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A 1698 Maryland florula by the London apothecary James Petiver (ca.1663–1718)

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Abstract

In 1698 the London apothecary James Petiver published a short paper in the Philosophical Transactions, the journal of the Royal Society of London, describing a series of animals and plants sent from the British colony of Maryland. These had been collected by the Reverend Hugh Jones, a young man sent to the New World to replace the Virginian naturalist John Banister who died in 1692. Petiver reported on 54 species of vascular plants, many previously unknown to European naturalists. The Jones specimens, collected mainly in 1697, were among the volumes of dried plants purchased from Petiver’s estate by Sir Hans Sloane following Petiver’s death in 1718; they are now in the British Museum (Natural History) in London. During this study we located specimens representing all but four of Petiver’s 54 species. Here we identify each species with its modern binomial and discuss collections on which it was based.

Introduction

While preparing a list of endangered, threatened and rare plants of Maryland (Broome et al. 1980), we found in the Philosophical Transactions a 1698 article by the London apothecary James Petiver (ca. 1663–1718) which seemed to represent the earliest treatment of plants for the state. This led us to examine, in 1979, the pre-Linnaean Maryland specimens in the Sloane Herbarium at the British Museum (Natural History) in London (hereafter cited as BM). Upon discovering a wealth of material there, we sought and obtained additional funding from the National Science Foundation and the United States Fish and Wildlife Service for a 1980 study of the colonial collections of the early Maryland naturalists Reverend Hugh Jones (ca. 1670–1702), Dr. David Krieg (d. 1710), William Vernon (fl. 1688–1711), Dr. Charles Coombs (fl. 1699), Dr. John Smart (fl. 1708), Dr. William Brown (d. before 1715) and Dr. Andrew Scott (d. 1766).

It is not our intention here to present the detailed history of these men or their activities in Maryland (for that, see Frick et al. 1987). Rather our purpose is to evaluate the species reported in Petiver’s 1698 paper, establish their identities, and associate them with Linnaean binomials where possible.

The Petiver Herbarium

Jones sent dried, pressed specimens of Maryland flowering plants, gymnosperms and ferns to Petiver and to others in England, notably Ayrey, Doody, London and Sloane. Dandy (1958) listed Jones specimens among several volumes of plants housed in the Sloane Herbarium at BM, but it is now impossible to trace the histories of many of them.

As for the Jones specimens that were in Petiver’s possession, most came to him from George London, formerly gardener to Bishop Compton at Fulham Palace, and at that time gardener to William III. Petiver (1699) noted in an issue of his Musei petiveriani that “I am very much oblig’d to Mr. GEORGE LONDON his Majesty’s Gardener, who was pleased to present me with two Volumes of dry Plants, very curiously Preserved, and collected at Maryland by my worthy Friend the Reverend Mr. Hugh Jones.” We suspect that these two volumes were the basis of Petiver’s hortus siccus (hereafter written H.S.) of North American plants, called “Hortus siccus Americanus” and
now designated H.S. 158 and 159 in the Sloane Herbarium (Dandy 1958). It is clear that over the years Petiver added to and deleted specimens from these volumes. The specimens that Petiver obtained directly from Jones are probably those found in H.S. 264, a volume entitled “Plants from Bermudas, Carolina, Maryland, Martinico and the East Indies from Mr. Petiver’s [sic] collections” as written by Sloane on its first page. This volume comprises specimens obtained by Petiver and given to Sloane. Other herbarium volumes of Petiver’s contain Jones material (H.S. 243, 249, 252, and 274), but these specimens may or may not have come to Petiver directly from Jones. The Jones specimens retained by Ayrey are in H.S. 74, but this volume contains Krieg and Vernon materials as well, and the plant specimens are not identified specifically as to collector.

Petiver probably kept specimens loose between sheets of thin brown paper. He also kept notes, labels and other information with the specimens. Often several specimens and several slips of paper were together between sheets, and no doubt these sometimes became rearranged and misplaced over time due to handling of the collections.

Sir Hans Sloane obtained some 106 volumes of Petiver’s plants in 1718, by far his largest individual acquisition; the Sloane Herbarium now consists of 265 volumes. It was Sloane who had the specimens and notes glued to individual pages and arranged the sheets into bound volumes. We do not know whether George London’s herbarium volumes had the specimens glued to the sheets, but we suspect that, according to the common practice of the day, they were not. There is no doubt, however, that Petiver added many specimens to London’s original volumes after 1699. We cannot now be certain what errors in label association were made during the process of gluing specimens to pages, but we have noted several obvious mistakes. The assistants employed by Sloane to curate his collections were probably uncertain which specimen went with which label or note. Often a single label is attached over more than one specimen, and this frequently involves specimens representing different modern species. Equally confusing are instances where two or more different labels or notes are associated with a single specimen. In the latter situation one is faced with two problems. First, when there is evidence that a specimen (or the label) was misplaced in the volume, one must try to associate a given label with a different plant specimen located on the same page, in the same volume, or even in a different volume. Second, Petiver apparently felt that additional specimens of the same species collected at different times, and/or from different places, and/or by different people, represented “duplicates” and he often traded them away. But labels formerly associated with those “duplicates” were retained with the “original” (or most representative, or best, or even most recently obtained) specimen to provide Petiver a record of the additional collections. (For example, Petiver occasionally sent Jones specimens that John Banister gathered in Virginia to assist the Maryland minister in his identification; see Frick et al. 1987.) The problem here, then, is in trying to determine the true locality and collector for any given specimen in the Petiver volumes. This has proved to be particularly troublesome in our search for the actual Jones collections that Petiver reported for Maryland in 1698.

For a label Petiver usually used the relevant text cut from a copy of his 1698 Transactions, placing it with the specimen that formed the basis for his report there. Unfortunately, we have been unable to locate specimens of some plants that he reported for Maryland because we could not find any “labels” among the volumes in the Sloane Herbarium. We do not know whether the labels, the specimens or both were lost, discarded or given away by Petiver or his successors.
Petiver published a great deal during his lifetime (see Henrey 1975 for a partial review), and in many of his publications he referred to the plants and animals found in Maryland by Hugh Jones. Jones material appeared in various numbers of Petiver’s *Musei petiveriani* (Petiver 1695–1703) and in his *Gazophylaci naturae et artis* (Petiver 1702–1706). After 1699, Jones material was mentioned with less frequency by Petiver, and Krieger and Vernon material from Maryland was more commonly noted. Just as he had done with the *Transactions* paper, Petiver often cut out descriptions or comments from his other publications and attached them (as labels) to the specimens which we believe were their bases. We know that sometimes he described the same collection differently on different occasions. Thus there can be two or more printed labels affixed to a single collection.

Certain other ambiguities have also complicated our study of the material. In many instances Petiver did not pinpoint the localities of particular species as to province (whether from Maryland, Virginia or the Carolinas) when he described them. He sometimes used more general epithets, such as *Americana*, somewhere in the polynomial or accompanying notes in his publications, or on the notes and labels in his herbarium. In these cases we can only surmise which of the specimens so identified may actually have come from Maryland. Throughout H.S. 158 and H.S. 159 is a series of labels mentioning the combination of “Doody” or “Ayrey” and “Virginia.” Neither Doody nor Ayrey ever visited Virginia, and while both received Banister material from there, they also obtained Maryland specimens from Jones and others. We suspect that specimens labeled this way are occasionally Jones collections from Maryland that found their way into Petiver’s hands by exchange through Doody and Ayrey.

Petiver kept meticulous notes written in a crabbed hand that can be almost unreadable. He believed in conserving paper and relegated long lists, extensive labels and detailed accounts to odd scraps of paper. In his volumes of plants these are now attached or loose here and there, or appended at the beginning or end. At the beginning of H.S. 158 there is a list of Jones plants that George London sent to Petiver, but this is essentially unreadable except for those species actually reported in the *Transactions* article.

In his will, Petiver stated that his natural history collections were to be given to Sloane. Before he died, however, Petiver asked Sloane to purchase them. It is said that Sloane paid four thousand pounds for the Petiver herbarium and library, including his zoological collections, which were delivered only after Petiver’s death in 1718 (Dandy 1958). The state of the collection was poor, and Sloane did not work initially upon the plants. The “confusion” of material, as Sloane called it, was only partially resolved when William Sherard of Oxford saw the collection a decade later and termed Petiver’s plant collections “rubbish” (Dandy 1958; Reveal 1983).

**Jones Material Cited by Others**

Petiver was apparently Jones’ principal London correspondent, and it was through him that most of Jones’ Maryland collections came to Europe where they were often shared with or given to many others. Sloane received representative plant specimens, and William Sherard obtained both dried specimens and seeds, the latter being planted in the garden of Mary Somerset, the Duchess of Beaufort, at Badminton. Jacob Bobart and Samuel Dale also obtained plants.

Petiver was not the first to describe Maryland plants. Ray had described Spanish moss, *Tillandsia usneoides*, in the appendix of his *Historia plantarum* (1688), and had also mentioned *Galax urceolata*. Pluenet (1696, p. 53) had published *Asarum e Terrén Marianâ, Violae lu-
teae, vel Asarineae folis; Serpentina nigra and had illustrated it even earlier (1691, t. 15, f. 3). The specimen upon which that illustration was based is at H.S. 91.35, and is labeled "Asa-
rum exoticum album cuj. Radix est. Serpen-
taria Virginiana nigra. a Eouva Mariana folius fruct. transmiss." A comparable specimen is also found in the Sherardian Herbarium at the University of Oxford (OXF). The plant is Galax urceolata (Poiret) Brummitt. Also listed in 1696 (p. 349) was Smilax claviculata Hederae folia tota levis et Terrae Maritana, his polynomial for Smilax rotundifolia L., which Plukenet had illustrated in 1692 (t. 225, f. 3). Plukenet also mentioned a third species which proved to be a collection of Juniperus virginiana L. (see Re-
veal et al. 1987a). We do not know who made these collections (Frick et al. 1987); it was not John Smart, as once thought (Reveal 1983).

Bobart, writing in Morison's Plantarum historiae universalis oxoniensis (Morison 1699), may have described some species from plants grown from seeds supplied by Jones. However, no Bobart description makes specific reference to Maryland, and none of his collections that we saw at OXF was identified as coming from Maryland. It is unlikely that any of the Jones specimens used by Petiver (1698) were available to Bobart when he was completing the text of Morison's volume.

Plukenet probably described some Jones specimens in Almagestum botani mantissa, but he did not indicate which among the some 225 names that he attributed to Maryland were collected by Jones. Only a few names were specifically credited to Krieg, and Plukenet probably had limited access to Vernon's specimens. Plukenet added 15 other names in Anamathem botanicum (1705), and he proposed yet another in the Phytographia section (t. 439, f. 4). All of these he probably based on material supplied by Krieg.

In 1704, Ray summarized the state of knowledge regarding the plants of Maryland. He proposed numerous new names for Mary-
land plants, cited others previously proposed by Plukenet and Petiver, and compared many of Maryland’s plants with those previously found by Banister in Virginia. In a few in-
stances, Ray published names of Maryland plants based on information supplied to him by Sherard. Ray established most of his new names on Krieg and Vernon specimens sent to him by Sloane; these are now in a portion of H.S. 37. There is no indication that Ray saw the Jones material in either the Ayrey collection (H.S. 74) or the volumes of plants given to Petiver by George London (H.S. 158 and 159). Ray did see other specimens sent to him by Petiver (these are in various of Peti-
ver's volumes, notably H.S. 264), but it is not known, in all instances, exactly whose collections these were. Indeed some were Jones specimens, and others were obtained by Coombs. Using the newer and more abundant Krieg and Vernon material, Ray expanded several of Petiver's 1698 descriptions that had been based on Jones specimens.

Petiver and Plukenet arranged their collections according to various schemes. Both at-
ttempted to maintain some degree of geo-
graphic arrangement, but otherwise Petiver tried to follow the system of classification pro-
posed by Ray (1686, 1688), whereas Plukenet used an alphabetical one based upon the "ge-
neric" name or the first word in the poly-
nomial. Ray personally arranged a portion of H.S. 37 (fols. 61-138) while apparently Sloane organized the first part (fols. 1-56, 59-60); the order of the specimens is generally in keeping with the Ray system. A collection of Vernon specimens (H.S. 246) was similarly arranged by Sloane. Ayrey's volume (H.S. 74), which contains Jones, Krieg and Vernon specimens, also was arranged more or less according to Ray. Except for H.S. 246, there are no direct indications as to the collectors. Dandy (1958) stated that the "three collections [H.S.
37, 74 and 246] are not separated (as to col-
lector) but can be ascertained by consulting
Solander MSS where the specimens are referred to and some are described as new species.” Our consultation of Solander’s manuscript does not allow us to make such a simple declaration. In fact, Ray stated in his correspondence to Sloane (Lankester 1848) that when he arranged the plants for a portion of H.S. 37, he mixed the two men’s collections together and hoped Sloane did not mind. What information Solander obtained was that already published by Ray (1704; see Reveal 1985).

As for the extant collections of Maryland plants at BM (Dandy 1958) and in the “special collections” at OXF (Cokie 1964), few have been identified using modern-day nomenclature. Solander reviewed the Sloane Herbarium in the 1760s and identified several specimens by their Linnaean names. Various monographers (e.g., Nathaniel L. Britton, Francis Pennell, James E. Dandy, Anton K. Schindler, Bernice G. Schubert, Joseph Ewan, Rupert C. Barneby and Peter H. Raven) have identified a few specimens in their specialty groups. In 1939, Charles A. Weatherby of Harvard University identified many of the collections of Maryland plants in the Du Bois Herbarium at OXF. We (Reveal et al. 1987a) have prepared a summary listing of the Maryland collections found in H.S. 37, 74 and 246, and of the specimens in the Du Bois Herbarium, as well as a listing of specimens which seem to be voucher polynomials published by the many authors who described Maryland plants prior to 1753.

**The Transactions Article**

The November 1698 Petiver article had the rather ponderous title “Remarks by Mr. James Petiver, Apothecary, and Fellow of the Royal Society, on some Animals, Plants, &c. sent to him from Maryland, by the Reverend Mr. Hugh Jones.” The purpose of the paper was to publish an account of Jones’ efforts before Plu-
ently proposed or most commonly used. He, like others of the same era, tended to accept his own names or those names associated with both detailed descriptions and illustrations no matter when it was proposed.

We present below an annotated catalogue of the vascular plants reported by Petiver in his 1698 Transactions article. The plant portion of his article is reproduced fully (Figs. 1–9), and we identify each species by his number and polynomial. We have rendered Petiver’s polynomials typographically as he presented them. We have found this exceedingly helpful for by using the typography (the use of upper and lower case, italics, etc.) we can trace the actual source subsequent authors consulted to determine their synonymy. As a result, all papers in this series will consistently cite polynomials as they were originally published. The reader should consult the appropriate figure for Petiver’s full entry, as our discussion often refers to information found therein. The section on plants is in the last part of the Transactions paper. The first two entries are not for vascular plants. Thus, we begin our treatment with the third entry.

3. Trichomanes major Marianus longifolius; based on H.S. 158:18. = Asplenium platyneuron (L.) Britton, Sterns & Poggenb. (Fig. 1)

The label from the Transactions article is attached to a single specimen of Asplenium platyneuron, although a corner of it also touches a detached frond of the same species. Petiver provided a new name for this species, but expressed doubt that it was distinct from Ray’s (1688) Trichomanes major foliiis longis auriculatis by placing the Latin conjunction “an” (“or rather,” “or perhaps”) before the citation of Ray’s phrase name. Petiver was similarly unsure about several other names in his paper (e.g., nos. 20, 21). When he cited another author’s earlier name without comment or qualification, Petiver apparently considered it a synonym of the new (and apparently more appropriate) name he was proposing (e.g., nos. 4, 7, 11). The Ray name in this instance was first proposed by Banister whose catalogue of Virginia specimens was published by Ray (1688; see Ewan & Ewan 1970). A duplicate collection, annotated by Petiver with a direct reference to the Transactions article, is at H.S. 329:73.

4. Adiantum Americanum; based on H.S. 158:20. = Adiantum pedatum L. (Fig. 1)

There are two labels associated with but a single specimen, the printed label taken from the Transactions article, and a handwritten Petiver note, “Marilyn W. Brown,” that has caused us considerable difficulty. We have little information about William Brown (Frick et al. 1987). He was a ship’s surgeon who gathered plants for Petiver about Gibraltar in 1706 and 1707, and was in South Africa on the Cape in 1713 (Dandy 1958). He is not mentioned by Ewan (1969) or Stearns (1970), and when he came to Maryland and Virginia is unknown; we suspect that it was after 1700. We do not know if the specimen at hand is a Jones collection or one made by Brown.

As can be noted from Petiver’s synonymy, Adiantum pedatum was well known. Cornuti (1635) reported on 38 species that he considered to be from Canada but were in cultivation in gardens mainly around Paris. Specimens of Adiantum were gathered by Tradescant the Younger who visited the York River area of Virginia in 1637, 1642 and 1644. Tradescant’s specimens of A. pedatum, probably collected in 1637, were described by Parkinson (1640) as Adiantum Virginianum Tradescantii. The second editions of Bauhin’s Prodromos theatri botanici (1671a) and Pinax theatri botanici (1671b) also contain references to this species. Plukenet (1692) illustrated the species based on Virginia specimens probably gathered by John Banister.

Linnaeus (1753) cited, in synonymy, the Plukenet (1692, 1696), Bauhin (1671a, 1671b), Cornuti (1635) and Ray (1688) names, but did not mention Petiver’s.

5. Filix Mariana pinnulis seminiferis angustis-
( 398 )

Sect IV.

We come now to the Plants, and therein, following the Method of the Learned Mr. Ray in his History, &c. and Dr. Sloane his Catalogue of Jamaica Plants, we shall begin with the best perfect ones:

Viz.

1. **Musca Filicinus Marianus repens pinnis brevioribus.**
   This differs from our common Fern Moss in having shorter Wings set opposite from the middle Rib, which creeps along the Ground. and is not branched.

2. **Muf. Petiv.**
   **A. Branched Coraline Moss.** Muf. Petiv. 76.

3. **Ray H. Pl. 1728.**
   **Trichomanes major Marianus longifolius.**
   **An Trichomanes major folii longis auriculatis** Raai H. Pl. 1918.

4. **Cornutus his Canada Maiden-hair.**
   **Adiantum Americanum Cornuti 7. fig. Virginianum**
   **Tradescanti Park. 1050. Fruticosum Americanum Ejufd.**
   **Cornt. 7. 1050. Fig. frut. Brasiliannum CB. 555. & Prodr. 150. deq.**
   **Park. 1050. frut. Amer. fummis ramulis reflexis & in orbem expansis**
   **Pluk. Tab. 124. fig. 2.**

5. **Felix Mariana pinnulis seminiferis angustissimis.**

6. **Opoglossum Marianum linguâ dentata.**

7. **Cat. Pl.**
   **A. Gramen Panicum maximum, spicâ divisâ,**
   **aristis armatâm.** Cat. Pl. Jam. 30.

8. **Cat. Phyt. 20.**
   **Panicum Sylvestre cum aristis CB. Phyt. 20. N° 93.**
   I have added this Synonym because omitted by
   Dr. Sloane, to whom I refer you for the rest.

Figure 1.

**simis;** based on H.S. 158:11. = **Woodwardia areolata** (L.) T. Moore. (Fig. 1)

There are two labels on a specimen of Woodwardia areolata. In addition to the text from the Transactions article, there is a note in Petiver’s hand: “Maryland from Mr. Hugh Jones.” Both of these labels are associated with a fertile frond. On a sterile frond adjacent to the fertile one is another note in Petiver’s hand:

**Felix Mariana pinnulis seminiferis angustissimis Nobis**
**Act. Phil. N° 246. p. 398. pl. 5.**

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 Lonchitis major Virginiana folio vario alis Poly-pody in modum conjunctis H. Ox. Univ. 14. p. 569. Tab. 2. Fig. 24. an Lonchitis major.

This seems to be an authentic Jones collection and the material upon which Petiver based his name; at least to him it represented a new species. Bobart, writing in Morison (1699), based his description and figure on Banister material. Ray (1704) cited the Petiver description in his Supplementum (p. 58) but, as he did not see any material of this species, he did not
Small English Hairy Gras.


Gramen Cypereoides minus spicis parvulis.
A. Millet Cypereus Gras.


Cyperus gramineus paniculata sparsa subflavecente.


This is found in most watery Places in Germany, Italy, and Provence.

Gramen tomentosum Virginianum paniculata magis com-
palata, aureo colore perfusis Pluk. Tab. 29. 9. Fig. 4. Pluk. T. 299. 4. Alm. Bot. 179.

The least English Rush.


It flourisheth with us in June and July in moist, sandy and boggy Places.

Variataria foliis ex adverso nascentibus Orticae racemiferae flore Cat. Pl. jam. 50.

This Mr. Sloane observed to grow plentifully on the jam. 50.

After Americanus alsus latifolius, caule ad summum
brachiato Pluk. Tab. 79. Fig. 1. & Alm. Bot. 56.

Dr. Plukner's Figure very well resembles this Plant, the Fig. 1. Alm. Bot. 56.

Leaves are somewhat hairy, and on the back side very
full.

Figure 2.

describe the plant (Reveal et al. 1987a). Linnaeus (1753) cited Petiver's name as the only synonym when he proposed Acerostichum ar-

colatum, the basionym of the name now in use. Linnaeus took his reference to Petiver from Gronovius (1739) who based his description on Clayton 11 (BM), a collection examined by Linnaeus (Reveal et al. 1987b).

6. Ophioglossum Mariana linguæ dentata; based

on H.S. 158:11. = Ophioglossum pusillum Raf. (Fig. 1)

The Transactions label is found attached to the specimen. Ray (1704) cited Petiver and augmented the description. He might have had access to Jones material or to detailed remarks sent to him by Petiver. The specimen at H.S. 266:54 might be the basis for Ray's additions to the Petiver polynomial.
full of Veins; they are near three Inches and half long, and somewhat more than an Inch broad; are sharp at each end and Stalkless: The Flowers are white, standing on long Footstalks, and branch towards the top.

This I have observed for some Years growing in our Physick-Garden at Chelsea.

16. *Aster Marianus*, *folii rigidis*, *florisibus purpureis umbelliferis*.

17. *Aster Americanus albus*. Mæsæi Arabum exasperatis foliis, florum petalis reflexis. Pluk. Tab. 79. Fig. 2. Alm. Bot. 56.

These Flowers are very small, and stand many together, like an Eupatorium; the Calyce Tips are green, the Petala long, white, narrow, and seldom more than five or fix in a Flower.


21. *Eupatorium Marianum Melisæ foliis tenuioribus, floribus purpureascendibus filamento tibus*

An *Eupatorium Americanum Melisæ foliis magis acuminatis Pluk Tab. 87. Fig. 3. & Alm. Bot. 140.*

*Baccharis*

Figure 3.

7. *Gramen Panicum maximum spicâ divisa aristis armatum*; based on H.S. 158:27. = *Echinocloa walteri* (Pursh) A. Heller. (Fig. 1)

*Echinocloa walteri* was originally described as *Panicum hirtellum* by Walter (1788), a later homonym that Pursh (1813) corrected to *P. walteri*. The species was probably not well known to Linnaeus. A possible duplicate of the Jones collection, complete with the Petiver name and comment, is found in the John Hawkins collection (H.S. 329:72). Hawkins put together a series of folio volumes containing specimens obtained from Sherard, Sloane and Petiver, all well-curated and annotated. The label in H.S. 329 was written by Sherard.

8. *Gramen exile hirsutum*; based on H.S. 158:75. = *Luzula multiflora* (Ehrh. ex Hoffm.) Lej. (Fig. 2)

This New-World species belongs to the
Baccharis Marianus flore pulchro rubente. Flos folis Marianus foliis pyramidalibus scabris ex adverso sejilibus.

Flos folis Marianus foliis latioribus flore mixta. Flos folis Marianus foliis angustioribus fl. mixto.

Chrysantheme pilosissimum umbone purpureascende, petalis extus viridibus.

Chrysantheme Marianum foliis abrotani mariis. Nardus Americana procerus foliis caftis Pluk. Tab. 101. Pluk. 101. Fig. 1. Alm. Bot. Fig. 2. Alm. Bot.

I have observed this lately Plant for several Years in our Physick Garden at Chelsea, growing more than two Yards high, with leaves somewhat like our Goosefoot, but much larger, and underneath of an Ash Colour.

Carolina Globe-Tree.


Arbor Americana tryphyla, fructu Platanii quondammodo amulante, Lignum Fibulatum (i. c.) Button-wood no stratibus dicta Pluk. Tab. 77. Fig. 3. Alm. Bot. 47. Scabiosa dentriformis Americana, ternu foliis circa caudem ambientibus, floribus ochroleucis Alm. Bot. 336.

This formerly grew at the Physick Garden at Chelsea, and this Year I saw it in Mr. William Darby’s Garden at Hodgeson.

I have put this Plant (until I find a more proper Place) next to the Valerians, because its flowers are very like them.

Lasertia Americana Fraxini folio Mufi Petiv. 255.

Hippofelix Marianum foliis integris & trifidus. 255.

The lower leaves are more or less round or pointed, and serrated like our Catba palustris, but much smaller, not exceeding the size of the Garden Violet, which they much resemble, these stand on longer or shorter footsalks.

Figure 4.

worldwide Luzula campestris (L.) DC. complex, and while the American species was not well known in Europe in 1698, its distinctiveness was immediately recognized. Cronquist (1977) treated this as a variety of L. campestris, but Coffey (1982) maintained the species rank.

9. Gramen Cyperoides minus spica parva; based on H.S. 158:57. = Cyperus flicinus Vahl. (Fig. 2)

There are two labels associated with the specimen, the printed one, which is placed across the middle of the plant, and a small one handwritten by Petiver that reads “Virg. Marsh.” The latter refers to James Marshall (fl. 1695–1705), a surgeon who collected
sheathed at the Base, those above are wholly vaginated (or sheathed) and come trifoliately at every Joint; its Flowers are small and yellowish.

A. Our leaf Water-Parsnip with various Leaves.
C. H. Pl. 444. F. min. amphiacanthum foliis variis Pluk. Tab. 61. Fig. 3. pubilium fol. variis ND. Phyt. Brit. 4q. puniceum foliis inferno Funiculacis superne lobatis Moris Tab. ineditis.

33. Symphytum Marianum foliis Echii latioribus.
Thea Leaves are near an Inch broad, and between Two and Three long, are let alternately close to the Stalks, and taper at each end; its Texture very much resembling our Vipers Bugloss, but broader.

34. Tencrium Marianum Spicatum Menthe folio.

35. Mr. Ray’s Virginia Snake-weed.

Pulegium Virginianum nonnullis, alis Serpentina aut Colubrina Virginiana Raii H. Pl. 534.
P. Virgin angustifolium Serpentina diutum floesculis in cy-

mis. Pl. angus. angusti rigidique folio Viig. floesculis in cynmis. Pluk. Tab. 54. Fig. 2. &

A. H. Pl. 54.
B. A. B. 110.
C. Pulegium Cervino quodammodo accessus capitata, Chamaepiyes Atriatæ ceruleæ foliis & facie Breyn. Prodr. 2.

Sauarea Virginiana Herm. P. Bet. 218. Fig. & dehi.

floribus in sommitate dispositis H. A. L. Bat.

Dr. Herman’s Virginiana Wild Basil with yellow

H. A. L. Bet. 110.

Clinepodium Virginianum angustifolium flore luteo D. de Maresse H. A. L. Bat. 107. Virg. angustif. floribus amplis

data pro parco maculatis, cajus caulis sub quo vis verticillo

A. B. 110. Vel flores ultimales fructus circumsicatus

A. B. 111.

Figure 5.

plants in Virginia prior to 1698 (see Mus. petiver. p. 22, no. 178, and p. 25, no. 235). We cannot now determine the actual collector of this specimen.

10. Cyperus gramineus Milliacus; based on H.S. 158:60. = Scirpus cyperinus (L.) Kunth. (Fig. 2)

This species was well known to pre-Linnaean authors such as John Gerard (1633) and John Ray (1688), for it was rather common in the coastal regions of North America, was easily recognized, and introduced early into Europe. It was collected by most naturalists who visited colonial Maryland.

The large plant mounted in the center of the page at H.S. 158:60 is Scirpus cyperinus.
An inflorescence of *Juncus biflorus* Elliott is mounted to the upper right. Three labels are attached to the *Scirpus*; a fourth is in the lower left corner of the page. The *Transactions* label is attached across the leafy bracts above the inflorescence at the top of the page. The label at the lower left corner was handwritten by Petiver and bears information included in his published remarks (fig. 2): “A Cyperus Gra-


Another handwritten Petiver label is pasted over the stem near the base of the plant: “Cyperus Mary. panicul speciosissima aurea M.P. 588.” This refers to a polynomial in *Musei peterianian*: *Cyperus Marianus paniculat speciosissima aurea*, a species based on a specimen of *S.*
Ions of Cyder, till but two Quarts remain, and being strained, they drink half a Pint of it every Morning, either alone, or mixt with any other Drink.
He assured me it cured him, and several others in the same Ship he came from thence in.
Spike-flowed Meadow-sweet.

Gentiana major Virginiana, floribus amplis ochroleu-
Flb. 186. cis Pluk. Tab. 186. Fig. 1. & Alm. Bot. 166.
Fig. 1.
Alm. Bot. 166.

These Leaves are very like those of Sopo-wort, and stand cross-wise, or alternately opposite, convoluting the Stalk, which is round.
Its Flowers one Inch and three quarters long and pale, growing towards the top of the Stalk; its Calyx half an Inch deep, and then divides into five narrow greenish Beards three quarters of an Inch long, reaching almost to the Dents or lower Angles of the Flower.

Gentiana major Virginiana, flore carulo longiore Morif.
Morif. Tab. inedit. Fig.
These Leaves stand also opposite like the last but are much narrower and glaucous underneath.
The Flowers blew, and broader at the Top than the last, and the Segments or Angles, not so sharp nor deeply indented, the Calyx like the other, but the foliaceous Beards shorter.

Erinus Marianus ferre umbellatus, Majorana folio.
Perfoliate Venus Looking-glass.
Speculum Veneris perfoliatum feu Viola pentagona
Perfoliata Raii H. Pl. 743.
Campanula pentagonia perfoliata Morif. H. Ox. 457.
Stell. 5. Tab. 2. Fig. 23.

Orobry-
cyperinus gathered by Charles Coombs. That collection is actually at H.S. 158:56, and the label on page 60 is misplaced.
The largest and clearest handwritten label is at the bottom of the page, pasted over a portion of the lower stem of the Scirpus specimen. It states: "This large grass I got at Str Nathi Johnsons it flowers in July—I know not the name it grows in a meadow." The handwriting and the reference to Sir Nathaniel Johnson, who was the proprietary governor of South Carolina, point to William Halstead as the collector. He was a ship's captain and long-time correspondent of Petiver's. Referred to as "Major Halstead" by Petiver (1703) or "William Halstead" by Dandy (1958), he was apparently active in South Carolina from 1700 to perhaps 1703. Johnson's home, from

American Scarlet Cardinal-Flower.
Flos Cardinalis Barberini Col. in Hernand. 880. Fig. 47. Park. Para.
Rapuntium galeatum Virginianum f. Americanum cocineo flore majore Moris. H. Ox. 466. Sect. 5. Tab. 5. 745. Fig. 54.

Campanula minor Americana, foliis rigidis f. caruleo patulo H. A. L. Bat.

Digitalis Mariana Persica folio. 49.
This I take to be the Humming Bird Tree, figured in Joffelin's New-England Rarities.
The leaves stand opposite on half Inch Footstalks, above four inches long and three quarters broad.

Digitalis Mariana Filipendula folio. 50.
The Flowers of this elegant Plant stand on naked Footstalks near an Inch long, they generally grow by pairs one against the other, each divided into five equal round Segments like those of Yellow Tobacco, but three times bigger; there are six in a Calyx whose Divisions are fringed like a Lobe or Wing of its Leaves. Its Style is threadly, and about an Inch long. Aleto-

whence came the specimen, was at Silk Hope, near Charleston. Petiver added the small notation “M.P. 386” to the corner of this label. It refers to a 1699 edition of Musei petiveriani where Petiver gave the phrase name Cyperus marianus Miliiacus, paniculú villosa speciosissimá. This name is also found associated with the specimen of Juncus biflorus at H.S. 158:60.

Also added to the Halstead label is the word “Krieg,” written in pencil by James Britten, a former British scholar on the Sloane Herbarium (Dandy 1958). Britten added this annotation to a number of labels, all of which seem actually to be Halstead’s. As a result of Britten’s error, many of Dandy’s references to Krieg collections are incorrect.
51. *Aleflorolophus Marianus Blattariae folio.*

The leaves are deeply cut into eight or ten serrated lobes, which for the most part stand opposite, each leaf is about the length of the footstalk it stands on, viz. if full grown, five inches, or thereabouts.

Its seed vessels are oblong pointed *Huks*, which open on the upper edge; they grow in a spike on each side of the stalk, and are guarded, especially the upper side, with a heavy membranaceous *Calyx*.

*Crateogenon Marianum flore caeruleo.*

*Turritis Mariana filiquis dependentibus, uno versu dispositis.*

The pods are about two inches long, flat, somewhat crooked, and end as it were in a blunt spine, they stand on half inch footstalks, and are thin set on all sides the stalks, but have a Tendency only one Way.

*Cornutus bis Canada Celandine.*

*Chelidonium maximum Canadense* 

fig. Park. 617. Moris. H. Ox. 257. Selé 3. Tab. 3. Fig. 1. Raini H. Pl. 1887.

*Moris. H.*

*Ranunculus Virginianus abbus Park. 327. Fig. an Virginianus Muf. Trad. 160?*

*Papaver corniculatum seu Chelidinium humile cauliculudo, flore albo squamato Alm. Bot. 280.*

*Chamaesype Mariana ramossima dichotomos, foliis Polygoni minoribus.*

*Chamaesype Mariana Lythrae campestris Gerardi folio.*

N. B. The remaining Herbs and Trees, with some Fossils and Animals, not here mentioned, shall be the Subject of another Paper.

III. Captain

11. *Cyperus gramineus paniculá sparsá subflavescente;* based on H.S. 158:57. = *Cyperus diandrus* Torr. (Fig. 2)

*Cyperus* is a large and complex genus with many Old and New World species. As can be seen in Petiver's synonymy (fig. 2), he felt that the Maryland plants were well within the bounds of a European species that is today known as *C. flavescent L.*

12. *Gramen tomentosum Virginianum paniculá magis compactá, aureo colore perfusá;* based on H.S. 158:80. = *Eriophorum virginicum L.* (Fig. 2)

Virginia cottongrass was apparently first collected by John Banister, whose material was named by Plukenet (1696; see t. 229, f. 4). Petiver correctly associated Plukenet's name with the Jones specimen that is the only plant
at H.S. 158:80. It bears the printed text from the Transactions article and a separate label with "Maryland" in Petiver's hand. Another handwritten Petiver label bears the descriptive name given to the same species by Bobart (Morison 1699): "Gramen tomentosum Virg. capitulo amphori folio & foliaco Bob. Ox. 224. 2. S. T. 9. Fig. a D. Banister." We assume that Petiver's specimen is a Jones rather than a Banister collection.

13. Juncellus Lobelii; no voucher specimen found. (Fig. 2)

According to Linnaeus (1753), the synonyms cited by Petiver (the Ray citation is on page 1305, not 1304 as stated by Linnaeus) apply to Scirpus setaceus L., an Old-World species. There are a number of unlauded members of the genus Scirpus in H.S. 158, but except as already noted, none could be associated with Maryland or Hugh Jones.

14. Parietaria folis ex adverso nascentibus Urtica racemiferae flore; based on H.S. 158:90. = Boehmeria cylindrica (L.) Swartz. (Fig. 2)

The specimen is mounted on a sheet of white paper that in turn is mounted on the page. Similarly mounted Maryland specimens are found elsewhere (e.g., H.S. 159:93 and 249:23 are reproduced in Stearns 1970), and all of them seem to be traceable to Hugh Jones.

The phrase name on the Transactions label has lines drawn through it in ink (by Petiver?). We have been unable to determine the significance of this marking, which also appears on Transactions labels found with other specimens. It is possible that Petiver was attempting to indicate a change in the phrase name of the species, or was indicating that the specimen at hand was not the collection on which he based the name.

In the upper left corner of the white sheet is a note in Petiver's hand, "Mus. Petiver: 499," which refers to a phrase name he proposed in a 1699 number of Musei petiveriani: Urtica Marian [sic., Marianae] mitis, spicá speciosá preténtae. No other specimen in Petiver's collection bears the number 499, and apparently he based both phrase names on the same specimen. We surmise that in 1699 he no longer believed this plant to be the same as the one described by Sloane, but to be a new species, and that he therefore crossed out the name suggested earlier for the Jones collection.

Plukenet (1700) described the same species as Urtica minor iners Marianæ, seminibus ex alis foliorum racemosi, non ramosis, based on a specimen in his collection (H.S. 88:142) that might have been collected by Jones. Ray (1704) provided a longer and more detailed description of the same species. He cited both the Petiver (1698) and Plukenet descriptions, but drew his characterization from Krieg and Vernon material (H.S. 37:66.1; see Reveal et al. 1987a).

15. Aster Americanus albus latifolius, caule ad summum brachiatum; based on H.S. 158:114. = Sericocarpus asteroides (L.) Britton, Sterns & Poggenb. (Figs. 2, 3)

16. Aster Marianus, folis rigidis, floribus parvis umbelliferis; based on H.S. 158:114. = Sericocarpus asteroides (L.) Britton, Sterns & Poggenb. (Fig. 3)

Petiver described Sericocarpus asteroides (syn. Aster paternus Cronq.) twice, once under Plukenet's (1696) name, and once under a new name. Plukenet had based his description on Banister material from Virginia. Later (1700), he described the same species as Aster Marianicus Patinumae capitulis, flore albo, Baccharidis Monspeliensium folio and illustrated it (t. 340, f. 3; see Reveal et al. 1987a).

H.S. 158:114 contains a number of different specimens and notes. Two species of Aster are present: A. infirmis Michx., a small fragment at upper left with no label information, and A. acuminatus Michx., the largest specimen on the page, in the middle, with a label indicating that it is a garden specimen sent to Petiver by the French botanist Sebastien Vaillant.

The remaining six specimens on the page are fragments of Sericocarpus asteroides. The two on the left are partially covered with the
Transactions text referring to species no. 15. As the text was cut from both page 399 (fig. 2) and 400 (fig. 3), it is in two pieces, that of page 400 being pasted above that of 399. At the bottom of the folio page is a handwritten Petiver label: “Aster Amer. alb. latif. Pluk. 79 f. 1. Act. Phil. n. 246. p. 399. pl. 15. MAR. 15. HH 114.” This note refers to Plukenet’s (1696) phrase name and Petiver’s description, and indicates that the label goes with material on page 114. We assume that this is the Jones collection rather than a garden specimen.

Four fragments of Sericocarpus arboresoides are found on the right side of the folio page. The Transactions label (no. 16) is glued across the base of only one specimen (lower right), but is placed so as to refer also to the two adjacent flowering stems. Another handwritten Petiver label, glued to the bottom of the page next to his note on no. 15, reads: “Aster Marianus foliis rigidis filb parvis umbelliferis Act. Phil. n. 246. p. 400. pl. 16. HH 114,” alluding to his published description. For the three other fragments there are several notes and labels. The plant at upper right has a small label stating “Mar. W. Br.” (Maryland and William Brown). Another fragment has a similar one stating “Vir. W. Br.” (Virginia and William Brown). The largest plant on the right bears a large label written by Petiver but in a large, clear hand: “Aster Mariana folys rigidis A. P. a D. C. Coombs collect.” This refers to Petiver’s description of Aster Marianus folis rigidis (no. 16), and indicates that it is a specimen gathered by Charles Coombs. With another pen, and in different ink, Petiver added information to his previous remarks. Between “marianus” and “folios” he interpolated “filis parv” (floribus parvis), and a third, unreadable word; it is not “umbelliferis.” Below his original remarks, he also added—probably at the same time as the interpolation—“Mar Cooms” and “Virg. W.Br.”

Dr. Charles Coombs was a ship’s surgeon of whom Petiver wrote, in a 1699 issue of his Musei petiveriani, “was so kind to collect me some Plants at Calabar, on the Coast of Africa; as also some other with some Insects from Maryland.” We know nothing more about him except that he probably came to Maryland aboard a ship carrying African slaves. We do not know when he was in Maryland, or on what ship he traveled. Krieg and Vernon made no reference to him, nor did Jones. When Petiver wrote the fourth and fifth parts of his Musei petiveriani on 31 August 1699, he referred to Jones, Krieg and Coombs as all having collected in Maryland. We cannot tell whether Petiver received Coombs’ material before or after that from the others. The description of Aster Marianus folis rigidis was drawn from a Jones collection, and therefore it is likely that Coombs material came to London in early 1699 (Reveal 1983).

Mounted on the back of H.S. 158:113, and therefore facing page 114, is another specimen of Sericocarpus arboresoides. This has “H.J. 16. a Carol. Halst. B.” written above “HH 114” and “MAR. 16”; all are in Petiver’s hand. We believe that these references allude to a William Halstead (Halst.) collection from South Carolina (a Carol.) which Petiver correctly equated taxonomically to the Hugh Jones (H.J.) collection at H.S. 158:114 (HH 114), and reported as number 16 in his Transactions (MAR. 16) article.

17. Aster Americanus albus, Mezerei Arabum exasperatis foliis, florum petalis reflexis; based on H.S. 158:116. = Sericocarpus linifolius (L.) Britton, Sterns & Poggenb. (Fig. 3)

A single specimen of this species is located on the upper left of the page and is accompanied by the Transactions label. There are no other annotations associated with it, except for a penned “Pet. Trans. p. 400.” A duplicate specimen at H.S. 329:101 is annotated by Petiver with the above phrase name and a direct reference to his Transactions article.

The Plukenet (1696) description cited by Petiver was probably based on a Banister col-
lection from Virginia. Later, Plukenu (1700) described the same species as *Aster Marianus Ptarmicae capitulis, Conyza albae acris folio angusto splendente glabro*, based on a specimen at H.S. 92:32 that was probably gathered by Krieg (Reveal et al. 1987a).

When Linnaeus (1753) described *Conyza linifolia*, the basionym of *Sericocarpus linifolius*, he made no reference to any Maryland material.

18. *Chrysanthemum Americanum laciniato folio majus*; no voucher specimen found. (Fig. 3)

*Rudbeckia laciniata* L. was well known to pre-Linnaean naturalists, and frequently reported in the literature. The references cited by Petiver apparently do apply to this species, yet no specimen of it that bears a Maryland attribution has been found among the Petiver collections. The species is rare in Maryland (Broome et al. 1980) and has not been found in other collections of Maryland plants that we have examined at BM and OXF. The Jones specimen probably would have represented the coastal var. *digiata* (Miller) Fiori.

19. *Virga aurea* Americana *Tarragonis facie & sapore, paniculâ speciociissimâ*; based on H.S. 158:131. = *Solidago odora* Aiton var. *odora*. (Fig. 3)

Two fragmentary specimens of this species are found on the lower right side of the page. They are somewhat separated from each other and the *Transactions* text. Both specimens are in late fruit, and, significantly, on the labeled specimen many of the heads are shattered. A second annotation also applied to this specimen reads “H.P. 19—a Carol. pl. Ed. B.” We assume that “H.P. 19” refers to number 19 in the *Transactions* paper, as there is not a *Virga* numbered 19 in Ray’s (1704) listing of Petiver’s herbarium. The remaining comment refers to Edmund Bohun (fl. 1699–1703) of Charles Town (now Charleston), South Carolina, a correspondent of Petiver’s who gathered plants near that city in 1700 with Robert Ellis (Dandy 1958; Stearns 1970; Reveal 1983).

This specimen is difficult to identify because of the shattered involucres. However, the nearby unlabeled fragment is clearly *Solidago odora*, and we assume that both represent the same species and perhaps the same collection. The Plukenu (1696) name cited by Petiver was based on specimens of *S. odorae*.

20. *Eupatorium Marianum folis Melissae rigidiioribus*; based on H.S. 158:127. = *Eupatorium sessilifolium* L. var. *sessilifolium*.(Fig. 3)

The relevant specimen is mounted at the upper middle of the page, and is the only one labeled with the *Transactions* text. The label has ink strokes running diagonally across part of the text, and, as before (see no. 14) we are uncertain what this means. Perhaps it signifies that the specimen is not the Jones collection upon which Petiver based his original name, or perhaps it indicates nothing more than the use of spoiled galley proofs. A William Brown collection is also on the same page and is identified as the same as the species treated here: “an Eupator MAR. meliss. rigior. MAR 20 MAR. W. Br.” The annotation was written by Petiver. This is actually *E. rotundifolium* L. The Plukenu (1696) name *Eupatoria Valerianoides flore niveo, Teuci foliis cum pediculis Americana*, that Petiver cited in synonymy, applies to *E. sessilifolium* and not to *E. rotundifolium*. We assume that Petiver simply misidentified the Brown collection, and that it should not be considered representative of his 1698 name.

21. *Eupatorium Marianum Melissae folis tenerioribus, floribus purpurascenibus filamentosis*; based on H.S. 158:126. = *Conoclinium coelestinum* (L.) DC. (Fig. 3)

There are a number of specimens at H.S. 158:126; the largest of them, in the lower right corner, is labeled with the *Transactions* text. Several specimens appear to be from Virginia, a few from Maryland, and most are attributed to James Marshall. Some, however, bear the annotation “York R. Ayrey,” which would seem to imply the York River of Vir-
ginia and James Ayrey, Petiver’s London Quaker friend. Ayrey was never in the New World, and thus this represents an example of a specimen gathered in Virginia and given to Petiver by someone whose name was substituted for the collector’s. Virginia specimens attributed to Samuel Doody were similarly collected by others and only transmitted to Petiver by Doody. A duplicate of the Jones collection, annotated with the Transactions name, is in a Hawkes volume (H.S. 329:96).

This distinctive species was well known to pre-Linnaean authors. Plukenet (1700) described it as *Eupatorium Marianum Scrophulariae folis, capitulis globosis, colore caelestino* (based on a specimen at H.S. 92:61) and illustrated it as well (Plukenet 1705; t. 394, f. 4). Linnaeus (1753) cited the Plukenet polynomial when he proposed *Eupatorium coelestinum* (Reveal et al. 1987b). Plukenet based his name on either a Jones or a Krieg collection.

22. *Baccharis Marianus flore pulchre rubente*; based on H.S. 158:120. = *Pluchea odorata* (L.) Cass. var. *succulenta* (Fernald) Cronq. (Fig. 4)

There are three specimens at H.S. 158:120, all of which are *Pluchea odorata* var. *succulenta*, a taxon once called *P. marilandica* (Michx.) Cass. (based on *Coryza marilandica* Michx.). The uppermost specimen bears the Transactions label. Below that is a small fragment with a tiny label annotated “MAR. W.Br.” by Petiver. The third specimen, immediately below the other two, bears a large label with three different polynomials: “Baccharis Mariana Dipsaci minoris folio Mus. Pet. 614,” “Baccharis Mar. Inguinalis folio M.P. 615,” and “Baccharis Mar. Persicae folio M.P. 616.” It is possible that this single label refers to all three specimens, and that Petiver proposed a unique name for each fragment when he published the polynomials in a 1699 issue of his *Musei petiveriani* (Reveal et al. 1987a). The third (or lowermost) specimen bears no indication of a collector.

23. *Flos solis Marianus foliis pyramidalibus scabris ex adverso sessilibus*; based on H.S. 158:151. = *Helianthus divaricatus* L. (Fig. 4)

The Transactions label is pasted across a specimen in the upper right corner of the page. This label is just under the inflorescence. Near the base of the plant is a second annotation, written in ink by Petiver: “A sort of snakercot hald St. Andrews Cross ye longest part of whose root always bends to ye East. Lawson.” The latter reference is to John Lawson (d. 1711), the North Carolina collector who was the surveyor-general of the colony from 1700 until his death. He collected plants for Petiver in 1710 and 1711 (Reveal 1983). The common name “St. Andrews Cross” is usually applied to species of Hypericum, notably *H. stans* (Michx.) Adams & Robson, and it is likely that this label is misplaced. On the same page are two Marshall collections of *Helianthus divaricatus*, on the left side, and two specimens of *H. hirsutus* Raf., at right which lack annotations.

24. *Flos solis Marianus foliis latioiribus flore mixto*; based on H.S. 158:153. = *Bidens laevis* (L.) Britton, Sterns & Poggenb. (Fig. 4)

25. *Flos solis Marianus foliis angustioribus fl. mixto*; based on H.S. 158:153. = *Bidens laevis* (L.) Britton, Sterns & Poggenb. (Fig. 4)

Petiver believed that he had two species of *Flos solis*, or sunflower, and distinguished them by leaf width.

There are five fragments at H.S. 158:153. The Transactions label for the first polynomial (no. 24) is pasted across the base of one flower-bearing stalk and does not touch other specimens. That of the second name (no. 25) is pasted across the base of another flowering stalk, and also touches a stem fragment that bears two opposite leaves. A stalkless flower and another stem fragment with leaves are without labels. The latter leaves are a little broader than those associated with number 25 and may actually belong with the fragment labeled with the text for number 24 which has “foliis latioiribus.” All specimens are re-
ferable to *Bidens laevis*, which Linnaeus (1753) described originally in *Helianthus* (Reveal et al. 1987b).

**26. Chrysanthemum pilosissimum unbcone purpurascence, petalis extus villosis;** based on H.S. 158:146. = *Rudbeckia hirta* L. var. *hirta* (Fig. 4)

There are only two specimens at H.S. 158:146, one labeled with the *Transactions* text. Both are *Rudbeckia hirta*. Although this is now the Maryland state flower, only Dillenius (1732), other than Petiver, mentioned that it was found in Maryland. Linnaeus (1753) reported the species from only Virginia and Canada.

**27. Chrysanthemum Marianum folis abrotani mariis;** based on H.S. 158:145. = *Coreopsis verticillata* L. (Fig. 4)

This species, new to Petiver, may have been new to all science when Jones sent him specimens from Maryland, although Banister might have made a drawing that is now lost (Ewan & Ewan 1970). Linnaeus (1753) knew it only from John Clayton’s specimens gathered in Virginia and described by Gronovius (1739), who mentioned a Plukenet (1700) name, *Chrysanthemum Marianum, Scabiosa tenuissimê divisis folis*, which Linnaeus also cited. Plukenet also illustrated the species (1705, t. 344, f. 3, see H.S. 93:98). His specimen was probably collected by Jones or Krieg (Reveal et al. 1987b). This Plukenet name, and another that he proposed, *Chrysanthemum Peucedani foliis*, appear along with the *Transactions* label with the Jones specimen.

**28. Nardus Americana procerior foliis caesitis;** no voucher specimen found. (Fig. 4)

We have found no Petiver specimens that shed any light on the exact identity of this species. The Plukenet (1696) synonym given by Petiver, and Petiver’s remarks, suggest *Calcaia atriplicifolia* L. Plukenet’s specimen is at H.S. 97:17. Specimens of *C. atriplicifolia* are found among the Petiver volumes, and it is possible that the Jones specimens are there but unannotated. Banister had collected the species in Virginia, and it is likely that seeds from him were planted in the Chelsea Physic Garden, rather than seeds gathered by Hugh Jones. Therefore, Maryland material was likely not the source of the plants described by Petiver.

**29. Valerianoides Americana flore globoso, Pis- haminis folio;** based on H.S. 158:159. = *Cephalanthurus occidentalis* L. (Fig. 4)

Two specimens of *Cephalanthurus occidentalis* are at H.S. 158:159. The *Transactions* label is pasted on the page at the base of the upper specimen. The lower specimen has a printed label taken from *Musei petiveriani* (species number 293; a name Petiver published in May of 1698, several months before the November *Transactions* article appeared). We do not know if this second specimen is a Jones collection from Maryland or not.

**30. Laserpitium Americanum Fraxini folio;** based on H.S. 158:161. = *Thaspium barbinode* (Michx.) Nutt. (Fig. 4)

Although it is often difficult to distinguish between *Thaspium barbinode* and *Zizia aptera* (A. Gray) Fernald (see no. 31), Petiver was successful in doing so. He arranged both species on the same page with specimens of *T. barbinode* on the left and those of *Zizia* on the right.

Among the labels associated with the *Thaspium* collections, the *Transactions* label is pasted across the bases of two specimens, each bearing leaves and an inflorescence. On the same two specimens is another printed label, this one from one of Petiver’s 1698 issues of *Musei petiveriani*. Both specimens may be from the same plant, as the base of that on the right seems to fit the broken stem of that on the left. It is possible that they were collected by Jones and were mentioned by Petiver in both *Musei petiveriani* and the *Transactions* paper. Immediately below these specimens is one that bears a label in Petiver’s hand citing the phrase name given for *Zizia aptera* (no. 31). This label
has subsequently been marked with two ink lines as if to indicate that it is wrong.

31. Hipposelimum Marianum folis integris & trifidis; based on H.S. 158:161. = Zizia aptera (A. Gray) Fernald. (Figs. 4, 5)

The Transactions label is pasted across two specimens, with the portion from page 401 (fig. 4) near their tops and that from 402 (fig. 5) near their bases. Two smaller fragments of Zizia aptera have three labels, all in Petiver’s hand, but it is not clear whether each label applies to both fragments or not. The uppermost states “Myrrha’s Canad. trilobata Bob. Oxon. 301.4 a G. Sherard,” referring to a Bobart description in Morison (1699) and indicating Sherard sent the specimen to Petiver. The second annotation, placed about midway on the stems of the two fragments, reads “Conanthe max. Virg. Peoni fam. foliis Bob. Ox. 288. 1. a. Banister.” This label seems to imply that a specimen, given this name by Bobart and probably a Banister collection, was given to Petiver by someone. The third label, placed near the base of only one (the right) specimen, states “Corefolius Virg. procumbens, Fumaria foliis. Bob. Ox. 303.3 a. Banister.”

Other specimens hand-labeled by Petiver with the name Hipposelimum Marianum folis integris & trifidis are at H.S. 158:161 and 249:88. There is no indication as to the collector. Based on other specimens in H.S. 249, it would seem the one specimen is probably a Jones or a Krieg specimen which Petiver obtained directly from the collector.

32. Sium minimum; based on H.S. 158:164. = Sium suave Walter. (Fig. 5)

Petiver noted the dimorphic leaf structure of Sium suave, which in many other ways is similar to the European S. latifolium L. The specimens represented by both the submersed, thin, twice- or thrice-pinnately dissected leaves as well as the larger, emergent leaves. No flowers are present. The Transactions label is pasted onto parts of the two emergent leaves and two smaller annotations are added as well; these state “Mar.”

33. Symphytum Marianum folis Echii latioribus; based on H.S. 158:169. = Onosmodium virginianum (L.) A.D.C. var. virginianum. (Fig. 5)

There are four specimens at H.S. 158:169, three of which are Onosmodium virginianum and the fourth is an unlabeled plant of Mertensia virginica (L.) Persoon. The specimen at the upper right has the Transactions label glued across the base of the stem. The upper left specimen bears a label in Petiver’s hand stating “Symphytum MAR. folis Echii rotundioribus. W. Br.” Apparently this specimen was gathered by Brown. The lower left plant lacks an annotation. However, just to the left are five handwritten labels referring to descriptions in Morison (1699). Two of them refer to Banister, and the non-Maryland specimens may be Banister collections (or garden material raised from seeds he obtained) from Virginia.

Early authors assigned specimens of Onosmodium virginianum to various genera. Plukenet (1700) referred it to Symphytum (Petiver spelled this Symphytum) while Bobart (Morison 1699), Ray (1704), Gronovius (1743) and Linnaeus (1753), placed it in Lithospermum. Ray assigned another collection of O. virginianum to Heliotropium (see Reveal et al. 1987a).

34. Teucrium Marianum spicatum Menthae folio; based on H.S. 158:189. = Teucrium canadense L. var. canadense. (Fig. 5)

There are two specimens at H.S. 158:189, Teucrium canadense on the left and Agastache nepetoides (L.) Kunzoe on the right. The Teucrium specimen bears two labels, the Transactions label and a small handwritten one stating only “Maryland.”

35. Pulegium Virginianum nonnullis; based on H.S. 158:187. = Pycnanthemum flexuosum (Walter) Britton, Sterns & Pogonemb. (Fig. 5)

A specimen at the lower left of the page is annotated with the Transactions text; it consists only of the uppermost portion of an inflores-
cence of *Pycnanthemum flexuosum*. The label covers about a third of the specimen. A second specimen of this species is in the upper right corner of the page; it is annotated “MAR W.BR,” referring to William Brown and Maryland. Also at H.S. 158:187 is a James Marshall collection of the species from Virginia.

As can be seen from Petiver’s synonomy (fig. 5), this plant was well known to pre-Linnaean naturalists. Numerous species were called “snake-root” or “snake-weed,” and their use to ward off rattlesnakes or cure the effects of their bites was of major importance to apothecaries like Petiver.

**36. Clinopodium Virginianum angustifolium flore luteo; based on H.S. 158:174. = Monarda punctata L. var. punctata. (Figs. 5, 6)**

The dotted horsemint was well known to pre-Linnaean naturalists and was probably one of the more frequently collected plants in the New World. Banister collected the species in Virginia, and Hermann (1687), Ray (1688) and Plukenet (1696) published descriptions before Jones found it in Maryland. The Jones specimen is in the upper center of page 174. It is partially covered with the Transactions label taken from pages 402 (fig. 5) and 403 (fig. 6).

On the back of page 173, facing 174, is another collection of *Monarda punctata*. It is mounted on a piece of white paper as are other specimens ascribed to Maryland and Jones. In the upper left corner of the white paper is “H. Mar. 36,” referring to Petiver’s number 36. Across the bottom of the white sheet is written “Clinopodium Virginianum angus tifolium [sic, trifolium] flore luteo Hort. Leyd. 107.” It is possible that this is a duplicate Jones collection. At upper left on page 174 is another specimen of *M. punctata* with a label written in a large, neat, sweeping hand: “this plant flowers in October I got it at home on Ashley River.” In pencil, James Britten wrote “Krieg,” another example of his confounding Halstead’s and Krieg’s handwriting. The collection was made along the Ashley River in South Carolina, where Halstead lived in 1701.

**37. Horminum Marianum folis pilis albis aspersis; based on H.S. 158:178. = Salvia lyrata L. (Fig. 6)**

Petiver considered this to represent a new species of *Horminum*, a pre-Linnaean segregate from *Salvia*. The Maryland specimen is at the top of H.S. 158:178 and consists of a large rosette and four flowering stems. The Transactions label runs across the stems, one of which is large and extends nearly the full length of the page. At the base of this branch, which bears a few cauline leaves, is another label, written in ink by Petiver: “Horminum Carol. fol. integris ramosum Bob.” It is impossible to know whether this specimen is from Maryland or, instead from the Carolinas, as implied by the Bobart polynomial (Morison 1699). Also on the page are additional specimens of *S. lyrata* from Maryland. These were gathered by Coombs.

**38. Scutellaria Virginiana Hyssopi annuus foliis, flore caeruleo; based on H.S. 158:172. = Scutellaria hyssopifolia L. (Fig. 6)**

Petiver regarded the Jones collection from Maryland to be taxonomically the same as the species found in Virginia by Banister and named by Plukenet (1696). A total of 14 fragments, not all labeled, and not all members of the genus Scutellaria, are found on page 172. Our evaluation of this page is as follows:

The Transactions label is associated with four fragments. Two of them are from Maryland. The second and third from the upper left corner of the page are *Scutellaria hyssopifolia*. The other two are *Linaria canadensis* (L.) Dum. (the specimen is poor and our identification is tentative) and *Stachys hyssopifolia* Michx. Associated with the two *Scutellaria* specimens is a label in Petiver’s hand stating “Cassida Mariana Hyssopi folio Act. Phil.” At the extreme upper left, and not touched by the Transactions label, is another species of *Scutellaria hyssopi-
folia, with a Petiver annotation: “Cassida Marianae Hyssopi folio Maryland.”

The significance of the Petiver polynomials, both as published and on his annotation labels, has been discussed elsewhere (Reveal 1986; Reveal et al. 1987b). Sufﬁce it to say here, the resulting typiﬁcation of Scutellaria hyssopifolia means that this name must be applied to what has long been known in the literature as S. integrifolia.

A duplicate of the Jones specimen is in a Hawkes volume (H.S. 326:1402); it is annotated by Petiver with a direct reference to his Transactions article.

39. Ranunculus Thalictrum folio radicis grumosa; based on H.S. 158:195. = Anemonella thalicroides (L.) Spach. (Fig. 6)

The Jones collections of Anemonella thalicroides are clearly marked, and the Transactions label is pasted across all specimens of it on the page. The species was already well known in European gardens in Petiver’s time and it was frequently reported in the early literature.

40. Passiflora Hepaticae nobilis folio parvo non crenato, ﬂore ex luteo viridante; based on H.S. 158:203. = Passiflora lutea L. (Fig. 6)

Passionﬂowers were keenly sought by early naturalists. The yellow-ﬂowered species of eastern North America was no exception and, as can be noted from Petiver’s long list of synonymy, it was well known to pre-Linnaean authors. Two species of climbers are at H.S. 158:203: Passiflora lutea, annotated with the Transactions text, and Melothria pendula L. It is interesting to note that the latter, which was found in Maryland in the 1690s, was not re-collected in the state until the 1970s, and then as a weed on the University of Maryland’s, College Park campus. In the subsequent decade it has been found elsewhere in the state.

41. Christorphoriana Americana racemosa baccis niveis et rubris; based on H.S. 158:208. = Cimicifuga racemosa (L.) Nutt. (Figs. 6, 7)

There is only a single, large specimen at H.S. 158:208, yet it presents difficulties all too typical of the Petiver volumes. The Transactions label is pasted across the base of the specimen. Across the long, ﬂowering stalk is a label written by Petiver: “Christophoriana americana baccis rubris H. Ox. p. 501. p. 8. pl. 7. Tab. 2. ﬁg. 7. Aconitum baccis rubris Corn. 77. El. Bot. S.R.H. 299 Smart 12.” Below that, written in what we take to be Smart’s hand, is the following characterization:

The seed vessels grow on a long spike near 2 spans long & sometimes branched much resembling Blat-taria but stand on 9 inch footstalks each capsule cracks or slits from its apex along one side only of a brown parchment substance each containing 8 or 9 seeds joyned together which when parted are angular like ye branched Always so that these are not properly berries but uviﬁers Capsules.

In his own words, this plant was “gathered the begining of Sepr. Ano. Dom: 1708 in Sarsafras River in Mary-land by Mee J. Smart” (Dandy 1958; Frick et al. 1987; this statement is taken from Smart’s list that is found at the beginning of H.S. 158). Smart made a collection of 14 plants from Maryland, but specimens of only a few are extant as we have noted (Frick et al. 1987). Dandy (1958) reported just two collections, but we have found seven. Smart is perhaps best known for the 99 specimens he collected in the Hudson Bay region, most of which are extant and in the Sloane Herbarium. These were among the first plants from that area of Canada to be taken to England (Stearns 1970).

We do not know who actually collected this specimen. As can be seen in the Petiver’s text (ﬁgs. 6, 7), this might have been a Fisher collection. This person is not otherwise identiﬁed, but he might have been John Fisher who witnessed the will of Hugh Jones (Frick et al. 1987). McAtee (1918) suggested that Fisher’s plant might have been Actaea pachypoda Elliott, but he never examined this specimen.
42. Barba Capri; no voucher specimen found. (Fig. 7)

Petiver's synonymy refers to the male plant of *Aruncus dioicus* (Walter) Fernald, but we have found no specimens of this species that we could assign to Jones or to Maryland.

43. Gentiana major Virginiana, floribus amplis ochroleucis; based on H.S. 158:213. = *Gentiana villosa* L. (Fig. 7)

This polynomial was proposed by Plukenet (1696) and illustrated by him (t. 186, f. 1) in 1692. Two possible vouchers for his illustration are among his collections (H.S. 96:52, 100:92), but these are not exactly equal. A specimen annotated with this name by Sherard is in the Reverend Robert Uvedale collection (H.S. 308:1114); it most closely resembles the original illustration. All of these specimens are *Gentiana catesbaei* Walter and we believe Petiver misidentified the Jones specimen.

There are two species of *Gentiana* attributed to Jones, plus an additional item, at H.S. 158:213 (see also no. 44), and the specimens, along with their associated labels, are difficult to interpret. It is our opinion that when the *Transactions* labels were attached to the Maryland specimens, they were confounded, with that referring to *Gentiana major Virginiana, floribus amplis ochroleucis* placed on the specimen Petiver named as *Gentiana major Virginiana, flore caeruleo longiore* (see Stearns 1970, fig. 16, for a photograph of H.S. 158:213).

At the upper right is a specimen consisting of the upper part of an inflorescence. Several pairs of broad, opposite leaves are present with a tight, terminal cluster of flowers. The *Transactions* label referring to *Gentiana major Virginiana, flore caeruleo longiore* is at the base of this specimen. Below this inflorescence is another one; it bears the *Transactions* label referring to *Gentiana major Virginiana, floribus amplis ochroleucis*.

On the left side of the page is a long stem bearing several pairs of broad, opposite leaves; near its base is a detached root system. At the bottom of this flowerless stem and attached over the lower portion of the detached root, is a note in Petiver's hand referring to a Banister polynomial published by Bobart in Morison (1699): "Gentiana virg. saponaria folio, fl. caerulea longiore. Bob. Ox. 484.4 (a.J. Ban.) S. 12. Tab. 5. Fig." Above this are two more annotations, both by the Reverend Joseph Lord of South Carolina. These labels make it clear that he collected the sterile specimens (the leafy stem and the roots). The first reads:

I take this to be ye first Gentian of Culpepper's description in his English Physician. It has its flowers usually at ye top of stalks sometimes 6 or 7 together; but some creature had bit off the top of this; which occasioned that flower to grow as you see. It is found beginning to blossom at ye middle of October, & continues to flower till ye frost killis ye leaves & stalk which was not this year till ye middle of December. This gathered, Nov. 8. 1707.

The second annotation accounts for the detached root: "The root of that Gentian ye stalk & flower whereof is in ye Box. Gathered Dec. 12. 1707."

The first label indicates that the specimen produced flowers in an abnormal position because "some creature had bit off the top." On the second label, Lord refers to a specimen with "stalk & flower." Yet, no flower exists that we can associate with the sterile material even though, based on the Lord notes, Johann Amman, a curator of the Sloane Herbarium, drew a line and wrote a "1" between the upper inflorescence on the right and the damaged stem on the left.

We believe the implied relationship is incorrect. First, the leaves of the two specimens are dissimilar, with that on the left being much broader than that on the right. Second, the basal portions of the inflorescence is of a different color and much thinner than the Lord specimen. Third, when comparing the specimens at the lower right, that which is annotated with number 43, with other specimens
(e.g., H.S. 249:60), we find that Petiver himself annotated a duplicate of it with his own name (no. 44). The collection in the Sherrard Herbarium (OXF) annotated by Dillenius with Petiver’s Gentiana major Virginiana, flore caeruleo longiore consists of two specimens of G. catesbaei. We can not determine where either specimen was collected.

In our opinion, the Lord specimens belong to Gentiana catesbaei Walter while the supposed Jones collection is G. villosa.

44. Gentiana major Virginiana, flore caeruleo longiore; based on H.S. 158:213. = Gentiana saponaria L. (Fig. 7)

Three labels are directly attached to the specimen of Gentiana saponaria. Across the bottom of this single-stemmed fragment is the Transactions label. Above that is one written by Petiver that gives a Bobart polynomial published in Morison (1699), along with “Virt. Marshall,” signifying Virginia and James Marshall. To this label Petiver added “Salvadore” as well. Immediately below the inflorescence is a third label, perhaps in Petiver’s hand, stating “Gent. R. MAR. 44 H. Bradly. Salvadore. D 61.” Dandy (1958) believed that “Bradly” refers to Richard Bradley (d. 1732), professor of botany at Cambridge, who sent garden specimens to Petiver. The “H” indicates “hortus” and “Salvadore” refers to Jaime Salvador y Pedrol (1649–1740) and his son Juan Salvador y Riera (1683–1726) of Barcelona. The Salvadors sent garden material to Petiver and others in England, as well as native species mainly from Spain and Portugal (Dandy 1958). This gentian is found in other Petiver volumes (e.g., H.S. 249:60) where it is annotated with the correct name (see no. 43).

Ray (1704) described both Gentiana villosa and G. saponaria as they are now known. The first he called Gentiana cruciata Marilandica, folio latiore, flore breviori, and is based on a Vernon collection at H.S. 37:114.5. As for the second, Ray cited Petiver (1698) and described the species in detail. He stated that the specimen came from Petiver ("A D. Petiver habuimus"), and it is known that Ray called upon Petiver to aid him while preparing his 1704 Supplementum. It was unlike Ray to describe a species in such detail without having seen material, and therefore we believe he examined the two Maryland specimens of G. saponaria at H.S. 249:60 (Reveal et al. 1987a).

45. Erinus Marianus serè umbellatus, Majoranae folio; based on H.S. 158:214. = Houstonia purpurea L. var. purpurea. (Fig. 7)

There is only a single specimen at H.S. 158: 214, yet two annotations are associated with it: the Transactions label and a handwritten label stating “Gotten all in the beginning of May” in what appears to be John Lawson’s hand, with “P. Mar 45. Lawson. Dupl. 64” added by Petiver. John Lawson, who was in North Carolina from 1700 until 1711, when he was killed by Tuscarora Indians for “his insolent attitude and ill treatment in land transactions” (Stearns 1970), sent Petiver plants on a number of occasions. This species of Houstonia occurs in both Maryland and the Carolinas so it is impossible to know if this is a Jones or Lawson collection. Lawson was never in Maryland, so the “P. Mar 45.” must indicate the identity of the species.

46. Speculum Veneris perfoliatum seu Viola pentagonia perfoliata; based on H.S. 158:215. = Triodanis perfoliata (L.) Raf. (Fig. 7)

There are five labels associated with this collection. In addition to the Transactions label there are two other printed ones from sources that we have been unable to identify. These list the synonyms cited by Petiver (fig. 7). One states “Onobrychis peregrina perfoliata folio rotundiori. Hort. R. Paris” while the other reads “Campanula Pentagonia perfoliata Moris. Hist. 2. 457. Onobrychis peregrina perfoliata, folio rotundiori. Cat. Hort. Reg. Parl. 132.” Neither appears to be from any Petiver publication that we have seen. The remaining two labels are in Petiver’s hand and refer to two names published by Plukenet (1700), one
based on Virginia material, the other on Maryland specimens. The Maryland label says “Campanula a. Rapunculus nemorosus cæræuleus Lamii folio, floribus spicatis minimis ex Pr. Mariana Mant. 35. p. 6.” This species is represented at H.S. 102:160 (see Reveal et al. 1987a); unfortunately, the specimen there is badly damaged and is now only a sterile stem fragment with a single capsule. It cannot be identified with any certainty, but it is definitely not Triodanis perfoliata. There is a specimen of Triodanis perfoliata at H.S. 260:39, annotated by Petiver with a reference to his Transactions article, but it is labeled “Campanula Pentagonia perfoliata H. Oxf. p. 457.”

47. Flos Cardinalis Barberini; based on H.S. 158:226. = Lobelia cardinalis L. var. cardinalis. (Fig. 8)

The cardinal-flower was well known to pre-Linnaean naturalists, and frequently collected. Seeds of this species were introduced into western Europe and established there prior to 1698. Thus the report of this plant by Petiver is not remarkable. The Transactions label is directly attached to a specimen that still retains excellent color and detail, and is most certainly the Jones collection. A second specimen of the same species is labeled “Salvadore. Virg. Marshall.” We do not know if this is a garden specimen sent to Petiver by the Salvadors, one grown by the Salvadors from seeds that were sent by Marshall from Virginia, or simply a Marshall collection from Virginia.

48. Rapunculus galeatus Virginianus, flore vioiceo major, based on H.S. 158:227. = Lobelia puberula Michx. var. puberula. (Fig. 8)

There are two specimens of Lobelia puberula at H.S. 158:227, together with one specimen of L. siphilitica L. and a large one of L. inflata L. The Transactions label is associated with the two specimens of L. puberula, in the upper center of the page, and its text is partially crossed out by diagonal, inked lines. The specimen of L. siphilitica, at upper left bears a label in Petiver’s hand that states “MAR. 48, Virg. Marshall. Maryland. Salvadore.” The specimen of L. inflata, which dominates the right side of the page, bears no relationship to our discussion.

As for the reference to Petiver’s Transactions paper on the annotation of L. siphilitica, we suspect he misidentified the species as this taxonomic confusion continued even after 1753. The Petiver label indicates the specimen to be a James Marshall collection from Virginia or a garden specimen from the Salvadors raised from seed gathered in Maryland. We cannot determine the origin of the specimen. At H.S. 264:26 is another specimen Petiver labeled “MAR. 48.” In addition this label states “H.P. 48. A Carol. ped. B.” We assume that Petiver is taxonomically associating this collection of L. puberula with the name he proposed in 1698 and the specimen was gathered in South Carolina by Edmund Bohun.

49. Digitalis Mariana Persicae folio; based on H.S. 158:247. = Chelone glabra L. var. glabra. (Fig. 8)

There are two large specimens of Chelone glabra at H.S. 158:247, with two smaller fragments of upper leaves and flowers mounted below the one at the left. The Transactions label is attached across the bottom of the left-hand specimen and a portion of one of the fragments. The large specimen on the right is apparently a garden collection sent to Petiver by Sebastien Vaillant, perhaps in 1706, as this date is written on the label in Vaillant’s elegant hand. A third annotation, in Petiver’s hand, copies Plukenet’s (1700) remarks noting the use of the common name for this species: “Dogs Snout & Dogs Mouth.”

Linnaeus (1753) cited two Maryland references when he proposed Chelone glabra. One he took from Plukenet (1700), Digitalis Mariana serratis densioribus rigidis & angustis foliis, semine Pegoppyri triquetro, basing his assessment on Plukenet’s illustration (t. 348, f. 3) and possibly a specimen bearing this polynomial that he saw at OXF (Reveal et al. 1987b).
Linnaeus did not cite Petiver (1698), but did refer to Ray's (1704) republication of Petiver's phrase name. Gronovius (1739) cited all of these polynomials.

50. Digitalis Mariana Filipendulae folio; based on H.S. 158:223. = Aureolaria pedicularis (L.) Raf. var. pedicularis. (Fig. 8)

There are two species at H.S. 158:223, including the facing page (222, verso), with numerous examples of each. Both were discussed by Petiver (see no. 51). Specimens of Aureolaria pedicularis are at the upper right of 223 and on the far left of the facing page. The only annotation associated with them is the Transactions label.

51. Alectorolophus Marianus Blattariae folio; based on H.S. 158:223. = Pedicularis canadensis L. (Fig. 9)

Ten fragments of Pedicularis canadensis are on pages 223 and 222 verso. One of them has a label in Vaillant's hand with the polynomial Pedicularis canadensis Polypodii folis. The Transactions label is attached to the base of a sterile specimen that consists only of young leaves. The other specimens, save one, are without annotations. The exception is a fruiting inflorescence and, as Petiver refers to “Seed-Vessels” with “oblong pointed Husks,” we believe it should be associated with Petiver's description. It was labeled “Maryland” by Petiver. A duplicate at H.S. 264:22 was annotated by Petiver: “MAR. 51. HH 223. Maryland.”

52. Crateogonon Marianum flore caeruleo; based on H.S. 158:224. = Buchnera americana L. (Fig. 9)

Three specimens of Buchnera americana are at H.S. 158:224. A fully mature inflorescence with a leafy stem is at lower right. On the extreme left are two specimens, one an entire plant (left) and the other an inflorescence only (right). The former, which is in early anthesis, bears two annotations: near the middle is the Transactions label and above it is another in Petiver’s hand stating “Crateogonon MAR. fl. caeruleo.” Ray (1704) discussed this species in some detail, basing his observations on Krieg and Vernon specimens. A duplicate of the Jones collection is at H.S. 264:26, where a Petiver annotation gives “MAR. 52. HH 224.”

53. Turritis Mariana siliquis dependentibus, uno versus dispositis; based on H.S. 158:238. = Arabis lyrata L. (Fig. 9)

Pre-Linnaean authors applied Turritis to various modern mustard genera of Brassicaceae. Specimens at H.S. 158:238 belong to several, among them Cardamine and Arabis. Most of the specimens, including all the Cardamine species, have annotations or labels and are not otherwise discussed here. The two specimens of Arabis lyrata are unlabeled, and cannot be linked with Petiver’s polynomial. Our association of the two is based on specimens Petiver sent to Sloane (H.S. 264:32) that he annotated “Turritis MAR. 53. HH. 238.” We conclude that these specimens are duplicates taken from H.S. 158:238.

54. Chelidonium maximum Canadense; based on H.S. 159:51. = Sanguinaria canadensis L. (Fig. 9)

A sterile specimen consisting of one large, mature leaf and two immature ones bears the Transactions label. We believe this to be the Jones collection. Also on the page is a damaged, sterile plant with a handwritten Petiver label. The label lists three synonyms, all cited by Petiver: Chelidonium maximum Canadense aculon; Ranunculus Virginiiensis albus; and Papaver corniculatum seu Chelidonium humile cauliculo nudo. Across the top is “Pocoon Virg. J. Smart. 9," indicating that the specimen was collected by John Smart, who was in Maryland in 1708 (Frick et al. 1987).

55. Chamaesycce Mariana ramosissima dichotomos, foliis Polygoni minoribus; based on H.S. 159:93. = Euphorbia polygonifolia L. (Fig. 9)

The single specimen of Euphorbia polygonifolia is mounted on a small piece of white paper attached to the folio page. The Transactions label is attached across the lower third of the specimen with “MAR. 55” added by
Petiver in the upper left corner. Ray (1704) cited Petiver’s name as a synonymy under his own Peplis Marilandica minima, which Linnaeus (1753) rendered Euphorbia minima ramosissima angustifolia (see Reveal et al. 1987a, b).

56. Chamaesyce Mariana Lysimachiae campestris Gerardi folio; based on H.S. 159:93. = Euphorbia nutans Lag. (Fig. 9)

This species is represented by specimens mounted below that of Euphorbia polygonifolia (see no. 55). The Transactions label is associated with a large specimen but also touches a small fragmentary one.

Conclusion

Although Petiver (1698) discussed more than 50 species of flowering plants and ferns from Maryland, his contributions there and in many other papers were ultimately of little direct value to Linnaeus during the preparation of his first edition of Species plantarum (1753). Few of Petiver’s new species were ever illustrated, and Linnaeus never studied Petiver’s herbarium.

Plukenet (1700) and Ray (1704) often redescribed Petiver’s species in greater detail, but without illustrations and with little direct access to Petiver’s herbarium, they made some taxonomic errors in evaluating his names and descriptions.

Gronovius (1739, 1743) occasionally mentioned Petiver polynomials. We do not know how he obtained some of this information, for it is not known if he visited England, or had other access to Petiver’s herbarium. It is known that Linnaeus visited Oxford in 1736 and that there are specimens in the Sherardian Herbarium annotated with phrase names based on Maryland collections. It has been suggested that Linnaeus determined the taxonomic disposition of some names during his visit to England, and that he reported the results to Gronovius (Reveal 1983, 1986). This information was subsequently written onto the Clayton sheets (now at BM) and included in Gronovius’ flora of Virginia (Reveal et al. 1987b).

It was Petiver’s desire to follow the Transactions paper with additional remarks about the flora of Maryland based on other Jones collections (fig. 9). He did describe some new species based on Jones specimens in his Musei petiveriani (1695–1703) and Gazophylaci naturae & artis (1702–1706), and Ray (1704) mentioned other Jones specimens in a special section of his Supplementum devoted to the Petiver herbarium. The few illustrations of Maryland species that Petiver published appeared in the Gazophylaci. The rich collections made by Krieg and Vernon during their visit to Maryland in 1698 must have discouraged Petiver from writing further papers devoted exclusively to the Jones material, especially after Plukenet’s (1700) and Ray’s (1704) publications appeared.

In retrospect it is obvious that Petiver’s flora contributed little to the growth of botanical knowledge during the Linnaean era. The Virginia collections that John Clayton made some thirty years later were far better prepared and more numerous, and ultimately were examined first-hand by Linnaeus when he stayed with Gronovius in late 1737 and early 1738. This, coupled with the floristic overlap between Maryland and Virginia, relegated Petiver’s works to relative obscurity, and the Reverend Hugh Jones of Maryland to mere footnotes in the chronicle of America’s natural history. Still, without the sacrifice made by him and his contemporaries, David Krieg and William Vernon, the early vegetation of the Maryland Coastal Plain would not now be as well known (Brown et al. 1987).

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Zizia aptera 31

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