

THOMAS WALTER TYPIIFICATION PROJECT, V: NEOTYPES AND EPITYPES FOR 63 WALTER NAMES OF GENERA D THROUGH Z

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ABSTRACT

Thomas Walter, author of *Flora Caroliniana* (1788), left no herbarium. Many of the species he described from the Carolinas and Georgia are without types. Specimens believed to represent 63 of Walter's species are here selected to serve as neotypes or epitypes.

RESUMEN

Thomas Walter, el autor de la *Flora Caroliniana* (1788), no dejó un herbario. Muchas de las especies que describió de las Carolinas y Georgia no tienen tipo. Se seleccionan aquí especímenes que se suponen representan 63 de las especies de Walter, para servir como neotipos o epítipos.

This number of the Thomas Walter Typification Project is a continuation of a report begun previously (Ward 2007c). Here, an additional 63 of Walter's species are addressed, with selection of appropriate neotypes or epitypes.

Although the number of Walter neotypes, as treated in this and previous reports of the Project, have been many, even now not all Walter names have been examined. No effort has been made to typify most of the numerous Walter names that are now remembered only in synonymy. And those names not represented by suitable materials in the herbarium of the present participating institution (GH) will be addressed in a subsequent report.

This report and its immediate predecessor (Ward 2007c) select types for 106 Walter names. Within this number, 101 were selected as neotypes, and 5 as epitypes. The largest proportion, or 98, were of South Carolina collections, 22 of them from Berkeley County; 4 were from Georgia, and 2 each from North Carolina and Florida. A third, or 37, bore a total of 43 annotations confirming the label identifications.

The typifications are presented here in the format used previously (Ward 2007a, 2007b, 2007c), in alphabetical sequence, using the names given them by Thomas Walter.

TYPIIFICATIONS

WALTER'S NAME: *Daucus divaricatus* Walter (p. 114)

MODERN NAME: ***Spermolepis divaricata*** (Walt.) Raf.

Common in eastern SC. Identified (from Walter's diagnosis) by Mathias & Constance (1944: 72). Spm. 40-C, a wispy fragment, was labeled "*Daucus*" by Fraser, and annotated as "*divaricatus* Walt." by A. Gray, though one wonders what he saw that was recognizable. Boufford & Wood 23862, 27 May 1988 - GH, from Wadmalaw Island, s. of Charleston, Charleston County, South Carolina, is here selected as NEOTYPE for *Daucus divaricatus* Walt., basionym of *Spermolepis divaricata* (Walt.) Raf. Known ISONEOTYPES: MO, NY.

WALTER'S NAME: *Delphinium carolinianum* Walter (p. 155)

MODERN NAME: ***Delphinium carolinianum*** Walt.

Almost unknown in SC (a single county), frequent in central GA. Fraser/Walter 40-B [1787] - BM, a now-unidentifiable fragment labeled "*Delphinium*" by Walter and "*Carolinianum*" by Fraser, was cited by Warnock (1981: 48), as "Type: South Carolina, within fifty miles of Berkeley Co., T. Walter s.n. (BM)." The cited specimen is worthless for identification purposes. Radford 22407, 11 May 1957 - GH (annot. Michael J.

Warnock 1979), from 4.5 mi SE of Clarks Hill, McCormick County, South Carolina, is here selected as EPITYPE for *Delphinium carolinianum* Walt., in support of Warnock's typification. Known ISOEPITYPES: CA, FLAS, GA, NCU, NY.

WALTER'S NAME: *Dianthera ovata* Walter (p. 63)

MODERN NAME: **Justicia ovata** (Walt.) Lindau

Frequent on the SC coastal plain. There is no specimen. *Godfrey & Tryon* 545, 14 Jul 1939 - GH (annot. Martha Meagher 1972), from Andrews, Georgetown County, South Carolina, is here selected as NEOTYPE for *Dianthera ovata* Walt., basionym of *Justicia ovata* (Walt.) Lindau. Known ISONEOTYPES: BH, CA, CAS, MO.

WALTER'S NAME: *Diodia teres* Walter (p. 87)

MODERN NAME: **Diodia teres** Walt.

Common throughout. There is no specimen. *Godfrey & Tryon* 1682, 24 Aug 1939 - GH, from Georgetown, Georgetown County, South Carolina, is here selected as NEOTYPE for *Diodia teres* Walt. Known ISONEOTYPES: NY, US.

WALTER'S NAME: *Doronicum acaule* Walter (p. 205)

MODERN NAME: **Arnica acaulis** (Walt.) BSP.

Common in eastern SC. No specimen. *Hunnewell* 12681, 30 Mar 1933 - GH (annot. Bassett Maguire 1944), from near Goose Creek, Berkeley County, South Carolina, is here selected as NEOTYPE for *Doronicum acaule* Walt., basionym of *Arnica acaulis* (Walt.) BSP.

WALTER'S NAME: *Eriocaulon anceps* Walter (p. 83)

MODERN NAME: **Lachnocaulon anceps** (Walt.) Morong

Common on SC coastal plain. Walter's description was identified by Kral (1966: 319). There is no specimen. *Godfrey & Tryon* 1210, 7 Aug 1939 - GH, from 6 mi S of Columbia, Lexington County, South Carolina, is here selected as NEOTYPE for *Eriocaulon anceps* Walt., basionym of *Lachnocaulon anceps* (Walt.) Morong. Known ISONEOTYPES: NY, US.

WALTER'S NAME: *Ervum erectum* Walter (p. 187)

MODERN NAME: **Galactia erecta** (Walt.) Vail

Frequent in eastern SC. No specimen has been identified. *Godfrey* 147, 10 Sep 1939 - GH, from 5 mi S of Andrews, Georgetown County, South Carolina, is here selected as NEOTYPE for *Ervum erectum* Walt., basionym of *Galactia erecta* (Walt.) Vail. Known ISONEOTYPES: BH, DUKE, F, MO, NY, US.

WALTER'S NAME: *Eryngium integrifolium* Walter (p. 112)

MODERN NAME: **Eryngium integrifolium** Walt.

Frequent on the SC coastal plain. Sp. 42-D was numbered "716" by Fraser, then labeled "*Eryngium nov.*" by Walter, with "*Integrifolium*" added by Fraser. The specimen is of inadequate, scarcely identifiable quality. *Wilbur & Webster* 2861, 31 Aug 1950 - GH, from 6 mi E of Summerville, Berkeley County, South Carolina, is here selected as NEOTYPE for *Eryngium integrifolium* Walt. Known ISONEOTYPES: MICH, NY, US.

WALTER'S NAME: *Erysimum pinnatum* Walter (p. 174)

MODERN NAME: **Descurainia pinnata** (Walt.) Britt.

Infrequent on SC coastal plain, unknown inland. The label of spm. 43-A bears "*Erysimum*" in Walter's hand, and "*Pinnatum*" in Fraser's; it also carries Fraser's 3-digit number. Although Walter saw this specimen, better material would have been available to him in the field. *Godfrey* 3515, 17 Apr 1938 - GH, from Brookgreen Gardens, Georgetown County, South Carolina, is here selected as NEOTYPE for *Erysimum pinnatum* Walt., basionym of *Descurainia pinnata* (Walt.) Britt. Known ISONEOTYPES: US.

WALTER'S NAME: *Ethulia uniflora* Walter (p. 195)

MODERN NAME: **Sclerolepis uniflora** (Walt.) BSP.

Frequent in eastern SC. Spm. 15-F appears to be this (even though it atypically bears 2 heads). The label ("*Ethulia Uniflora*") is in Fraser's hand. Since there is no evidence Walter saw or used this specimen, Ahles 53495, 25 May 1960 - GH, from 3 mi SW of Moncks Corner, Berkeley County, South Carolina, is here selected as NEOTYPE for *Ethulia uniflora* Walt., basionym of *Sclerolepis uniflora* (Walt.) BSP. Known ISONEOTYPES: CA, FLAS, GA, MICH, NCU, NY, US, USCH.

WALTER'S NAME: *Eupatorium incarnatum* Walter (p. 200)

MODERN NAME: **Fleischmannia incarnata** (Walt.) King & H. Robins. [= *Eupatorium incarnatum* Walt.]

Rare in SC (but incl. Berkeley Co.). Spm. 46-D was identified as *Eupatorium incarnatum* by Fernald & Schubert (1948: 227), but not called type. The specimen is poor, and bears only the label "*Eupatorium*" in Fraser's hand. Without indication the Fraser specimen was seen or used by Walter, Ahles 34320, 18 Sep 1957 - GH, from along Broad River, Cherokee County, South Carolina, is here selected as NEOTYPE for *Eupatorium incarnatum* Walt., basionym of *Fleishmannia incarnata* (Walt.) King & Robins. Known ISONEOTYPES: GA, NCU, NY.

WALTER'S NAME: *Eupatorium linearifolium* Walter (p. 199)

MODERN NAME: **Eupatorium hyssopifolium** L. [= *E. hyssopifolium* var. *calcaratum* Fern & Schub.]

Frequent throughout. Walter's description ("*foliis linearibus integris subverticillatis...*") exactly matches the linear entire mostly verticillate leaves of *E. hyssopifolium*. Spm. 44-B is the lanceolate serrate mostly opposite-leaved variant of *E. hyssopifolium*, or *E. torreyanum* Short. But Fernald and Schubert (1948: 226–227) mistakenly assumed the specimen to be the type of *Eupatorium linearifolium*, which they treated as specifically distinct from *E. hyssopifolium*. The specimen bears the label "*Eupatorium*" in Walter's hand, but presents no evidence it had been used by him. A specimen that matches Walter's description, Godfrey & Tryon 1614, 10 Aug 1939 - GH (annot. Robert K. Godfrey 1973), from 3 mi W of Bonneau, Berkeley County, South Carolina, is here selected as NEOTYPE for *Eupatorium linearifolium* Walt. [= *Eupatorium hyssopifolium* L.].

WALTER'S NAME: *Festuca octoflora* Walter (p. 81)

MODERN NAME: **Festuca octoflora** Walt. [= *Vulpia octoflora* (Walt.) Rydb.]

Common throughout. There is no specimen. Boufford 12781, 13 Apr 1974 - GH, from Columbia, Richland County, South Carolina, is here selected as NEOTYPE for *Festuca octoflora* Walt.

WALTER'S NAME: *Galega spicata* Walter (p. 188)

MODERN NAME: **Tephrosia spicata** (Walt.) Torr. & A. Gray

Common throughout. Spm. 49-B may be the specimen referred to by Wood (1949: 292) as the type of *Galega spicata* ("GH - photograph of Type in Herb. Walt."). But since Wood cited only the herbarium, not a specific specimen, leaving uncertainty which specimen was intended, unambiguous typification is justified. Godfrey & Tryon 1310, 7 Aug 1939 - GH, from 14 mi S of Columbia, Lexington County, South Carolina, is here selected as NEOTYPE for *Galega spicata* Walt., basionym of *Tephrosia spicata* (Walt.) Torr. & A. Gray. Known ISONEOTYPES: CA ("1311"), NY, US.

WALTER'S NAME: *Hibiscus aculeatus* Walter (p. 177)

MODERN NAME: **Hibiscus aculeatus** Walt.

Common in eastern SC. No specimen. Wiegand & Manning 1959, 10 Jul 1927 - GH, from 3 mi S of Lake City, Florence County, South Carolina, is here selected as NEOTYPE for *Hibiscus aculeatus* Walt. Known ISONEOTYPES: BH.

WALTER'S NAME: *Hibiscus coccineus* Walter (p. 177)

MODERN NAME: **Hibiscus coccineus** Walt.

Not presently known in NC, SC, or GA (reported from GA by Small 1933), apparently unknown n. of Duval Co., FL. An old (undated) specimen has been seen from Charleston, SC (GH), perhaps from cultivation. Spm. 58-E is clearly this; it bears Fraser's number "674" (an indication of mid-season collection, thus it could not have been obtained on Fraser's spring trip into southern Georgia). It was labeled "*Hibiscus*" by Walter, with "*Coccineus*" added by Fraser. Though spm. 58-E could be claimed a lectotype, the possibility that Walter may have had seen it near Charleston, his market town, and his failure to note Fraser's specimen as a species of his own making, makes that status unlikely. Blanchard 173, 14 Jul 1968 - GH, from Fla. 16, 0.4 mi E of St. Johns River, between Orangedale and Green Cove Springs, St. Johns County, Florida, is here selected as NEOTYPE of *Hibiscus coccineus* Walt. Known ISONEOTYPES: CAS.

WALTER'S NAME: *Hydrastis caroliniensis* Walter (p. 156)

MODERN NAME: **Trautvetteria caroliniensis** (Walt.) Vail

Nearly absent from SC, but common in western NC; probably a Fraser discovery. Spm. 1-E is of poor quality, and was mislabeled "*Actea racemosa*?" by Walter. Although Walter may have known this species only by way of Fraser's collections, his failure to recognize spm. 1-E as a species he himself had named makes unlikely his having used it in his writing. Thus, rather than designating spm. 1-E as lectotype, Curtiss 30, Jul [1892?] - GH, from grassy "balds" of Roan Mtn., Mitchell County, North Carolina, is here selected as NEOTYPE for *Hydrastis caroliniensis* Walt., basionym of *Trautvetteria caroliniensis* (Walt.) Vail. Known ISONEOTYPES: BH, F, GA, NY, PH, US.

WALTER'S NAME: *Hyoseris biflora* Walter (p. 194)

MODERN NAME: **Krigia biflora** (Walt.) Blake

Absent from SC, frequent in western NC. Identified by Blake (1915: 135). No specimen in the herbarium. Cronquist 4349, 27 Apr 1947 - GH, from near Flint River, 4 mi SE of Woodbury, Upson County, Georgia, is here selected as NEOTYPE for *Hyoseris biflora* Walt., basionym of *Krigia biflora* (Walt.) Blake. Known ISONEOTYPES: FLAS, GA, MO, NY, US.

WALTER'S NAME: *Hypericum denticulatum* Walter (p. 190)

MODERN NAME: **Hypericum denticulatum** Walt.

Common in eastern SC. No specimen. Wiegand & Manning 2018, 13 Jul 1927 - GH, from 3 mi S of Bonneau, Berkeley County, South Carolina, is here selected as NEOTYPE for *Hypericum denticulatum* Walt. Known ISONEOTYPES: BH.

WALTER'S NAME: *Hypericum petiolatum* (p. 191)

MODERN NAME: **Triadenum walteri** (Gmel.) Gleason [= *Hypericum walteri* Gmel.; = *Triadenum petiolatum* (Walt.) Britt.]

Frequent throughout. Not *Hypericum petiolatum* L.; Walter's *Hypericum petiolatum* was a later homonym (1763 vs. 1788) and thus illegitimate. But Gmelin's replacement (1791) was based on Walter's name and description. No specimen has been identified. Duncan 13239, 20 Sep 1951 - GH, from 4.2 mi E of Lafayette, Walker County, Georgia, is here selected as NEOTYPE for *Hypericum walteri* Gmel. [= *Triadenum walteri* (Gmel.) Gleason]. Known ISONEOTYPES: BH, FLAS, GA, US.

WALTER'S NAME: *Ilex decidua* Walter (p. 241)

MODERN NAME: **Ilex decidua** Walt.

Frequent throughout. Spms. 61a-H and 61a-J appear to be this, the first labeled "*Ilex decid*" by Walter, the second "*Ilex Decidua*" by Fraser. Both are of poor quality. Godfrey & Tryon 652, 17 Jul 1939 - GH, from the Santee River floodplain, 3 mi NE of Pineville, Berkeley County, South Carolina, is here selected as NEOTYPE of *Ilex decidua* Walt. Known ISONEOTYPES: BH, CA, CAS, DUKE, F, MO, NY, PH, US.

WALTER'S NAME: *Ilex myrtifolia* Walter (p. 241)

MODERN NAME: ***Ilex myrtifolia*** Walt. [= *Ilex cassine* L. var. *myrtifolia* (Walt.) Sarg.]

Common in eastern SC. Spm. 61a-D was labeled "*Ilex Myrtifolia*" by Fraser and has been annotated as "type" (by J.E. Dandy?), but is a small twig of poor quality. Spms. 61a-E, 61a-G, and 61a-I appear to be the same species, and are even poorer. Since spm. 61a-D appears not to have been published as type, *Bozeman 11368*, 27 Aug 1967 - GH (annot. Ross C. Clark 1994), from Francis Marion National Forest, 1.6 mi N of Honey Hill, Berkeley County, South Carolina, is here selected as NEOTYPE of *Ilex myrtifolia* Walt. Known ISONEOTYPES: MICH, NCU, NY.

WALTER'S NAME: *Iris tripetala* Walter (p. 66)

MODERN NAME: ***Iris tridentata*** Pursh

Frequent on SC coastal plain. Not *Iris tripetala* L.f. (1782). There is no specimen. Though Walter's name is usually treated as a synonym of *Iris tridentata*, *Leonard & Radford 1599*, 2 Jun 1968 - GH, from Georgetown County, South Carolina, is here selected as NEOTYPE for *Iris tripetala* Walt. Known ISONEOTYPES: CA, FLAS, GA, NCU, NY.

WALTER'S NAME: *Ischaemum secundatum* Walter (p. 249)

MODERN NAME: ***Stenotaphrum secundatum*** (Walt.) Kuntze

Infrequent in eastern SC. Identified by Hitchcock (1905: 55) from Walter's description. There is no specimen. The species in the Southeast consists of two variants ("demes"), one native, one introduced (Sauer 1972). *Ahles 15602*, 27 Jun 1956 - GH (annot. J.D. Sauer 1971), from roadbank, U.S. 21, Beaufort, Beaufort County, South Carolina, is here selected as NEOTYPE for *Ischaemum secundatum* Walt., basionym of *Stenotaphrum secundatum* (Walt.) Kuntze. Known ISONEOTYPES: GA, NCU, NY.

WALTER'S NAME: *Kalmia hirsuta* Walter (p. 138)

MODERN NAME: ***Kalmia hirsuta*** Walt.

Rare in SC (5 counties). Spm. 62b-C, a nearly bare twig, was labeled "*Kalmia Hirsuta Nova*" by Fraser. Southall & Hardin (1974) referred to a specimen on page 62 as the "type." Their typification has been corrected (Ward 2007a) to lectotype. The specimen, however, is unidentifiable without the label and serves no useful purpose as a type. *Bell 3956*, 29 Jun 1956 - GH (annot. J.E. Ebinger 1972), from S.C. 631, 1 mi SE of Hampton County line, Jasper County, South Carolina, is here selected as EPITYPE, in support of Southall & Hardin's typification of *Kalmia hirsuta* Walt. (as corrected).

WALTER'S NAME: *Leontodon carolinianum* Walter (p. 192)

MODERN NAME: ***Pyrrhopappus carolinianus*** (Walt.) DC.

Frequent throughout. This may be spm. 64-F, which was labeled "*Leontodon novum*" by Walter, and "*Carolinianum*" by Fraser. It is very poor. A specimen with cauline leaves, *Wiegand & Manning 3518*, 11 Jul 1927 - GH, from 4 mi S of Kingstree, Williamsburg County, South Carolina, is here selected as NEOTYPE for *Leontodon carolinianum* Walt., basionym of *Pyrrhopappus carolinianus* (Walt.) DC. Known ISONEOTYPES: BH.

WALTER'S NAME: *Lilium Catesbaei* Walter (p. 123)

MODERN NAME: ***Lilium catesbaei*** Walt.

Infrequent on SC coastal plain, but a striking plant and likely known to Walter. Spm. 64-E is this, although labeled "*Lilium philadelphicum*" by Walter. Since the specimen is of poor quality, and appears not to have been recognized by Walter, *Godfrey & Tryon 1046*, 2 Aug 1939 - GH, from 11 mi N of Georgetown, Georgetown County, South Carolina, is here selected as NEOTYPE for *Lilium catesbaei* Walt. Known ISONEOTYPES: BH, CA, CAS, DUKE, F, MO, NY.

WALTER'S NAME: *Linum striatum* Walter (p. 118)

MODERN NAME: **Linum striatum** Walt.

Infrequent throughout. No specimen. *Godfrey & Tryon* 637, 17 Jul 1939 - GH (annot. C. M. Rogers 1960), from Santee Canal, 5 mi W of Pineville, Berkeley County, South Carolina, is here selected as NEOTYPE for *Linum striatum* Walt. Known ISONEOTYPES: CA, NY, US.

WALTER'S NAME: *Ludwigia arcuata* Walter (p. 89)

MODERN NAME: **Ludwigia arcuata** Walt.

Very rare in SC (3 counties, but one is Charleston, Walter's market town). No specimen appears to be this species. But Peng et al. (2005: 345) cited spm. 66-D as "holotype" of *Ludwigia arcuata*, apparently in gross error! (The cited specimen appears to be *L. pilosa*, and was so labeled by Walter.) With the expectation that the error will be acknowledged and effort undertaken to correct the erroneous typification via conservation, *Radford* 11411, 8 Sep 1967 - GH, from Millettville, Allendale County, South Carolina, is here selected as NEOTYPE for *Ludwigia arcuata* Walt. Known ISONEOTYPES: CA, CAS, FLAS, GA, MICH, NCU, NY, USCH.

WALTER'S NAME: *Ludwigia glandulosa* Walter (p. 88)

MODERN NAME: **Ludwigia glandulosa** Walt.

Frequent in eastern SC. No specimen has been identified. *Wilbur* 74177, 15 Aug 2001 - GH, from Red Bluff, Horry County, South Carolina, is here selected as NEOTYPE for *Ludwigia glandulosa* Walt. Known ISONEOTYPES: DUKE.

WALTER'S NAME: *Ludwigia suffruticosa* Walter (p. 90)

MODERN NAME: **Ludwigia suffruticosa** Walt.

Frequent in eastern SC. No specimen has been identified. *Wiegand & Manning* 2200, 10 Jul 1927 - GH (annot. P.A. Munz 1942; C-I Peng 1981), from 6 mi N of Kingstree, Williamsburg County, South Carolina, is here selected as NEOTYPE for *Ludwigia suffruticosa* Walt. Known ISONEOTYPES: BH.

WALTER'S NAME: *Lycium carolinianum* Walter (p. 84)

MODERN NAME: **Lycium carolinianum** Walt.

There is no specimen. A coastal plant, at times reported for SC, but only on the basis of Walter's listing, and a note in Elliott. Presently unknown in SC; almost unknown in GA (Camden Co., the southeastern corner). Undoubtedly a discovery of Fraser's, but it is difficult to understand how he could have journeyed that far south. Perhaps since his time the range of this cold-sensitive plant has contracted southward. This possibility is supported by Elliott (1816: 1: 200): "I have never seen this plant in its native state, where it is said to be of very humble growth. Found by Mr. Wm. Bartram, in the saline rushy marshes of Carolina." *Curtiss* 6543, 10 Oct 1899 - GH (annot. C.L. Hitchcock 1930), from mouth of St. Johns River, [Duval County], Florida, is here selected as NEOTYPE for *Lycium carolinianum* Walt. Known ISONEOTYPES: BH, CA, CAS, DS, G, MO, NY, UC, US. This collection was noted by C.L. Hitchcock (1932: 239) as: "no type designated, but Curtiss's number 6543 is taken as typically representing this species."

WALTER'S NAME: *Melanthium Muscaetoxicum* Walter (p. 125)

MODERN NAME: **Zigadenus muscaetoxicum** (Walt.) Regel [= *Amianthium muscaetoxicum* (Walt.) A. Gray]

Frequent throughout. Spm. 58-C was labeled "*Helonias bullata*?" by Walter, in reference to *H. bullata* L., a northern species that reaches NC (two counties) but is unknown in SC. Walter did not include *H. bullata* in his *Flora*. Though he knew *Zigadenus muscaetoxicum*, which he included as "*Melanthium Muscaetoxicum*," he apparently did not recognize the immature plant collected by Fraser. *Weatherby & Griscom* 16486, 1 May 1932 - GH, from Myrtle Beach, Horry County, South Carolina, is here selected as NEOTYPE for *Melanthium muscaetoxicum* Walt., basionym of *Zigadenus muscaetoxicum* (Walt.) Regel. Known ISONEOTYPES: NY.

WALTER'S NAME: *Melica mutica* Walter (p. 78)

MODERN NAME: **Melica mutica** Walt.

Frequent throughout. There is no specimen. *Griscom* 511, 11 Apr 1932 - GH (annot. W.S. Boyle 1943), from Myrtle Beach, Horry County, South Carolina, is here selected as NEOTYPE for *Melica mutica* Walt. Known ISONEOTYPES: BH, CA, CAS, DUKE, F, GA, MICH, MO, NCU, NY, PH.

WALTER'S NAME: *Mespilus aestivalis* Walter (p. 148)

MODERN NAME: **Crataegus aestivalis** (Walt.) Torr. & A. Gray

Rare in SC (3 counties, incl. Berkeley). No specimen. *Harbison s.n.*, 15 Mar & 21 May 1916 - GH, from along Combahee River, E of Yemassee, [Colleton Co.], South Carolina, is here selected as NEOTYPE for *Nespilus aestivalis* Walt., basionym for *Crataegus aestivalis* (Walt.) Torr. & A. Gray. Known ISONEOTYPES: NCU.

WALTER'S NAME: *Nyssa biflora* Walter (p. 253)

MODERN NAME: **Nyssa biflora** Walt. [= *Nyssa sylvatica* Marsh. var. *biflora* (Walt.) Sarg.]

Frequent in eastern SC. Spms. 75-A, 75-B, or 75-C may be this, but are poor. (The first was labeled "Nyssa," the second "Nyssa Multiflora," both by Fraser, and the third "Nyssa" by Walter.) *Little* 14304, 15 Jun 1951 - GH, from Hell Hole Bay, S of Jamestown, Berkeley County, South Carolina, is here selected as NEOTYPE for *Nyssa biflora* Walt.

WALTER'S NAME: *Obolaria caroliniana* Walter (p. 166)

MODERN NAME: **Bacopa caroliniana** (Walt.) Robins.

Common in eastern SC. Pennell (1920: 243) stated: "Description sufficiently distinctive." Pennell (1946) again recognized Walter's description as this species and used this name, but designated no type. No corresponding specimen is apparent. *Godfrey & Tryon* 948, 26 Jul 1939 - GH (annot. H.S. Wooden 1979), from 1 mi S of Sandinia, Clarendon County, South Carolina, is here selected as NEOTYPE for *Obolaria caroliniana* Walt., basionym for *Bacopa caroliniana* (Walt.) Robins. Known ISONEOTYPES: NY, US.

WALTER'S NAME: *Paspalum praecox* Walter (p. 75)

MODERN NAME: **Paspalum praecox** Walt.

Hitchcock (1905: 42) noted Walter's name now to be "generally accepted by American botanists." Plants of this name are infrequent on the SC coastal plain. There is no specimen. For stability, *Godfrey & Tryon* 84, 23 Jun 1939 - GH, from Georgetown, Georgetown County, South Carolina, is here selected as NEOTYPE for *Paspalum praecox* Walt. Known ISONEOTYPES: BH, CAS, DUKE, MICH, NY, PH, US.

WALTER'S NAME: *Pinus glabra* Walter (p. 237)

MODERN NAME: **Pinus glabra** Walt.

Frequent in southeastern SC. Dayton (1952) and Ward (1962) confirmed Walter's description; Dayton identified spms. 83-D and 83-H as this species. Dayton proposed that these two specimens "perhaps should be considered the type material" of *Pinus glabra*, but made no designation. Though spm. 83-H was labeled "Pinus" by Walter (and spm. 83-H by Fraser), there is no evidence Walter used it in forming his description. *Palmer* 35395, 16 May 1929 - GH, from Seneca, Oconee County, South Carolina, is here selected as NEOTYPE for *Pinus glabra* Walt. Known ISONEOTYPES: MO, NY, US.

WALTER'S NAME: *Pinus squarrosa* Walter (p. 237)

MODERN NAME: **Pinus echinata** Mill.

Common throughout. Dayton (1952) and Ward (1962) confirmed Walter's description; Dayton identified spms. 83-I (labeled "Pinus" by Walter) and 83-J (unlabeled) as this species. Dayton (1952: 71) suggested, "it is possible that this [spm. 83-I] may be the type of Walter's *P. squarrosa*." However he stopped short of designating the specimen as type. A better specimen, with cones, *Godfrey & Tryon* 1453, 10 Aug 1939

- GH, from 3 mi W of Bonneau, Berkeley County, South Carolina, is here selected as NEOTYPE for *Pinus squarrosa* Walt. (= *Pinus echinata* Mill.). Known ISONEOTYPES: CA, CAS, NY, US.

WALTER'S NAME: *Polygala cymosa* Walter (p. 179)

MODERN NAME: **Polygala cymosa** Walt.

Common in eastern SC. Smith & Ward (1976) referred to a "holotype," but noted "not seen and presumably no longer extant." Spm. 84-B, labeled "*Polygala*" by Fraser, has since been identified as *P. cymosa*. It is of poor quality, consisting solely of an upper inflorescence. In the absence of evidence that spm. 84-B was seen or used by Walter, Godfrey & Tryon 67, 24 Jun 1939 - GH (annot. Foard 1959), from 15 mi N of Georgetown, Georgetown County, South Carolina, is here selected as NEOTYPE of *Polygala cymosa* Walt. Known ISONEOTYPES: BH, CA, CAS, DUKE, F, MO, NY, US.

WALTER'S NAME: *Polygala grandiflora* Walter (p. 179)

MODERN NAME: **Polygala grandiflora** Walt.

Frequent in eastern SC. There is no specimen. Rodriguez (2003) stated the "Holotipo" to be "Carolina, Walter (BM)," with a symbol indicating the specimen had been lost or destroyed. Since no specimen could be designated, no typification took place. Batchelder 4905, 30 Apr 1917 - GH, from Ladies Island, Beaufort, Carteret County, North Carolina, is here selected as NEOTYPE of *Polygala grandiflora* Walt. Known ISONEOTYPES: MO.

WALTER'S NAME: *Polygala polygama* Walter (p. 179)

MODERN NAME: **Polygala polygama** Walt.

Frequent throughout. No specimen has been identified. Palmer 42407, 19 May 1934 - GH, from Columbia, Richland County, South Carolina, is here selected as NEOTYPE of *Polygala polygama* Walt.

WALTER'S NAME: *Polygonum hirsutum* Walter (p. 132)

MODERN NAME: **Polygonum hirsutum** Walt.

Rare in SC (4 counties, though one is Charleston, Walter's market town). No specimen has been identified. Ahles 15868, 20 Jun 1956 - GH, from Barton, Allendale County, South Carolina, is here selected as NEOTYPE for *Polygonum hirsutum* Walt. Known ISONEOTYPES: NY.

WALTER'S NAME: *Quercus laevis* Walter (p. 234)

MODERN NAME: **Quercus laevis** Walt.

Common in eastern SC. No specimen. Hill 18860, 21 Sep 1987 - GH, from Bluefield Road, Lexington County, South Carolina, is here selected as NEOTYPE for *Quercus laevis* Walt. Known ISONEOTYPES: MO, NCU, NY, USCH.

WALTER'S NAME: *Quercus lyrata* Walter (p. 235)

MODERN NAME: **Quercus lyrata** Walt.

Common in eastern SC. No specimen. Spongberg 17209, 14 Sep 1982 - GH, from Perrysburg Landing, WNW of Hardeeville, Jasper County, South Carolina, is here selected as NEOTYPE of *Quercus lyrata* Walt.

WALTER'S NAME: *Quercus pumila* Walter (p. 234)

MODERN NAME: **Quercus pumila** Walt. [= *Quercus elliottii* Wilbur]

Common in eastern SC. Spm. 90-E is poor, and though it was seen (and labeled, as "*Quercus pumila*") by Walter, there is no suggestion that it was used by him. Godfrey & Tryon 1420, 11 Aug 1939 - GH, from 8 mi S of Moncks Corner, Berkeley County, South Carolina, is here selected as NEOTYPE for *Quercus pumila* Walt. Known ISONEOTYPES: NY, US. Wilbur (2002: 138–140) has argued that Walter's description was defective, and that the small shrub should be renamed *Quercus elliottii* Wilbur. In light of the near-certainty that Walter knew his *Quercus pumila* (as seen within stone-throw of his grave - D.B.W. obs., Jun 1990), the new name is superfluous.

WALTER'S NAME: *Rhexia petiolata* Walter (p. 130)

MODERN NAME: **Rhexia petiolata** Walt.

Frequent in eastern SC. James (1956: 216) tentatively designated a specimen, *Fraser/Walter 91-D* [1787] - BM, marked "Rhexia 723" as "type" of *Rhexia petiolata* Walt. (The "Rhexia" is in Walter's hand, the "723" in Fraser's.) James' typification has been corrected (Ward 2007a) to neotype for *Rhexia petiolata* Walt. James noted, "Positive identification has not been possible because of the fragmentary condition of the specimen..." The specimen (91-D) is a bare stem, quite lacking in identifiable features. *Wiegand & Manning* 2126, 8 Jun 1927 - GH, from 4 mi S of Florence, Florence County, South Carolina, is here selected as EPITYPE, in support of James' typification of *Rhexia petiolata* Walt. (as corrected). Known ISONEOTYPES: BH.

WALTER'S NAME: *Salsola caroliniana* Walter (p. 111)

MODERN NAME: **Salsola kali** L. var. **caroliniana** (Walt.) Nutt.

Infrequent along SC coast. Spm. 93-F was labeled "*Salsola Kali*" by Walter, then the epithet was struck and "*Caroliniana*" added by Fraser. Though only a varietal name is at issue, *Godfrey & Tryon* 1571, 17 Aug 1939 - GH (annot. H.D. Wilson 1981; S. Mosyakin 1994), from South Island, Georgetown County, South Carolina, is here selected as NEOTYPE for *Salsola caroliniana* Walt., basioym of *Salsola kali* L. var. *caroliniana* (Walt.) Nutt. Known ISONEOTYPES: BH, CA, DUKE, MO, NY, PH, US.

WALTER'S NAME: *Silene caroliniana* Walter (p. 142)

MODERN NAME: **Silene caroliniana** Walt.

Frequent throughout SC. Spm. 98-G was labeled "*Silene an virginica?*" by Walter. Wilbur (1970) referred to comments of J.K. Small and C.A. Weatherby—neither of who personally saw the Walter herbarium—to conclude the specimen was unclear as to its subspecies, and that "Walter's description is unmistakable and would take precedence over any specimen in the Walter herbarium." Thus *Weatherby* 6114, 27 Apr 1932 - GH (annot. R.T. Clausen 1938; Bassett Maguire 1941; R.L. Wilbur 1968 & 1996), from outskirts of Columbia, Lexington County, South Carolina, is here selected as NEOTYPE of *Silene caroliniana* Walt. Known ISONEOTYPES: DUKE, NY, PH.

WALTER'S NAME: *Smilax auriculata* Walter (p. 245)

MODERN NAME: **Smilax auriculata** Walt.

Frequent along SC coast. No specimen is present. *Godfrey & Tryon* 1169, 5 Aug 1939 - GH, from Myrtle Beach, Horry County, South Carolina, is here selected as NEOTYPE for *Smilax auriculata* Walt. Known ISONEOTYPES: BH, CA, CAS, DUKE, PH.

WALTER'S NAME: *Smilax glauca* Walter (p. 245)

MODERN NAME: **Smilax glauca** Walt.

Infrequent on SC coastal plain, common inland. No specimen was found in the Fraser/Walter herbarium by Blake (1918). Blake did find a Fraser specimen with "leaves densely puberulent beneath" in the DeCandolle herbarium, Geneva. He noted however, that the Fraser specimen was not "in any sense a type of Walter's *S. glauca*." A specimen with leaves smooth beneath, *Bell* 7168, 12 May 1957 - GH, from Beaver Creek, NNE of Blair, Fairfield County, South Carolina, is here selected as NEOTYPE for *Smilax glauca* Walt.

WALTER'S NAME: *Smilax pumila* Walter (p. 244)

MODERN NAME: **Smilax pumila** Walt.

Frequent in eastern SC. No specimen is present in the herbarium. *Ahles* 20939, 11 Oct 1956 - GH, from county road, 0.4 mi E of U.S. 21, Beaufort County, South Carolina, is here selected as NEOTYPE for *Smilax pumila* Walt. Known ISONEOTYPES: GA.

WALTER'S NAME: *Staehelina elegans* Walter (p. 202)

MODERN NAME: ***Liatris elegans*** (Walt.) Michx.

Common in southeastern SC. Spm. 101-A, a reasonably complete inflorescence, bears the label "*Staehelina*" in Walter's hand; Fraser added "*Elegans*." Since Walter would have known the plant near his home, he need not have used this specimen in forming his description. Boufford & Shi 30292, 25 Sep 2000 - GH, from Halfway Creek road, Francis Marion National Forest, WNW of McClellanville, Berkeley County, South Carolina, is here selected as NEOTYPE for *Staehelina elegans* Walt., basionym of *Liatris elegans* (Walt.) Michx.

WALTER'S NAME: *Syntherisma serotina* Walter (p. 76)

MODERN NAME: ***Digitaria serotina*** (Walt.) Michx.

Hitchcock (1905: 44) found Walter's diagnoses separating this and the preceding to be unsatisfactory, but made the identification on the basis of these being the only creeping *Digitaria* "found commonly" in the Carolinas. But, far from common, *D. serotina* is very rare in SC (2 counties), suggesting Walter's second species may also have been the abundant and somewhat variable *D. sanguinalis*. There is no specimen. To stabilize the meaning of *D. serotina* (which is well distinguished elsewhere), Hitchcock 1557, 15 Aug 1905 - GH, from "open low ground," South Carolina, is here selected as NEOTYPE for *Syntherisma serotina* Walt., basionym of *Digitaria serotina* (Walt.) Michx. KNOWN ISONEOTYPES: CA, MO, NY.

WALTER'S NAME: *Syntherisma villosa* Walter (p. 77)

MODERN NAME: ***Digitaria filiformis*** (L.) Koel. var. ***villosa*** (Walt.) Fern.

Frequent throughout. Hitchcock (1905: 44) accepted spm. 116-C as corresponding to Walter's diagnosis. The specimen is labeled in Walter's hand. But it is poor and unlikely to have been used by Walter in forming his description. Andersen 1408, 1897 - GH (annot. M.L. Fernald 1920), from Oconee County, South Carolina, is here selected as NEOTYPE for *Syntherisma villosa* Walt., basionym of *Digitaria villosa* (Walt.) Pers.

WALTER'S NAME: *Utricularia purpurea* Walter (p. 64)

MODERN NAME: ***Utricularia purpurea*** Walt.

Infrequent on the SC coastal plain. There is no specimen. Taylor (1989: 689) stated: "lecto. Barnhart 1916," but Barnhart's action (1916: 62) was a typification of the segregate genus *Vesiculina* Raf., not a typification of the species *U. purpurea*. Godfrey & Tryon 1097, 4 Aug 1939 - GH, from 6 mi NW of McClellanville, Charleston, South Carolina, is here selected as NEOTYPE for *Utricularia purpurea* Walt. KNOWN ISONEOTYPES: BH, CA, CAS, DUKE, F, MO, US.

WALTER'S NAME: *Viburnum obovatum* Walter (p. 116)

MODERN NAME: ***Viburnum obovatum*** Walt.

Frequent in eastern SC. The only possible specimen (spm. 108-H) is a fragment, bearing only Fraser's label, "*Viburnum*." Godfrey & Tryon 8215, 24 Jul 1939 - GH (annot. Thomas H. Jones 1978), from 10 mi NE of Moncks Corner, Berkeley County, South Carolina, is here selected as NEOTYPE for *Viburnum obovatum* Walt. KNOWN ISONEOTYPES: CA, CAS, DUKE, F, MO, NY, PH, US.

WALTER'S NAME: *Vicia caroliniana* Walter (p. 182)

MODERN NAME: ***Vicia caroliniana*** Walt.

Frequent in eastern SC, more common westward. Spm. 106-D appears to be this species. But since Walter labeled it only as "*Vicia nova*," it is unlikely it was used in preparing his description. Hunnewell 8163, 23 Mar 1922 - GH (annot. Robert Dirig 1990), from Goose Creek, Berkeley County, South Carolina, is here selected as NEOTYPE for *Vicia caroliniana* Walt.

WALTER'S NAME: *Vincetoxicum gonocarpus* Walter (p. 104)

MODERN NAME: **Matelea gonocarpa** (Walt.) Shinnars

Infrequent in SC, nearly absent from the coastal plain. Thus likely a Fraser discovery. Spm. 109-A, marked “*Vincetoxicum*” by Walter, was identified as *Matelea gonocarpa* by Drapalik (1970: 76, from photo). But it is sterile, which makes it unlikely to have been of use to Walter, who described the plant in detail (incl. flowers and fruits). A specimen of better quality, Wiegand & Manning 2629, 16 Jul 1927 - GH (annot. Donald J. Drapalik 1974), from Meggett, Charleston County, South Carolina, is here selected as NEOTYPE for *Vincetoxicum gonocarpus* Walt., basionym of *Matelea gonocarpa* (Walt.) Shinnars.

WALTER'S NAME: *Viola canina* sensu Walter (p. 219) non *Viola canina* Linnaeus, Sp. Pl. 935. 1753; misapplied.

MODERN NAME: **Viola walteri** House

Infrequent throughout. Not *Viola canina* L., nor *V. conspersa* Rchb. When House (1906) realized Walter had misidentified the Carolina plant he assigned it a new name, *V. walteri*, but based the new name on Walter's diagnosis and presumed type. There is no specimen. Hunnewell 12638, 30 Mar 1933 - GH (annot. Harvey E. Ballard 1991), from near Goose Creek, Berkeley County, South Carolina, is here selected as NEOTYPE for *Viola canina* sensu Walter (basis for *Viola walteri* House).

WALTER'S NAME: *Viola villosa* Walter (p. 219)

MODERN NAME: **Viola villosa** Walt.

Frequent throughout. Spms. 108-D and 108-I may be this species. Both bear Walter's hand, but only to “*Viola*” and a descriptive phrase; both are of poor quality. Brainerd (1907) has argued convincingly that Walter's plant was this species (and not *V. hirsutula* Brainerd, found only inland). Brainerd s.n., 25 Mar 1907 - GH (annot. Landon E. McKinney 1986), from Summerville, Dorchester County, South Carolina, is here selected as NEOTYPE for *Viola villosa* Walt.

WALTER'S NAME: *Waltheria caroliniana* Walter (p. 175)

MODERN NAME: **Piriqueta caroliniana** (Walt.) Urban

Frequent in southeastern SC. No specimen has been identified. Ahles 18262, 9 Sep 1956 - GH, from SC 20, 2.7 mi S of jct. with SC 39, Hampton County, South Carolina, is here selected as NEOTYPE for *Waltheria caroliniana* Walt., basionym of *Piriqueta caroliniana* (Walt.) Urban. Known ISONEOTYPES: NCU.

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