustensiles: le Roi reçoit le premier dans un vaisseau ou une coquille, qui n'a jamais servi, cette liqueur émetique des mains du plus qualifié après lui: celui là est servi par un autre; & on va ainsi de suite jusqu'aux femmes & aux enfants. Ils disent que ce bouillon rétablit l'appetit, fortifie l'estomac, & leur donne de l'agilité & du courage à la guerre, &c. Il croît le plus communément dans les endroits du pays qui sont vers la Mer; & les *Indiens*, qui les habitent, en fournissent à ceux des *Montagnes*: ils en font le même commerce à la *Floride*, que les *Espagnols* font du thé de la Mer du Sud, depuis le *Paraguay* jusqu'à *Buenos-Ayres*. La *Floride* étant dans la même latitude au Nord, que le *Paraguay* est au Sud, & ne trouvant aucune différence entre les feuilles de l'un & de l'autre, je suis porté à croire que c'est la même Plante. On la nomme au Sud de la *Caroline* *Cassena*: à la *Virginie*, & au Nord de la *Caroline* elle est connue sous le nom d'*Yapon*; & dans le dernier de ces endroits elle est autant en usage parmi les Blancs que parmi les habitants, du moins ceux qui demeurent sur la côte.



Ilex vomitoria and, as such, must be taken into account.

At first glance, it would seem that *Cassine Paragua* Mill. might properly be the basis of a new combination under *Ilex*. Closer examination will reveal, however, that its status is that of a homonym with an orthographic variation and is, therefore, unavailable.

In the 9th edition of Miller's "Gardener's Dictionary" (1797) *Cassine* No. 2, the orthography is altered from *Cassine Paragua* to conform with Linnaeus' *C. Peragua*. Thomas Martyn, editor of the work, reported under *Cassine* No. 2, that: "*Cassine Paragua* of Miller is *Ilex vomitoria*. *C. Peragua* of the Mantissa, is *Viburnum laevigatum*." Martyn, having corrected Miller's orthographic error, united two names for the Old World concept correctly under the older name *Cassine Peragua*. But he then proceeded to misapply this name to the New World concept which we now know as *Ilex vomitoria* which is "native of Virginia and Carolina." In consideration of these circumstances, then, Miller's specific epithet *Paragua* cannot be available for transfer to *Ilex*.

The confused use of the name *Ilex Cassine*, which has likewise hampered our understanding of *Ilex vomitoria*, is attributable to the unfortunate fact that this binomial has been published by two authors for different concepts.

The earlier *Ilex Cassine* Linnaeus (Sp. Pl. (1753) 125) was an unfortunately chosen name, for while the binomial itself refers without any doubt to the dahoon of the southeastern United States, the specific epithet was taken from one of the common names of the yaupon holly and applied to the other holly by Linnaeus in error. *Ilex Cassine* L., therefore, is the accepted technical name for the dahoon holly.

A few years later, Walter (Fl. Carol. (1788) 241) published *Ilex Cassine* to refer to the concept we now call *I. vomitoria*, as ascertained by reference to a photograph

of the type specimen (Schubert [photographer]: "The Herbarium of Thomas Walter at the British Museum (Natural History), South Kensington, London, England," (1946-7) *Ilex Cassine* [a bound volume of photographs in the Gray Herbarium]). Although Walter's specific epithet is correctly applied to the plant which is widely known by that common name, and although it antedates *Ilex vomitoria* by one year, the name falls because it is a homonym.

This dual use of the same binomial has, as Loesener (in Bot. Centralbl. 47 (1891) 161-163) pointed out, led to confusion, although even a rapid examination of the case would have made clear all points of uncertainty. E. M. Hale's very excellent historical treatment of the black-drink plant ("*Ilex Cassine*, the aboriginal North American tea": Bull. No. 14, U.S.D.A. Div. Bot. (1891)), for example, suffers from his use of the name *Ilex Cassine* without even one reference to indicate whether the binomial of Linnaeus or that of Walter is being accepted; Hartwich's monumental work on narcotic plants ("*Die Menschlichen Genussmittel*" (1911) 468) uses *Ilex Cassine* L.; and Wehmer ("*Die Pflanzenstoffe*" (1911) 456; [ed. 2] 2 (1931) 718) accepts *I. Cassine* Walt. The first chemical report (Smith, H. M.: in Am. Journ. Pharm. 44 (1872) 216) of the discovery of caffeine in a North American *Ilex* is of doubtful value partly because of an uncertainty as to which *Ilex Cassine* was being examined. In 1883, still another report of a chemical analysis (Venable, F. R.: in Chem. News 52 (1885) 172) employed the name *Ilex Cassine* without author citation, thus leaving room for uncertainty as to the exact species which was analysed. An even more interesting result of the confusion of the *Ilex Cassine* of Linnaeus with that of Walter is found in a standard pharmacological work (Tschirch, A.: "*Handbuch der Pharmacognosie*" 3,

Abt. 1 (1923) 432), in which its writer "affirms and denies the existence of caffeine in *Ilex Cassine* all in the same paragraph" (Maxwell, M. M. : "*Ilex Cassine* L. . . ." ans. report (no date) in *Libr. Econ. Bot. Harvard Univ.*).

Loesener (in *Bot. Centralbl.* 47 (1891) 163) rejects *Ilex vomitoria* in favor of *Ilex caroliniana* (Lam.) Loes., a combination which he made on the basis of Lamarck's *Cassine caroliniana*. This procedure is not permissible. Lamarck's binomial *Cassine caroliniana* (1783) is not available, since it is a substitute for the validly published *Cassine corymbosa* Miller (*Dict.*, [ed. 8] (1768) *Cassine* No. 1; *Icones* (1760) 83, t. 1). It might be pointed out in passing that Miller's *Cassine corymbosa* does not refer to the concept *Ilex vomitoria*.

The other synonyms of *Ilex vomitoria* have not, for the most part, entered into the chemical, pharmacological and anthropological literature. They are included in the foregoing enumeration for the sake of completeness. Several of the Rafinesque names are referred to *Ilex vomitoria* with some reserve. They are not based on specimens which might be examined, and the descriptions are brief and vague in the extreme. It is fortunate that they do not need to be considered nomenclatorially in determining the correct name of the yaupon, but, being later, can be relegated immediately to synonymy.