

DR. WILLIAM BALDWIN (1779-1819) AND HIS PLANT  
COLLECTIONS FROM GEORGIA IN THE SMITHIAN  
HERBARIUM AT THE LINNEAN SOCIETY OF LONDON

JOHN EDMONDSON

*National Museums Liverpool, Liverpool Museum*

*William Brown St.*

*Liverpool L3 8EN, United Kingdom*

*john.edmondson@liverpoolmuseums.org.uk*

ABSTRACT

A catalogue is given of 76 specimens of plants from Georgia, USA which were sent to Sir James Edward Smith, founder of the Linnean Society of London, in 1817, together with a brief biographical account of Dr. William Baldwin.

The Linnean Society of London recently commissioned a computerised catalogue of its Smithian Herbarium, which was amassed by its founder, Sir James Edward Smith (1759-1828). This project forms part of a scheme to make all the Society's collections, including the Linnaean Herbarium, available on the web; details of the CARLS project are on the Linnean Society's web site (see References).

Dr. William Baldwin sent a little-known set of specimens from Georgia to Sir James Smith in 1817. It is likely that Francis Boott brought these to Britain, because a collection of 185 specimens donated by Boott was acquired by Smith in the same year, and at least one of the Baldwin specimens was apparently annotated by Boott. Several of the specimens were named by reference to Pursh's *Flora Americae septentrionalis*, published in 1814. Aylmer Bourke Lambert was the vice-president of the Linnean Society of London, of which Sir James Edward Smith was president. At around the same time Lambert also acquired North American specimens collected by Baldwin, Boott, John Fraser and Thomas Nuttall (Miller 1970, p.

513). These were purchased by Edward Tuckerman, and are now in the herbarium of the Academy of Natural Sciences in Philadelphia.

Although Sir James Smith sent some duplicates to William Roscoe in Liverpool, no Baldwin specimens were found in a search of the Liverpool Botanic Garden herbarium (LIV).

Stafleu & Cowan (1976) provide the following commentary on the fate of Baldwin's herbarium collections:

“HERBARIUM and TYPES: Baldwin's collections were acquired by Lewis von Schweinitz who discarded the original labels. Von Schweinitz' herbarium is now at PH. Further specimens are at DWC, LASCA, MANCH and P-DU.”

No mention is made of the presence of Baldwin specimens at LINN, despite the fact that Smith published several new species based on these specimens. In the same year, 1817, parts 3 and 4 of the first volume of Stephen Elliott's *Sketch of the botany of South-Carolina and Georgia* were published, containing descriptions of four new species discovered by Baldwin and bearing his name as author. Three of these are represented by type specimens at LINN; the fourth, *Asclepias connivens* Baldw. cannot be matched to any of the Asclepiads in this collection.

***Dr. William Baldwin (1779-1819)***

Born in Newlin, Pennsylvania on March 29, 1779 to Quaker parents, Baldwin attended only one year's medical school at the University of Pennsylvania (where he first encountered William Darlington, a fellow student) before working as an assistant to Dr. William Todd. His friendship with Dr. Moses Marshall kindled an interest in botany, and two years' service as ship's surgeon on a voyage to Canton, China in 1805-06 were followed by a further year's

study at the University of Pennsylvania where he qualified as M.D. in 1807. After four years in Delaware, he moved to Georgia on health grounds and during the war of 1812 enlisted as a naval surgeon based at St. Mary's and latterly at Savannah. He began a correspondence with Stephen Elliott, author of *A sketch of the botany of South-Carolina and Georgia* which was published in 1824 and incorporated the posthumous description of several of Baldwin's discoveries. He also renewed his friendship with William Darlington, who encouraged him to prepare a catalogue of the flora of Georgia and East Florida, which latter area he had visited in the winter and spring of 1816-17.

After serving as surgeon on the frigate *Congress* on a trip to South America in 1817-1818, where he landed at Buenos Aires and other ports, Baldwin joined Major Stephen H. Long's expedition to the Rocky Mountains. Having long suffered from tuberculosis, his health deteriorated and he left the expedition, only to die in Franklin, Missouri on September 1, 1819. His unpublished work was later used by Torrey and Gray, and as previously stated his herbarium eventually came to rest in the collections of the Academy of Natural Sciences in Philadelphia. The extensive correspondence he had with Darlington is now kept in the archives of the Harvard University Herbaria (Gray Herbarium web site, see References); many of these and other letters were published by Darlington in *Reliquiae Baldwinianae* (1843). He was commemorated by Thomas Nuttall, who named the new genus *Balduina* in his honour (Nuttall 1818, vol. 2, p. 175); the included species *B. uniflora* is now placed in the genus *Endorima* Raf. Nuttall added the following footnote: "Dedicated as a just tribute of respect for the talents and industry of William Baldwin, M.D., late of Savannah in Georgia; a gentleman whose botanical zeal and knowledge has rarely been excelled in America".

### *The catalogue*

This is arranged in alphabetical order firstly of family (in Cronquist's circumscription) and secondly of genus and species as inscribed on the sheet by Sir J.E. Smith. Other information given on the specimen label, including pencilled comments, is also recorded. Only six specimens actually bear the name of William Baldwin as collector, though we know from other evidence that each of the specimens from Georgia came from him. For example, 32 specimens are mounted on paper watermarked "J. Whatman Turkey Mills" and the date "1817." All the specimens have Georgia as provenance. Modern names, where known, are italicised; the synonymy has been derived from Small (1913, 1933) and authority for the correct modern name is usually Duncan & Kartesz (1981) except where otherwise stated.

### ACANTHACEAE

*Elytraria virgata* Michx.  
LINN-Smith no.: 46.56.  
*Elytraria carolinensis* (J.F. Gmel.) Pers.

### APIACEAE

*Eryngium aromaticum* nov. sp.  
LINN-Smith no.: 479.22.  
*Eryngium aromaticum* Baldw. in Elliott, Sketch, i. 344. (Oct. 1817): ISOTYPE.

*Eryngium gracile* [Baldw.] nov. sp.  
LINN-Smith no. 479.23.  
*Eryngium gracile* Baldw. in Elliott, Sketch, i. 345. (Oct. 1817)  
*Eryngium baldwinii* Sprengel: ISOTYPE.  
According to Nuttall (1818), vol. 1, p. 175, this plant occurred in

West Florida.

*Eryngium ovalifolium* Michx.

*Eryngium virgatum* Lam.: Pursh, Fl. Am. Sept. p. 189, no. 2

LINN-Smith no. 479.17.

*Eryngium integrifolium* Walters

*Eryngium yuccaefolium* Michx.

LINN-Smith no. 479.4.

*Eryngium yuccifolium* Michx.

*Sium denticulatum* nov. sp.

*Sium denticulatum* Baldwin in Elliott, Sketch, i. 354 (Oct. 1817).

*Peucedanum ternatum* Nuttall, Gen. N. Am. Pl. 1: 182 (July 1818).

LINN-Smith no.: 508.5.

*Oxypolis ternata* (Nuttall) A. Heller is the commonly cited modern name (see for example Duncan & Kartesz 1981, p. 99), but as the combination is based on an epithet published later than the one which appeared in Elliott's work it is contrary to the rules of nomenclature. A new combination was required, *Oxypolis denticulata* (Baldwin) J.R. Edmondson in Novon (2005) (basionym: *Sium denticulatum* Baldwin in Elliott, 1817).

## APOCYNACEAE

*Echites difformis* [Walt.]

LINN-Smith no. 444.26.

*Trachelospermum difforme* (Walt.) A. Gray

*Amsonia latifolia* [Michx.]

*Tabernaemontana Amsonia* Aiton

LINN-Smith no. 449.20.1.

*Amsonia tabernaemontana* Walt.

*Amsonia angustifolia* [Michx.]

LINN-Smith no. 449.21.

*Amsonia tabernaemontana* Walt.

## AQUIFOLIACEAE

*Ilex angustifolia* [Willd.]

*Ilex cassine* L. subsp. *myrtifolia* (Walt.) Sarg.

LINN-Smith no. 244.8.

*Ilex myrtifolia* (Walt.) Sarg.

*Ilex prinoides* [Aiton]

*Ilex decidua* Walt.?

LINN-Smith no. 244.10.

*Ilex decidua* Walt.

*Prinos ambiguus* [Michx.]

*Cassine caroliniana* Walt.

LINN-Smith no. 619.4.

*Ilex ambigua* (Michx.) Torr.

## ASCLEPIADACEAE

*Asclepias amplexicaulis* Michx.

Fl. Bor.-Amer. 1: 115 (1803).

Pursh, Fl. Amer. Sept. 182, no. 12.

LINN-Smith no. 456.9.

*Asclepias amplexicaulis* Michx. (authority given as 'Sm.' in Duncan & Kartesz 1981, p. 105).

*Asclepias longifolia* Michx.

Pursh, Fl. Am. Sept. 183, no. 20.

LINN-Smith no. 456.12.

*Asclepias longifolia* Michx.

*Asclepias pauperula* Michx.  
Pursh, Fl. Am. Sept. 182, no. 15  
*Asclepias cinerea* Walter  
LINN-Smith no. 456.8.  
*Asclepias cinerea* Walt.

*Asclepias pedicellata* Walt.  
Pursh, Fl. Am. Sept. p. 182, no. 16  
LINN-Smith no. 456.13.  
*Podostigma pedicellata* (Walt.) Vail. (*Asclepias pedicellata* Walt. in  
Duncan & Kartesz 1981, p. 106).

*Asclepias variegata* Walter  
Pursh, Fl. Boreali-Americ. 181, no. 10.  
LINN-Smith no. 456.10.  
*Asclepias variegata* L.

*Asclepias verticillata* [L.]  
Pursh, Fl. Boreali-Americ. 183, no. 19.  
LINN-Smith no. 456.11.  
*Asclepias verticillata* L.

## BORAGINACEAE

*Batschia* sp.  
*Anchusa hirta* Muhl., Cat. [Pl. Amer. Sept.]  
LINN-Smith no. 255.12.  
*Batschia gmelinii* Michx. (not included in Duncan & Kartesz 1981).

*Onosmodium hispidum* Michx.  
LINN-Smith no. 255.14.  
*Onosmodium molle* Michx. var. *occidentale* (Mack.) Cockrane

*Heliotropium indicum* [L.]  
*Tiaridium indicum* (L.) Lehm.  
LINN-Smith no. 252.3.2.  
*Heliotropium indicum* L.

## CAMPANULACEAE

*Lobelia amoena* [Michx.]  
LINN-Smith no. 1346.10.  
*Lobelia amoena* Michx.

*Lobelia crassiuscula* Michx.  
LINN-Smith no. 1346.9.  
*Lobelia glandulosa* Walt.

*Lobelia kalmii* [L.]  
LINN-Smith no. 1346.8.  
*Lobelia kalmii* L. (not included in Duncan & Kartesz 1981).

*Lobelia puberula* [Michx.]  
LINN-Smith no. 1346.11.  
*Lobelia puberula* Michx.

## CARYOPHYLLACEAE (incl. Illecebraceae)

*Anychia hernarioides* [Michx.]  
LINN-Smith no. 155.3.  
*Paronychia baldwinii* (Torrey & Gray) Fenzl: ISOTYPE.

## CHRYSOBALANACEAE

*Chrysobalanus oblongifolius* [Michx.]  
LINN-Smith no. 889.2.  
*Geobalanus oblongifolius* (Michx.) Small (not included in Duncan  
& Kartesz 1981).

## CONVOLVULACEAE

*Convolvulus repens* [L.]

*Convolvulus sepium* (det. Hallier f., 1. XI. 1897)

LINN-Smith no. 306.12.

*Calystegia sepium* (L.) R.Br.

*Convolvulus trichosanthes* [Walt.]

*Stylisma humistrata* (det. Hallier f., 1. XI. 1897)

LINN-Smith no. 306.13.

*Stylisma humistrata* (Walt.) Chapm.

*Dichondra carolinensis* [Michx.]

LINN-Smith no. 477.5.

*Dichondra carolinensis* Michx.

## ERICACEAE

*Andromeda ferruginea* Pursh [Fl. Amer. Sept. 292], the large var. ?

LINN-Smith no. 789.5.2.

*Xolisma ferruginea* (Walt.) Heller (not included in Duncan & Kartesz 1981).

*Kalmia hirsuta* [Pursh]

Pursh, Fl. Boreali-Americ. 295.

LINN-Smith no. 785.8.2

*Kalmiella hirsuta* (Walt.) Small (*Kalmia hirsuta* Walt., Duncan & Kartesz 1981).

## GENTIANACEAE

*Sabatia corymbosa* n.sp.

*Sabatia corymbosa* Baldw., Sketch, i. 283. (March 1817)

LINN-Smith no. 373.2.

*Sabatia corymbosa* Baldw.: ISOTYPE (not included in Duncan & Kartesz 1981).

*Centaurella paniculata* [Michx.]

*Exacum* sp.

*Bartonia tenella* Muhl.

LINN-Smith no. 203.5.2.

*Bartonia paniculata* (Michx.) Muhl.

*Centaurella verna* [Michx,]

LINN-Smith no. 203.8.

*Bartonia verna* (Michx.) Muhl.

## HAEMODORACEAE (incl. Melanthiaceae)

*Aletris aurea* Michx.

LINN-Smith no. 605.7

*Lophiola aurea* (Pursh) Wood

## HALORAGACEAE

*Proserpinaca pectinata* [Lam.]

LINN-Smith no. 147a.2.

*Proserpinaca pectinata* Lam.

## HYDROPHYLLACEAE

*Hydrolea caroliniana* [Michx.]

*Hydrolea quadrivalvis* Pursh, Fl. Boreali-Americ. 187

LINN-Smith no. 469.2.

*Hydrolea quadrivalvis* Walter

## LAMIACEAE

*Hyptis radiata* [Willd.]

LINN-Smith no. 1006.2.  
*Hyptis alata* (Raf.) Shinnars

*Scutellaria lateriflora* L.  
LINN-Smith no. 1031.10.2  
*Scutellaria lateriflora* L.

## LENTIBULARIACEAE

*Utricularia personata* Lafonte [sic], recte Le Conte  
LINN-Smith no. 52.24.  
*Utricularia juncea* Vahl (fide Taylor 1989)

## LILIACEAE

*Trillium cernuum* [L.]  
Pursh, Fl. Boreali-Americ. 6.  
LINN-Smith no. 640.2.1  
*Trillium cernuum* L.

## LYTHRACEAE

*Ammannia humilis* [Michx.]  
LINN-Smith no. 222.5.1.  
*Ammannia latifolia* L.

*Lythrum lineare* Michx.  
Pursh, Fl. Boreali-Americ. 334.  
LINN-Smith no. 869.15.  
*Lythrum lineare* L.

## MELASTOMATACEAE

*Rhexia ciliata* [sic, recte *ciliosa* Michx.] var. *pumila*

*Rhexia ciliosa* Pursh, Fl. Boreali-Americ. 258.  
LINN-Smith no. 654.12.  
*Rhexia petiolata* Walt.

*Rhexia lutea* [Walt.]  
Pursh, Fl. Boreali-Americ. 258.  
LINN-Smith no. 654.13.  
*Rhexia lutea* Walt.

*Rhexia lanceolata* [Walt.]  
Pursh, Fl. Boreali-Americ. 258.  
LINN-Smith no. 654.14.  
*Rhexia mariana* L.

## MENISPERMACEAE

*Wendlandia populifolia* [Willd.]  
*Cocculus carolinus* De Cand. Syst. v. 1, 524  
LINN-Smith no. 1554.9.2.  
*Cocculus carolinus* (L.) DC. (syn. *Epibaterium carolinum* (L.) Britton)

## ONAGRACEAE

*Isnardia palustris* Linn.  
17. *Ludwigia nitida* Michx. Does this differ from the European *Isnardia palustris*? [Baldwin's hand]. "I think not. J.E.S." [J.E. Smith's hand on Baldwin's ticket]  
LINN-Smith no. 223.1.6.  
*Ludwigia palustris* (L.) Ellis

*Jussiaea grandiflora* 68 [scr. ignot. on loose sheet]  
Pursh, Fl. Boreali-Americ. 304.  
LINN-Smith no. 777.3.2.  
*Jussiaea grandiflora* Michx. (not included in Duncan & Kartesz)

1981).

Ludwigia glandulosa Walter  
LINN-Smith no. 220.4.  
*Ludwigia glandulosa* Walt.

Ludwigia pedunculata [last three letters amended to -osa]  
Ludwigia arcuata Walt.  
LINN-Smith no. 220.5.  
*Ludwigia pedunculosa* Michx. (not included in Duncan & Kartesz  
1981).

Oenothera prostrata n.sp.  
LINN-Smith no. 655.15.  
[non *O. prostrata* Ruiz & Pavon]  
*Oenothera sp.* (undetermined)

Oenothera sinuata cum varietate pumila  
*O. sinuata* Pursh, Fl. Boreali-Americ. 261.  
LINN-Smith no. 655.16.  
*Oenothera sinuata* L.

## POLEMONIACEAE

Phlox subulata [L.]  
LINN-Smith no. 304.12.  
*Phlox subulata* L. (not included in Duncan & Kartesz 1981).

## POLYGONACEAE

Eriogonum tomentosum [Michx.]  
Pursh, Fl. Boreali-Americ. 277.  
LINN-Smith no. 714.2.2.  
*Eriogonum tomentosum* Michx.

Polygonum polygamum [Vent.]  
Pursh, Fl. Am. Sept. 272.  
LINN-Smith no. 698.45.  
*Polygonella polygama* (Vent.) Engelm. & A. Gray

## PRIMULACEAE

Centunculus lanceolatus Michx.  
LINN-Smith no. 206.2.  
*Lysimachia lanceolata* Walt.

## RANUNCULACEAE

Ranunculus humilis Muhlenberg  
Ranunculus flagelliformis Sm. in Rees, Cyclop. 29, no. 13 (1819)  
LINN-Smith no. 987.27.2.  
*Ranunculus* sect. *Batrachium*, undetermined.

## RHAMNACEAE

Ceanothus microphyllus [Michx.]  
LINN-Smith no. 388.7.  
*Ceanothus microphyllus* Michx.

Rhamnus volubilis Linn., Suppl. 152.  
Ziziphus volubilis  
LINN-Smith no. 384.3.2.  
*Berchemia scandens* (Hill) K. Koch

## ROSACEAE

Crataegus parvifolia [Aiton] Hortus Kewensis 2: 169, 1789  
Pursh, Fl. Boreali-Americ. 338, no. 9.  
'eod. nomine' LINN-Smith no. 895.24.3  
*Crataegus parvifolia* Sol. (syn. *Mespilus parvifolius* (Aiton) Dum.-

Cours.).

## RUBIACEAE

*Galium circaezans* Michx.  
LINN-Smith no. 185.75.  
*Galium circaezans* Michx.

*Houstonia patens* Elliott  
no. 10.  
LINN-Smith no. 184.3  
*Houstonia crassifolia* Raf.

*Hedyotis glomerata*, vel *Oldenlandia*  
*Oldenlandia glomerata* Pursh  
LINN-Smith no. 221.5.  
*Oldenlandia glomerata* Michx. (not included in Duncan & Kartesz  
1981).

*Pinckneya* [sp.] Michx.  
*Cinchona bracteata* Brickell  
LINN-Smith no. 351.2.  
*Pinckneya pubens* Michx.

*Spermacoce diodina* [Michx.]  
LINN-Smith no. 179.13.  
*Spermacoce tenuior* L.

## SAXIFRAGACEAE

*Decumaria Barbara* [L.]  
2. sarmentosa  
? Pursh 328.  
LINN-Smith no. 859.1.2.

*Decumaria barbara* L.

## SCROPHULARIACEAE

*Micranthemum orbiculatum* Michx.  
LINN-Smith no. 284.15.  
*Micranthemum umbrosum* (Walter) S.F. Blake

*Gratiola acuminata* Walter  
LINN-Smith no. 48.1.  
*Mecardonia acuminata* (Walter) Small, [det.] P.W.P. 1930  
*Mecardonia acuminata* (Walter) Small

*Gratiola aurea* [Pursh]  
LINN-Smith no. 48.5.2.  
*Gratiola aurea* Pursh

## VIOLACEAE

*Viola lanceolata* [L.]  
LINN-Smith no. 1380.7.2.  
*Viola lanceolata* L.

*Viola primulifolia* [L.]  
Rees, Cycl. n. 15  
LINN-Smith no. 1380.10.2.  
*Viola primulifolia* L.

## VITACEAE

*Ampelopsis bipinnata* [Michx.]  
*Vitis arborea* Linn. fil.  
LINN-Smith no. 418.11.2.  
*Ampelopsis arborea* (L.) Koehne



## XYRIDACEAE

*Xyris brevifolia* Michx.  
LINN-Smith no. 102.10.  
*Xyris brevifolia* Michx.

*Xyris juncea* nov. sp.  
LINN-Smith no. 102.11.  
*Xyris juncea* Baldw. ex Elliott, Sketch, i. 53(1816) non R. Brown (1810)  
*Xyris baldwiniana* Schultes

### ACKNOWLEDGEMENTS

This catalogue was derived from the Linnean Society's database of their Smithian Herbarium, compiled by Claire Sedgwick, to whom I am greatly indebted for creating this invaluable resource. I am also grateful to Kanchi Gandhi (Harvard University) for checking the nomenclatural note on *Sium denticulatum*. Dr. Michael Stieber (Morton Arboretum) thoughtfully reviewed the manuscript.

### REFERENCES

- DUNCAN, W.H. and J.T. KARTESZ. 1981. Vascular flora of Georgia: an annotated checklist. University of Georgia Press, Athens.
- EDMONDSON, J.R. 2005. A new combination in *Oxypolis Rafinesque* (Apiaceae). *Novon* 15: 109.
- ELLIOTT, S. 1816-24. A sketch of the botany of South-Carolina and Georgia. J.R. Schenck, Charleston.
- GRAY HERBARIUM archives web site:  
<http://www.huh.harvard.edu/libraries/archives/BALDWIN.html>

LINNEAN SOCIETY OF LONDON web site: <http://www.linnean.org>

MILLER, H. 1970. The herbarium of Aylmer Bourke Lambert: notes on its acquisition, dispersal, and present whereabouts. *Taxon* 19: 489-553.

NUTTALL, T. 1818. The genera of North American plants, and a catalogue of the species to the year 1817. D. Heartt, Philadelphia.

PURSH, F.T. 1814. *Flora Americae septentrionalis*. White, Cochrane & Co., London.

SMALL, J.K. 1913. *Flora of the southeastern United States*, 2<sup>nd</sup> ed. Published by the author, New York.

SMALL, J.K. 1933. *Manual of the southeastern Flora*. Published by the author, New York.

TAYLOR, P. 1989. The genus *Utricularia*: a taxonomic monograph. Royal Botanic Gardens, Kew.

### INDEX

ACANTHACEAE.....83	AQUIFOLIACEAE ..... 85	BORAGINACEAE.....86
<i>Aletris aurea</i> .....89	ASCLEPIADACEAE..... 85	<i>Calystegia sepium</i> ..... 88
<i>Ammania latifolia</i> .....90	<i>Asclepias amplexicaulis</i> .. 85	CAMPANULACEAE..... 87
<i>Ammannia humilis</i> .....90	<i>Asclepias cinerea</i> ..... 86	CARYOPHYLLACEAE ..... 87
<i>Ampelopsis arborea</i> .....95	<i>Asclepias longifolia</i> ..... 85	<i>Cassine caroliniana</i> .....85
<i>Ampelopsis bipinnata</i> .....95	<i>Asclepias paupercula</i> ..... 86	<i>Ceanothus microphyllus</i> ..93
<i>Amsonia angustifolia</i> .....85	<i>Asclepias pedicellata</i> ..... 86	<i>Centaurella paniculata</i> .....89
<i>Amsonia latifolia</i> .....84	<i>Asclepias variegata</i> ..... 86	<i>Centaurella verna</i> ..... 89
<i>Amsonia tabernaemontana</i> .....84,85	<i>Asclepias verticillata</i> ..... 86	<i>Centunculus lanceolatus</i> ..93
<i>Anchusa hirta</i> .....86	<i>Bartonia paniculata</i> ..... 89	CHRYSOBALANACEAE.....87
<i>Andromeda ferruginea</i> ....88	<i>Bartonia tenella</i> ..... 89	<i>Chrysobalanus oblongifolius</i> .....87
<i>Anychia hernarioides</i> .....87	<i>Bartonia verna</i> ..... 89	<i>Cinchona bracteata</i> .....94
APIACEAE .....83	<i>Batschia</i> ..... 86	<i>Cocculus carolinus</i> ..... 91
APOCYNACEAE.....84	<i>Batschia gmelinii</i> ..... 86	CONVOLVULACEAE..... 88
	<i>Berchemia scandens</i> ..... 93	

Convolvulus repens.....88	<i>Kalmiella hirsuta</i> ..... 88	<i>Proserpinaca pectinata</i> ... 89
Convolvulus sepium.....88	LAMIACEAE..... 89	RANUNCULACEAE..... 93
Convolvulus trichosanthos88	LENTIBULARIACEAE..... 90	Ranunculus flagelliformis....
<i>Crataegus parvifolia</i> .....93	LILIACEAE..... 90	..... 93
<i>Decumaria barbara</i> ....94,95	<i>Lobelia amoena</i> ..... 87	Ranunculus humilis ..... 93
<i>Dichondra carolinensis</i> ...88	<i>Lobelia crassiuscula</i> ..... 87	<i>Ranunculus</i> sect.
Echites difformis.....84	<i>Lobelia glandulosa</i> ..... 87	<i>Batrachium</i> ..... 93
<i>Elytraria carolinensis</i> .....83	<i>Lobelia kalmii</i> ..... 87	RHAMNACEAE..... 93
<i>Elytraria virgata</i> .....83	<i>Lobelia puberula</i> ..... 87	Rhamnus volubilis ..... 93
Epibaterium carolinum....91	<i>Lophiola aurea</i> ..... 89	Rhexia ciliata var. pumila 90
ERICACEAE ..... 88	Ludwigia arcuata..... 92	Rhexia ciliosa..... 91
<i>Eriogonum tomentosum</i> ...92	<i>Ludwigia glandulosa</i> ..... 92	Rhexia lanceolata ..... 91
<i>Eryngium aromaticum</i> ....83	Ludwigia nitida..... 91	<i>Rhexia lutea</i> ..... 91
<i>Eryngium baldwinii</i> .....83	<i>Ludwigia palustris</i> ..... 91	<i>Rhexia mariana</i> ..... 91
<i>Eryngium gracile</i> ..... 83	Ludwigia pedunculata..... 92	<i>Rhexia petiolata</i> ..... 91
<i>Eryngium integrifolium</i> ....84	<i>Ludwigia pedunculosa</i> .... 92	ROSACEAE..... 93
<i>Eryngium ovalifolium</i> .....84	<i>Lysimachia lanceolata</i> .... 93	RUBIACEAE..... 94
<i>Eryngium virgatum</i> .....84	LYTHRACEAE..... 90	<i>Sabatia corymbosa</i> .... 88,89
<i>Eryngium yuccaeifolium</i> ...84	<i>Lythrum lineare</i> ..... 90	SAXIFRAGACEAE..... 94
<i>Eryngium yuccifolium</i> .....84	<i>Mecardonia acuminata</i> ... 95	SCROPHULARIACEAE..... 95
Exacum ..... 89	MELANTHIACEAE..... 89	<i>Scutellaria lateriflora</i> .... 90
<i>Galium circaezans</i> ..... 94	MELASTOMATACEAE..... 90	Sium denticulatum..... 84
GENTIANACEAE..... 88	MENISPERMACEAE..... 91	Spermacoce diodina..... 94
<i>Geobalanus oblongifolius</i> 87	<i>Mespilus parvifolius</i> ..... 93	<i>Spermacoce tenuior</i> ..... 94
Gratiola acuminata.....95	Micranthemum orbiculatum	<i>Stylisma humistrata</i> ..... 88
<i>Gratiola aurea</i> ..... 95	..... 95	Tabernaemontana amsonia84
HAEMODORACEAE..... 89	<i>Micranthemum umbrosum</i> ..	Tiaridium indicum..... 87
HALORAGACEAE..... 89	..... 95	<i>Trachelospermum difforme</i> 84
Hedyotis glomerata.....94	Oenothera prostrata..... 92	<i>Trillium cernuum</i> ..... 90
<i>Heliotropium indicum</i> .....87	<i>Oenothera sinuata</i> ..... 92	<i>Utricularia juncea</i> ..... 90
<i>Houstonia crassifolia</i> .....94	<i>Oldenlandia glomerata</i> ... 94	Utricularia personata ..... 90
<i>Houstonia patens</i> ..... 94	ONAGRACEAE..... 91	<i>Viola lanceolata</i> ..... 95
Hydrolea caroliniana.....89	Onosmodium hispidum... 86	<i>Viola primulifolia</i> ..... 95
<i>Hydrolea quadrivalvis</i> ....89	<i>Onosmodium molle</i> var.	VIOLACEAE..... 95
HYDROPHYLLACEAE..... 89	<i>occidentale</i> ..... 86	VITACEAE ..... 95
<i>Hyptis alata</i> ..... 90	<i>Oxypolis denticulata</i> ..... 84	Vitis arborea..... 95
<i>Hyptis radiata</i> ..... 89	Oxypolis ternata..... 84	Wendlandia populifolia ... 91
<i>Ilex ambigua</i> ..... 85	<i>Paronychia baldwinii</i> ..... 87	<i>Xolisma ferruginea</i> ..... 88
<i>Ilex angustifolia</i> ..... 85	Peucedanum ternatum .... 84	XYRIDACEAE ..... 96
<i>Ilex cassine</i> subsp.	<i>Phlox subulata</i> ..... 92	<i>Xyris baldwiniana</i> ..... 96
<i>myrtifolia</i> ..... 85	<i>Pinckneya pubens</i> ..... 94	<i>Xyris brevifolia</i> ..... 96
<i>Ilex decidua</i> ..... 85	<i>Podostigma pedicellata</i> ... 86	<i>Xyris juncea</i> ..... 96
<i>Ilex myrtifolia</i> ..... 85	POLEMONIACEAE ..... 92	Ziziphus volubilis ..... 93
<i>Ilex prinoides</i> ..... 85	POLYGONACEAE..... 92	
ILLECEBRACEAE..... 87	<i>Polygonella polygama</i> .... 93	
Isnardia palustris..... 91	Polygonum polygamum .. 93	
<i>Jussiaea grandiflora</i> ..... 91	PRIMULACEAE ..... 93	
<i>Kalmia hirsuta</i> ..... 88	Prinos ambiguus..... 85	

\*Although accepted for Vulpia 3 (2004), this paper was not made publicly available until after the publication of Novon 15 (2005).