WHAT IN THE WORLD DID THOMAS WALTER MEAN BY *Xxxxx yyyyy*? PART TWO: THE QUITE DOUBTFULS

Daniel B. Ward
Department of Botany, University of Florida
Gainesville, Florida 32611, U.S.A.

ABSTRACT

Flora Caroliniana, published by Thomas Walter in 1788, was the first treatment of American plants to employ the binomial nomenclature and sexual classification system of Linnaeus. Many of its species were new to science, and their names remain important in documentation of the southeastern American flora. But Walter kept no herbarium, and certain of his plants have not been confidently matched with modern names. Assistance of select readers is requested to determine to the extent possible what plants Walter must have had in hand when he named and described 33 of his insecurely identified new species.

REQUEST FOR TAXONOMIC ASSISTANCE

Thomas Walter published over 400 new names in his pioneer *Flora Caroliniana* (1788). Many of these names were accompanied by clearly written descriptions, and represent familiar species in the Southeastern flora. But the descriptions of others were so brief or cryptic that later generations of botanists have remained uncertain of what Walter had intended. A small number have remained unidentified even to genus (Ward, 2007a). A larger number, addressed here, strongly indicate the genus to which they belong but are unclear as to species.

An annotated index of all of Walter's new species is now in preparation. The majority of Walter's names have been adequately identified. A few will inevitably remain intransigent and will be termed

irretrievably ambiguous and unusable for most nomenclatural purposes. But others, though not immediately suggesting the plant Walter intended, can be salvaged at least to the level of being assigned appropriate synonymic status.

The following tabulation of 33 species described by Walter includes (a) Walter's original name, (b) Walter's Latin description, (c) known species, of the same or related genera (Walter's name is in quotes if different from the modern name), (d) the modern name, as best can be ascertained, and (e) comments and information that may aid in identification. "Spm." references are to specimens in the Fraser/Walter herbarium, London (Ward, 2006a).

As in the preceding tabulation of especially intractable names (Ward, 2007a), the request is made that persons familiar with the Southeastern flora review this listing of these somewhat less refractory names and report ANY DESCRIPTIONS THAT CAN BE IDENTIFIED. Your speculations and suggestions will be appreciated. [E-mail: DBW, c/o kperkins@flmnh.ufl.edu]

LIST OF SPECIES

Walter's name: **Actaea pentagyna** Walter (p. 151)
Walter's description: *floribus solitariis, pedunculis e sinu foliorum ortis; corollis petalis septem obovato-oblongis, albis; pericarpio lanceolato monospermo; foliis biternatis, foliolis obtusis tridentatis.*
Related species also listed: *Cimicifuga racemosa ("Actaea monogyna"), Aruncus dioicus ("Actaea dioica")*
Modern name: Perhaps **Cimicifuga americana** Michx.

Identified as *Cimicifuga americana* by I.K. (1893), but not accepted by American authors. The uncertain identification makes a neotype undesirable; were one selected, Walter's name might displace that of Michaux (1803). *Cimicifuga americana* is frequent in western NC mountains, unknown in SC.

Walter's name: **Aira aegilopsoides** Walter (p. 78)
Walter's description: *spicis secundis; corollarum glumae valvula altera ovata, acuminata, altera columnari, obtusa.*
Related species also listed: *Triplasis purpurea ("Aira purpurea"), Melica mutica, Cenchrus incertus ("Cenchrus carolinianus")*
Modern name: Perhaps **Chloris petraea** Sw.

No type of *Aira aegilopsoides* Walt. is known. Spm. 112-A was labeled "*Aegilops an Aira* ?" by Walter; it was tentatively identified as *Chloris petraea* by Hitchcock (1905: 47). *Chloris petraea* is occasional along the SC coast.

Walter's name: **Anonymos ciliat**[**a**] Walter (p. 197); nom. illegit.
Walter's description: *caule laevi 3-pedali, foliis linearibus ciliatis, floribus pedunculis brevibus subimbricatis purpureis spicatim positis, calycibus multifloris squamis minus obtusis minus conniventibus, caulibus simplicibus.*
Related species also listed: *?Liatris* sp. *("Anonymos pilosa"), ?Liatris* sp. *("Anonymos ramosa"), Carphephorus paniculatus ("Anonymos paniculata"), Carphephorus tomentosus ("Anonymos uniflora"), Carphephorus odoratissimus ("Anonymos odoratissima")*
Modern name: Probably **Liatris** sp.

No type of *Anonymos ciliata* Walt. is known. No neotype should be selected.

Walter's name: **Anonymos erect**[**a**] Walter (p. 170); nom. illegit.
Walter's description: *foliis linearibus pedunculo* brevioribus, *floribus axillaribus purpureis.*
Related species also listed: *Agalinis purpurea ("Anonymos purpurea"), Agalinis setacea ("Anonymos setacea")*
Modern name: Possibly **Agalinis obtusifolia** Raf.

No type of *Anonymos erecta* Walt. is known. No neotype should be selected. Pennell (1935) concluded he was unable to identify Walter's *Anonymos erecta* [= *Agalinis erecta* Walt. ex Pennell]. He replaced it with *Agalinis obtusifolia* Raf. (a name of equally dubious antecedents), and other authors have followed. *Agalinis obtusifolia* is

infrequent in eastern SC.

Walter's name: **Anonymos pilos**[**a**] Walter (p. 197); nom. illegit.
Walter's description: *caule piloso 3 ad 5-pedali, foliis lineari-acerosis utrinque pilosis, floribus sessilibus subimbricatis spicatim positis purpureis. Calycibus multifloris squamis adpressis, caulibus simplicibus.*
Related species also listed: *?Liatris* sp. *("Anonymos ciliata"), ?Liatris* sp. *("Anonymos ramosa")*
Modern name: Probably **Liatris** sp.
No type of *Anonymos pilosa* Walt. is known. No neotype should be selected.

Walter's name: **Anonymos ramos**[**a**] Walter (p. 198); nom. illegit.
Walter's description: *caule subramoso 4-pedali, pubescente, foliis lanceolatis, floribus subsessilibus purpureis spicatim positis, calycibus multifloris squamis obtusis subconniventibus.*
Related species also listed: *?Liatris* sp. *("Anonymos ciliata"), ?Liatris* sp. *("Anonymos pilosa")*
Modern name: Possibly **Liatris** sp.
No type of *Anonymos ramosa* Walt. is known. No neotype should be selected.

Walter's name: **Cineraria caroliniensis** Walter (p. 207)
Walter's description: *floribus paniculatis, foliis petiolatis oblongis denticulatis laevibus, caule herbaceo.*
Related species also listed: *Conyza canadensis ("Cineraria canadensis")*
Modern name: Perhaps **Conyza parva** Cronq. [= *Conyza canadensis* (L.) Cronq. var. *parva* Cronq.; *Erigeron canadensis* L. var. *pusilla* (Nutt.) Ahles]
No type of *Cineraria caroliniensis* Walt. is known.
Identification here is partially based on Walter's separate recognition of *Conyza canadensis* (as *Cineraria canadensis*). Both it and *Conyza parva* are common throughout. *Conyza parva* and *C. canadensis* are similar and often occur together, but seem not to intergrade; they merit specific status. Walter's name is prior to that of Cronquist (1943),

though not to that of Linnaeus (1753). The only possible specimen (spm. 13-B) appears to be *C. canadensis*. *Conyza parva* is common throughout.

Walter's name: **Collinsonia serotina** Walter (p. 65)
Walter's description: *fol. magnis oppositis ovatis, petiolis longis,* supremo pari unice sessili, cordato*; panicula terminali ramosissima.*
Related species also listed: *Collinsonia canadensis ("Collinsonia praecox")*
Modern name: **Collinsonia** sp.

No type of *Collinsonia serotina* Walt. is known. The name was rejected as ambiguous by Peirson et al. (2006).

Walter's name: **Cucubalus polypetalus** Walter (p. 141)
Walter's description: *foliis oppositis, ovato-lanceolatis; floribus polypetalis.*
Related species also listed: *Silene antirrhina, Silene catesbaei*
Modern name: Perhaps **Silene cucubalus** Wibel

A single crumpled flower in the Fraser/Walter herbarium was identified as "Walter's type" of *Cucubalus polypetalus* Walt., by Fernald & Schubert (1948: 198; plate 1105). Corrected to lectotype, by Ward (2007b). But Walter's description of *C. polypetalus* suggests another species, perhaps *Silene cucubalus* A. W. Wibel (1799). See discussion elsewhere (Ward, 2006b). *Silene cucubalus* is frequent in the mountains of western NC, but is unknown in SC.

Walter's name: **Dianthera ensiformis** Walter (p. 63)
Walter's description: *spicis subcapitatis, pedunculo longo solitario, flor. rubris, fol. ensiformibus.*
Related species also listed: *Justicia ovata ("Dianthera ovata")*
Modern name: Possibly **Justicia americana** (L.) Vahl [= *Dianthera americana* L.]

No type of *Dianthera ensiformis* Walt. is known. Elliott (1816:) renamed it *Justicia ensiformis* (Walt.) Ell. I.K. (1893) listed Walter's name as synonym of *Dianthera americana*. Yet the flowers of

D. americana are white and pale lavender, not red. *Justicia americana* is absent on the SC coastal plain, rare inland.

Walter's name: **Dianthus carolinianus** Walter (p. 140)
Walter's description: *floribus aggregatis pedunculis longis, squamis tubo dimidio minoribus.*
Related species also listed: *Arenaria caroliniana*
Modern name: Perhaps **Dianthus armeria** L.

No type of *Dianthus carolinianus* Walt. is known. *Dianthus armeria is u*nknown in eastern SC, but frequent to west.

Walter's name: **Eupatorium Marrubium** Walter (p. 199)
Walter's description: *foliis ovato-deltoidibus obtuse serratis pubescentibus glabris sessilibus.*
Related species also listed: *Eupatorium fistulosum ("Eupatorium trifoliatum"), Eupatorium purpureum ("Eupatorium fusco-rubrum"), Eupatorium sessilifolium, Eupatorium album, Eupatorium hyssopifolium ("Eupatorium linearifolium"), Eupatorium pilosum, Eupatorium rotundifolium, Eupatorium capillifolium ("Eupatorium Foeniculoides"), Eupatorium compositifolium, Eupatorium aromaticum ("Eupatorium cordatum"), Eupatorium perfoliatum, Eupatorium ?rugosum ("Eupatorium odoratum"), Conoclinum coelestinum ("Eupatorium coelestinum"), Fleischmannia incarnata ("Eupatorium incarnatum")*
Modern name: Perhaps **Eupatorium rotundifolium** L.

No type of *Eupatorium Marrubium* Walt. is known. Elliott (1822: 300) said of *Eupatorium rotundifolium*, "I have always suspected this plant to be the *E. Marrubium* of Walter." *Eupatorium rotundifolium* is common in eastern SC.

Walter's name: **Festuca multiflora** Walter (p. 81)
Walter's description: *repens, paniculis erectis ovatis, spiculis 8 ad 40-floris, acutis, foliis angustis, acutis, fauce subplumosis.*
Related species also listed: *Festuca ?sciurea ("Festuca quadriflora"), Festuca octoflora, Bromus* sp. *("Bromus ciliatus")*
Modern name: Possibly **Distichlis spicata** (L.) Greene

No type of *Festuca multiflora* Walt. is known. Hitchcock (1905: 52) suggested Walter's description was of *Leptochloa fascicularis* (Lam.) Gray -- unlikely since that species is unknown in SC. He later (1951: 856) considered it a tentative synonym of *Distichlis spicata* (L.) Greene, common along the SC coast.

Walter's name: **Gratiola inaequalis** Walter (p. 61)
Walter's description: *fol. oblongis obtusis subdentatis. Cor. labio superiore breviore suberecto; flor. pedicellatis, subcaeruleis.*
Related species also listed: *Mecardonia acuminata ("Gratiola acuminata"), Gratiola ramosa, Gratiola virginiana, ?Gratiola* sp. *("Gratiola Peruviana?"), Bacopa monnieri ("Gratiola Monnieria")*
Modern name: Perhaps **Lindernia anagallidea** (Michx.) Pennell

No type of *Gratiola inaequalis* Walt. is known. The name has not been identified with confidence. Pennell initially (1920: 246), on the basis of its distribution in the Carolinas, considered *Lindernia anagallidea* to be represented by Walter's name; he noted Elliott had so interpreted the name. Later, Pennell (1935) analyzed Walter's description and concluded, "I think that we may leave the identification of Walter's plant as permanently doubtful." *Lindernia anagallidea* is frequent in eastern SC.

Walter's name: **Hamamelis monoica** Walter (p. 255)
Walter's description: *floribus monoicis.*
Related species also listed: *Hamamelis virginiana ("Hamamelis dioica," "Hamamelis androgyna")*
Modern name: Perhaps **Fothergilla gardenii** Linnaeus in Murray

No type of *Hamamelis dioica* Walt. is known. The leaves of *Fothergilla* are similar to *Hamamelis*, and Walter's epithet, *monoica*, may be his indication of the usually bisexual flowers. *Fothergilla gardenii* is frequent in eastern SC.

Walter's name: **Ilex** ----- #2 (*unnamed*) Walter (p. 241)
Walter's description: *baccis flavis.*

Related species also listed: *Ilex opaca ("Ilex Aquifolium"), Ilex cassine ("Ilex Dahoon"), Ilex myrtifolia, Ilex decidua, Ilex vomitoria ("Ilex Cassine")*
Modern name: **Ilex** sp.

No type of this *Ilex* is known. No neotype should be selected. Though no other description was given, this may be a yellow-fruited form of *Ilex opaca*, which it immediately follows.

Walter's name: **Lechea juncifolia** Walter (p. 83)
Walter's description: *foliis radicalibus teretibus, calyce nullo.*
Related species also listed: *Lechea minor, Lechea ?villosa ("Lechea major")*
Modern name: Possibly **Lechea tenuifolia** Michx.

No type of *Lechea juncifolia* Walt. is known. *Lechea tenuifolia* is absent from SC coastal plain, common on the piedmont. Elliott (1816: 185) tentatively equated these two names, and was followed by Hodgdon (1938: 90). Torrey & Gray (1838: 1: 154), however, called it "wholly unknown."

Walter's name: **Ludwigia ramosissima** Walter (p. 89)
Walter's description: *caule erecto, ramosissimo, rubro; fol. alternis, lineari-lanceolatis, longis; flor. axillaribus, pedicellatis; capsulis turbinato-cubicis angulis menbranaceo-alatis.*
Related species also listed: *Ludwigia glandulosa, Ludwigia palustris ("Ludwigia apetala"), Ludwigia alternifolia, Ludwigia linearis, Ludwigia decurrens, Ludwigia pilosa, Ludwigia arcuata, Ludwigia ?sphaerocarpa ("Ludwigia rudis"), Ludwigia suffruticosa*
Modern name: Perhaps **Ludwigia alternifolia** L.

No type of *Ludwigia ramosissima* Walt. is known. Munz (1944: 158) suggested it was a second description of *Ludwigia alternifolia* L. (which Walter described under that name immediately preceding), though no argument was put forward to exclude other Carolina *Ludwigia* not recognized by Walter. *Ludwigia alternifolia* is common throughout.

Walter's name: **Melanthium spicatum** Walter (p. 125)
Walter's description: *spica nutante, flor. hermaph. radice fibrosa, fol. caulinis subovatis.*
Related species also listed: *Zigadenus glaberrimus ("Melanthium virginicum"), Melanthium hybridum, Veratrum virginicum ("Melanthium monoicum"), Zigadenus muscaetoxicum ("Melanthium Muscaetoxicum"), Chamaelirium luteum ("Melanthium dioicum"), Tofieldia racemosa ("Melanthium racemosum?")*
Modern name: Possibly **Xerophyllum asphodeloides** (L.) Nutt. [= *Xerophyllum setifolium* Michx.]
No type of *Melanthium spicatum* Walt. is known. Suggested by I.K. (1894) to be *Xerophyllum setifolium* (now *X. asphodeloides*). But Walter stated cauline leaves to be "*subovatis*," while *X. asphodeloides* leaves are linear, almost acicular. *Xerophyllum asphodeloides* is very rare in western NC and SC.

Walter's name: **Menispermum carolinianum** Walter (p. 248)
Walter's description: *caule fruticoso volubili, foliis lobato-cordatis, racemis axillaribus.*
Related species also listed: *Menispermum canadense ("Menispermum virginicum")*
Modern name: Perhaps **Calycocarpum lyonii** (Pursh) Gray
No type of *Menispermum carolinianum* Walt. is known. Walter synonymized his plant with *Cissamp[elos] smilacina* L. But Walter's description is of *Calycocarpum lyonii*. That species, though it ranges both north and south, is unknown in the Carolinas. Perhaps a Fraser discovery, but from where? Walter's name is original (even though not italicized); he was not describing nor intending *Menispermum carolinum* L.

Walter's name: **Ophrys trifolia** Walter (p. 221)
Walter's description: *bulbis fasciculatis, foliis radicalibus ovatis submagnis planis, scapo trifolio, floribus albo-viridibus adscendentibus, nectarii labio integro lato subtriangulari.*

Related species also listed: *Platanthera cristata/ciliaris ("Ophrys fimbriata"), Calopogon barbatus/pulchellus ("Ophrys barbata")*
Modern name: Perhaps **Liparis liliifolia** (L.) Richard
No type of *Ophrys trifolia* Walt. is known. *Liparis liliifolia* is frequent in NC and western SC, unknown in eastern SC.

Walter's name: **Orchis lata** Walter (p. 220)
Walter's description: *alba, bulbis individis, nectarii labio integro lato revoluto, cornu sublongo tenui.*
Related species also listed: *Habenaria ciliaris/blephariglottis ("Orchis ciliaris"), Pogonia ophioglossoides ("Orchis ophioglossoides"), Platanthera lacera ("Orchis habenaria?")*
Modern name: Perhaps **Habenaria nivea** (Nutt.) Spreng.
No type of *Orchis calcarata* Walt. is known. The white flowers suggest *Habenaria nivea*, which is infrequent in eastern SC.

Walter's name: **Origanum clinopodioides** Walter (p. 165)
Walter's description: *capitulis rotundatis verticillatis terminalibusque, floribus sessilibus, foliis cordato-ovatis subpetiolatis glabris.*
Related species also listed: *Pycnanthemum incanum ("Origanum incanum"), Pycnanthemum flexuosum ("Origanum flexuosum")*
Modern name: **Pycnanthemum** sp.
No type of *Origanum clinopodioides* Walt. is known. Perhaps *Pycnanthemum aristatum* Michx., as suggested by I.K. (1894), though not reported by that name in Carolina floras. Apparently not *Pycnanthemum clinopodioides* Torr. & Gray, which does not reach the Carolinas.

Walter's name: **Panicum speciosum** Walter (p. 73)
Walter's description: *panicula longa erecta geniculata, ramiis 4, 6, s.8 verticillatis simplicibus brevibus, e singulis nodis radiatis; flor. solitarii subsessilibus, suscis, longitudine eorum remotis.*
Related species also listed: *Panicum virgatum ("Panicum coloratum"), Agrostis hyemalis ("Cornucopiae hyemalis")*
Modern name: Possibly **Sporobolus junceus** (Beauv.) Kunth

No type of *Panicum speciosum* Walt. is known. Hitchcock (1905: 38) considered it possible that Walter was addressing *Sporobolus junceus*, which is frequent in SC. A neotype is not to be desired, since that action would displace *Heleochloa juncea* Beauv. (1812), the basionym of the familiar later name. *Sporobolus junceus* is rare on SC coastal plain, common inland.

Walter's name: **Plantago caroliniana** Walter (p. 85)
Walter's description: *spica floribus confertis.*
Related species also listed: *Plantago virginica*
Modern name: Perhaps **Plantago lanceolata** L.

No type of *Plantago caroliniana* Walt. is known. Walter's "flowering spike crowded" well matches *Plantago lanceolata*. That species is introduced, but was likely familiar in pioneer days, now common throughout.

Walter's name: **Prasium coccineum** Walter (p. 166)
Walter's description: *foliis subovatis, floribus coccineis.*
Related species also listed: *Physostegia virginiana ("Prasium incarnatum"), Physostegia purpurea ("Prasium purpureum")*
Modern name: Perhaps **Calamintha coccinea** (Hook.) Benth. in DC.

No type of *Prasium coccineum* Walt. is known. Identification is uncertain, but scarlet flowers ("*floribus coccineis*") limit the possibilities. *Calamintha coccinea* is not known north of GA.

Walter's name: **Ranunculus nitidus** Walter (p. 159)
Walter's description: *foliis caulinis nitidis trifidis, lobis obtusis, floribus luteis.*
Related species also listed: *Ranunculus recurvatus ("Ranunculus abortivus")*
Modern name: Perhaps **Ranunculus abortivus** L.

No type of *Ranunculus nitidus* Walt. is known. Elliott (1821) called this *Ranunculus abortivus* L. and I.K. (1895) tentatively agreed, although Walter had used that name for another species. Elliott may have believed this description fitted Linnaeus' *R. abortivus* better than Walter's *R. abortivus* which was perhaps *R. recurvatus*. *Ranunculus abortivus* is unknown on the SC coastal plain, common inland.

Walter's name: **Schoenus umbellatus** Walter (p. 70)
Walter's description: *culmo subtriquetro folioso, floribus in umbellis compositis.*
Related species also listed: *Rhynchospora glomerata ("Schoenus glomeratus"), Rhynchospora corniculata ("Schoenus umbellatus")*
Modern name: Perhaps **Rhynchospora corniculata** (Lam.) Gray

No type of *Schoenus umbellatus* Walt. is known. Elliott (1816: 59) tentatively attributed Walter's name to *Rhynchospora longirostris* Ell., a synonym of *R. corniculata*. *Rhynchospora corniculata* is common throughout.

Walter's name: **Senecio Tussilaginoides** Walter (p. 208)
Walter's description: *corollis flosculosis, foliis crenatis, infimis cordatis petiolatis superioribus pinnatifidis lyratis.*
Related species also listed: *Erechtites hieracifolia ("Senecio hieracifolius?")*
Modern name: Possibly **Senecio smallii** Britt.

No type of *Senecio tussilaginoides* Walt. is known. I.K. (1895) interpreted this species to be *Senecio aureus* L., which the description fits quite well (lower leaves cordate and petiolate, upper leaves pinnatifid and lyrate). But Walter's description is not original; it is copied directly from that of Linnaeus for *Senecio aureus*. Yet that species is unknown in eastern SC, while *S. smallii* is common throughout.

Walter's name: **Silphium scabrum** Walter (p. 217)
Walter's description: *foliis alternis lato-lanceolatis serratis scabris ciliatis subsessilibus, caule bipedali glabro, pedunculis laevibus.*
Related species also listed: *Silphium compositum ("Silphium laciniatum")*
Modern name: Possibly **Silphium dentatum** Ell.

No type of *Silphium scabrum* Walt. is known. Spm. 98-C was labeled "*Silphium*" by Walter and "*Scabrum*" by Fraser. *Silphium asteriscus* L. is the more scabrous plant, but is essentially absent from SC. *Silphium dentatum* is common throughout.

Walter's name: **Tragia innocua** Walter (p. 229)
Walter's description: *foliis lanceolatis subdentatis pilosis, spica terminali.*
Related species also listed: *Tragia urens*
Modern name: Perhaps **Tragia urticifolia** Michx.
No type of *Tragia innocua* Walt. is known. *Tragia urticifolia* is frequent in eastern SC.

Walter's name: **Urtica filiformis** Walter (p. 230)
Walter's description: *foliis oppositis ovatis serratis trinerviis, amentis filiformibus sere longitudine foliorum.*
Related species also listed: *Laportea canadensis ("Urtica canadensis"), Boehmeria cylindrica, Pilea pumila ("Urtica pumila")*
Modern name: Perhaps **Parietaria praetermissa** Hinton [= *Parietaria floridana* Nutt.]
No type of *Urtica filiformis* Walt. is known. *Parietaria praetermissa* is rare along SC coast.

Walter's name: **Veronica caroliniana** Walter (p. 61)
Walter's description: *flor. solitariis, pedunculis brevibus; fol. radicalibus obovato-oblongis subincisis, caulinis oblongis subserratis obtusis oppositis; caule suberecto; flore albo.*
Related species also listed: *Veronica serpyllifolia, Veronica arvensis*
Modern name: Perhaps **Veronica officinalis** L.
No type of *Veronica caroliniana* Walt. is known. Walter's sectional description, "*planta tota tomentosa*," suggests *Veronica officinalis*, a species unknown in coastal plain SC but common in the western, higher part of NC. But that species has racemes of blue flowers, while Walter's plant had solitary white flowers ("*flor. solitariis...albo*"). Perhaps not a *Veronica*.

LITERATURE CITED

Cronquist, A. 1943. The separation of *Erigeron* from *Conyza*. Bull. Torrey Bot. Club 70:629-632.

Elliott, S. 1816-1824. A Sketch of the Botany of South Carolina and Georgia. Charleston, South Carolina.

Fernald, M. L. & B. G. Schubert. 1948. Studies of American types in British herbaria. Part IV: Some species of Thomas Walter. Rhodora 50: 190-208, 217-229.

Hitchcock, A. S. 1905. The identification of Walter's grasses. Missouri Bot. Gard. Ann. Rep't 16:31-56.

Hitchcock, A. S. & A. Chase. 1951. Manual of the Grasses of the United States, 2nd ed. U. S. Dept. Agric. misc. publ. 200. 1051 pp.

Hodgdon, A. R. 1938. A taxonomic study of *Lechea*. Rhodora 40: 30-69, 87-131.

Jackson, B. D. 1893, 1894, 1895. Index Kewensis. Cambridge.

Munz, P. A. 1944. Studies in Onagraceae -- XIII. The American species of *Ludwigia*. Bull. Torrey Bot. Club 71: 152-165.

Peirson, J. A., P. D. Cantino & H. E. Ballard. 2006. A taxonomic revision of *Collinsonia* (Lamiaceae) based on phenetic analyses of morphological variation. Syst. Bot. 31: 398-409.

Pennell, F. W. 1920 ["1919"]. Scrophulariaceae of the southeastern United States. Proc. Acad. Nat. Sci. Phil. 71: 224-291.

Pennell, F. W. 1935. The Scrophulariaceae of Eastern Temperate North America. Acad. Nat. Sci. Phil. monogr. 1. 650 pp.

Torrey, J. & A. Gray. 1838. A Flora of North America. New York.

Walter, T. 1788. Flora Caroliniana. London. 263 pp.

Ward, D. B. 2006a. Thomas Walter Typification Project, I: Observations on the John Fraser folio. Sida 22: 1111-1118.

Ward, D. B. 2006b. *Silene catesbaei*, rather than *S. polypetala*, the correct name of the endangered Fringed Catchfly. Castanea 71:324-329.

Ward, D. B. 2007a. What in the world did Thomas Walter mean by *Xxxxx yyyyy*? Part one: The complete unknowns. Phytologia 89: 228-235.

Ward, D. B. 2007b. Thomas Walter Typification Project, II: The known Walter types. J. Bot. Res. Inst. Texas 1:407-423.