

**WHAT IN THE WORLD DID THOMAS WALTER MEAN BY
Xxxxx yyyyy?
PART ONE: THE COMPLETE UNKNOWNNS**

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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 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 17 of his yet unidentified new species.

"So many of Walter's plants...which were once considered doubtful, have been from time to time discovered, that this at least merits a further enquiry."
(Stephen Elliott, *Sketch* 1:351. 1821)

REQUEST FOR TAXONOMIC ASSISTANCE

In the 1780s Thomas Walter owned and operated a rice plantation on the coastal plain bottomlands of the Santee River, South Carolina. Apparently guided solely by a few books from Linnaeus, he compiled an inventory of the plants he found within a brief distance of his home, either copying from Linnaeus or composing a brief Latin description of his own. A few additional species were brought to him by John Fraser, from the western Carolina mountains and upper Georgia. His manuscript was then carried back to London by Fraser, and published in 1788.

An annotated index of all of Walter's new species is now in preparation, and a majority of his names have now been adequately identified. But many of Walter's species were described too briefly or lacked contrast with other known species, and have thus been misidentified or wholly overlooked. A significant number of Walter's names have remained unidentified -- more than two centuries after their publication. It is now time to enlist the aid of other persons to determine what had been meant by these puzzling Walter names.

The present effort is to be presented in two parts: one, of the names that seem unidentifiable even to genus; and a second, of names that are perhaps now identified to genus but with their species still unknown. For each species, Walter's Latin description is provided. (At times, if a copy of Walter's *Flora* is conveniently available, further suggestions may be found in his generic descriptions.) Where Walter chose to emphasize a term, that word is here given in Roman type. Other species with their modern names, recorded by Walter immediately before and after his unidentified new names, are also noted. (Walter's placement of the unknown species is indicated by a series of question marks.) In many cases it is expected that knowledge of the modern species Walter placed adjacent may aid in determination of the unidentified names. His listing cannot of course be considered to be solely guided by presumed relationships, for his reliance on the Linnaean sexual system of classification, with its employment of simple counts of stamens, carpels, etc., often placed quite disparate species in close proximity. (Walter's placement of *Apluda scirpioides* between the grass *Dactyloctenium aegyptium* and the tree *Celtis laevigata* can be of scant guidance as to the nature of Walter's plant.)

One must assume that each of Walter's names was intended to refer to *something*, thus a knowledge of the Carolina coastal plain flora *should* lead to a certain identification. Yet the following 17 names have thwarted the present writer's best efforts. PLEASE EXAMINE THIS LISTING AND SEE IF ANY DESCRIPTIONS RING BELLS! Revelations, approximations, even best guesses will be warmly welcomed. [E-mail: DBW, c/o kperkins@flmnh.ufl.edu]

LIST OF SPECIES

Walter's name: **Apium bipinnatum** Walter (p. 115)

Walter's description: *foliis caulinis bipinnatis, foliolis inciso-serratis; floribus albis.*

Adjacent listings: *Oxyopolis rigidior, Sium suave, Ligusticum canadense, ?????, Angelica venenosa, Cicuta maculata.*

Modern name: Undetermined.

No type of *Apium bipinnatum* Walt. is known. No neotype has been selected. Suggested by I.K. (1893) to be *Selenium canadense* Michx. (= *Conioselenium chinense* (L.) BSP.); but that species is northern, unknown in the Carolinas.

Walter's name: **Apluda Scirpioides** Walter (p. 250)

Walter's description: *foliis longis lanceolatis, culmo ramoso paniculato, flosculis muticis.*

Adjacent listings: *Dactyloctenium aegyptium, ?????, Celtis laevigata.*

Modern name: Undetermined.

Apluda L. is a grass; No type of *Apluda scirpioides* Walt. is known. No neotype has been selected.

Walter's name: **Arctotis caroliniana** Walter (p. 216)

Walter's description: *foliis radicalibus rotundato-ovatis trinerviis dentatis hirsutis, pedunculis radicatis brevibus pilosis unifloris, flore luteo erecto. Calyce corollaque Melampodii, seminibus alienis.*

Adjacent listings: *Helianthus angustifolius, Helianthus atrorubens, ?????, Polymnia uvedalia, Tetragonotheca helianthoides.*

Modern name: Undetermined.

Arctotis L. is a composite. No type of *Arctotis caroliniana* Walt. is known. No neotype has been selected.

Walter's name: **Arethusa foliosa** Walter (p. 223)

Walter's description: *radice bulbosa, caule folioso unifloro, foliis alternis brevibus nervosis, flore terminali lineari albedo, capsula oblonga hexangula.*

Adjacent listings: *Cleistes divaricata, Ponthieva racemosa, Hexalectris spicata, ?????, Passiflora lutea, Passiflora incarnata.*

Modern name: Undetermined.

No type of *Arethusa foliosa* Walt. is known. No neotype has been selected.

Walter's name: **Aster ciliatus** Walter (p. 209)

Walter's description: *fol. lanceolatis integris ciliatis, caule tripedali, floribus magnis purpureis subsolitariis, pedunculis foliosis.*

Adjacent listings: *Aster concolor, Aster ?grandiflorus, ?????, Aster walteri, Aster ?laevis.*

Modern name: Undetermined.

No type of *Aster ciliatus* Walt. is known. No neotype has been selected. Not *Aster ciliatus* Muhl. in Willd.

Walter's name: **Calea caroliniana** Walter (p. 200)

Walter's description: *floribus paniculatis, calycibus multifloris, seminibus papposis, foliis alternis lanceolatis subserratis sessilibus.*

Adjacent listings: *Conoclinium coelestinum, Fleischmannia incarnata, ?????, Marshallia graminifolia, Marshallia obovata.*

Modern name: Undetermined.

Calea L. is a composite. No type of *Calea caroliniana* Walt. is known. No neotype has been selected. Listed by I.K. (1893) without comment.

Walter's name: **Celtis** #2 (*unnamed*) Walter (p. 250)

Walter's description: *foliis (space), fructu caerulea.*

Adjacent listings: *Celtis laevigata, ?????, Acer negundo.*

Modern name: Undetermined.

No type is known. No neotype should be selected. Walter apparently saw no leaves; he noted only "*foliis (space).*" Then fruits "*caeruleo.*" Very probably this was a Fraser discovery, brought to Walter only in fragmentary form. But not a *Celtis*; no species with blue fruits grows in the Carolinas.

Walter's name: **Clypeola caroliniana** Walter (p. 173)

Walter's description: *caulescens, ramosa, foliis caulinis petiolatis, ovato-lanceolatis, duploserratis, subscabris, floralibus lineari-lanceolatis, integris sessilibus; siliculis bilocularibus, seminibus solitariis.*

Adjacent listings: *Penstemon laevigatus*, ?????, *Lepidium virginicum*,
Capsella bursa-pastoris.

Modern name: Undetermined.

Clypeola L. is a crucifer. No type of *Clypeola caroliniana* Walt. is known. No neotype has been selected. I.K. (1893) recorded this as *Lepidium virginicum*, although Walter recognized another plant by that name, immediately following.

Walter's name: **Cucumis** #3 (unnamed) Walter (p. 240)

Walter's description: *foliis hastatis oppositis*.

Adjacent listings: *Melothria pendula*, *Sicyos angulatus*, ?????,
Osmanthus americana.

Modern name: Undetermined.

No type of this unnamed *Cucumis* is known. No neotype should be selected. Walter's "*foliis hastatis oppositis*" fits no Carolina cucurbit.

Walter's name: **Erigeron cymosum** ? Walter (p. 206)

Walter's description: *calycibus sublaevibus, foliis dentato-laciniatis, floribus numerosis luteis*.

Adjacent listings: *Erigeron strigosus*, ?*Euthamia* sp., ?????, *Solidago sempervirens*.

Modern name: Undetermined.

No type of *Erigeron cymosum* Walt. is known. No neotype has been selected. The name is not italicized, and is queried. Even so, it has been credited to Walter, by I.K. (1893).

Walter's name: **Erigeron glandulosum** Walter (p. 205)

Walter's description: *caule foliisque pilosis, foliis ovato-lanceolatis integris, pedunculis ternis, calycis squamis rectis subliberis latioribus glanduloso-pilosis, floribus luteis, calycibus haemisphericis*.

Adjacent listings: *Erigeron strigosus*, ?*Euthamia* sp., ?????, *Solidago sempervirens*.

Modern name: Undetermined.

No type of *Erigeron glandulosum* Walt. is known. No neotype has been selected.

Walter's name: **Erigeron squarrosus** Walter (p. 206)

Walter's description: *calycis squamis tomentosis patentibus, floribus luteis.*

Adjacent listings: *Erigeron strigosus*, *?Euthamia sp.*, *Chrysopsis gossypina*, *????*, *Solidago sempervirens*.

Modern name: Perhaps **Chrysopsis** sp.

No type of *Erigeron squarrosus* Walt. is known. No neotype has been selected. Perhaps a *Chrysopsis*; identified as *C. gossypina* by I.K. (1893), though that species appears to be listed by Walter as *Erigeron pilosum*, immediately preceding.

Walter's name: **Hydrocotyle cordata** Walter (p. 113)

Walter's description: *foliis cordatis integris erectis.*

Adjacent listings: *Hydrocotyle umbellata*, *Hydrocotyle ranunculoides*, *Centella asiatica*, *????*, *Sanicula ?canadensis*, *Oxypolis filiformis*.

Modern name: Undetermined.

No type of *Hydrocotyle cordata* Walt. is known. No neotype has been selected. Certainly Walter's plant was not a *Hydrocotyle*. Elliott (1817: 347) remarked: "I have never seen [it]." I.K. (1893) referred it to *Limnanthemum trachyspermum* Gray, a synonym of *Nymphoides aquatica* (Walt. ex Gmel.) Kuntze. But that species was already described elsewhere by Walter (1788: 109). Perhaps a Fraser discovery, represented by an imperfect specimen that Walter misinterpreted. A Fraser collection (spm. 59-E) of *Nymphoides aquatica* was labeled "*Hydrocotyle*" in Walter's hand.

Walter's name: **Leysera caroliniana** Walter (p. 211)

Walter's description: *foliis radicalibus rotundatis quinquenerviis subserratis hirsutis, caulinis oppositis sessilibus parvis minoribus, caule superne ramoso hirsuto.*

Adjacent listings: *Gaillardia pulchella*, *Helenium flexuosum*, *????*, *Anthemis cotula*, *Anthemis arvensis*.

Modern name: Undetermined.

Leysera L. is a composite. No type of *Leysera caroliniana* Walt. is known. No neotype has been selected.

Walter's name: **Orchis calcarata** Walter (p. 220)

Walter's description: *albo-viridis, bulbis indivisis, nectarii labio septemcalcarato, cornu longissimo.*

Adjacent listings: *Pogonia ophioglossoides, Platanthera lacera, ?????, ?Liparis liliifolia, Calopogon pulchellus, Spiranthes praecox.*

Modern name: Undetermined.

No type of *Orchis calcarata* Walt. is known. No neotype has been selected.

Walter's name: **Panicum anomalum** Walter (p. 72)

Walter's description: *spica composita, spiculis secundis horizontalibus alternis oppositis ternisque; calycibus laevibus confertis in triplici ordine; corollis trivalvibus; culmo decumbente; fol. longis, laevibus.*

Adjacent listings: *Setaria ?geniculata, Setaria ?magna, Echinochloa walteri, ?????, Echinochloa colonum, ?Panicum capillare.*

Modern name: Undetermined.

No type of *Panicum anomalum* Walt. is known. No neotype has been selected. I.K. (1894) suggested Walter's plant to be *Panicum dichotomum* L., a common species in SC. Hitchcock (1905: 35) did not find Walter's name used by earlier authors, even in synonymy, and concluded "it was impossible to identify the species." He later (1951: 982) believed it to be a *Setaria*. The description, however, contains distinctive features ("*spiculis secundis horizontalibus alternis oppositis ternisque;...culmo decumbente*"), and calls for one familiar with the Carolina grasses to identify.

Walter's name: **Senecio ciliatus** Walter (p. 208)

Walter's description: *floribus disco luteo radio albo, caule 6 ad 8-pedali piloso, foliis lanceolato-linearibus ciliatis.*

Adjacent listings: *Conyza ?parva, Erechites hieracifolia, ?????, Aster carolinianus.*

Modern name: Undetermined.

No type of *Senecio ciliatus* Walt. is known. No neotype has been selected. I.K. (1895) suggested Walter's plant was *Erigeron canadensis* L. (= *Conyza canadensis* (L.) Cronq.), although Walter elsewhere (1788: 207) described that species as *Cineraria canadensis*.

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