[Ed.I, Part II, 1981, p. IV]

PREFACE

With the publication of Part I of the **ATLAS OF THE VIRGINIA FlORA**, a renewed interest in the plants and their distributions within the state spread throughout the Old Dominion. And to the long list of collectors over the many years, we may now add Stanley Bentley, Mark Boulé, Celeste Corcoran, Damon Doumlele, James Greaves, Michael Hill, Charles Leys, Margaret van Montfrans, Dwight Peake, Walter Priest, Eddie Smith, Elizabeth Train, Alan Weakley, and Lynn Whitmarsh.

Moreover, holdings in the following herbaria have been added to our maps: Bridgewater College, James Madison University, Lord Fairfax Community College, Seed Laboratory of the Department of Agriculture at Richmond, and the Virginia Institute of Marine Science.

Continuing field work by indefatigable collectors is of inestimable importance for our publication, and we should reemphasize our debts to these botanists:

William Hathaway's persisting and eclectic work ranges throughout the vast and highly diversified Pittsylvania County, and also includes botanically important areas of Franklin and Floyd counties.

Douglas Ogle continues to discover very restricted vegetational communities, with their many rare and local species, in the least-known part of the state, the southwestern region.

Robert Simpson not only covers northwestern Virginia, but adds many noteworthy and rare plants from numerous areas of the state.

Thomas Wieboldt's discriminating powers concentrate on elusive species and incredibly local populations in all regions of the Old Dominion. His recent additions to our known flora, as well as new counties and locales for rare and disjunct species, is critical for an understanding of the dynamics of our flora.

Spencer Wise contributes valuable collections, especially from the coastal fringes of the state extending from False Cape to the northern border of the Eastern Shore.

Our task was made immeasurably simpler because of extensive holdings of woody plants at the University of North Carolina, collected in large part by Fred James, and made available for our studies by A. E. Radford and James Massey.

We are especially indebted for studies of large groups of species by Gwynn Ramsey (Ranunculaceae) and Miles Johnson (Vernoniae , Eupatorieae, Cynareae, *Prenanthes*, and *Hieracium* of the Asteraceae).

For studies of other groups, we have the generous help of Richard Hoffman (Saxifragaceae), Marvin Rogers *(Linum),* Ross Clark *(Nemopanthus),* Robert Read *(Elatine),* David Boufford *(Circaea),* Peter Hoch *(Epilobium),* Gerald Straley *(Oenothera),* Martha Roane *(Rhododendron),* Gene Gonsoulin *(Styrax),* Ted Bradley (Oleaceae), Georgia Hammond (Gentianaceae), Cheryl Lawson *(Galium),* George Diggs (Campanulaceae), Donna M. E. Ware (Valerianaceae), Michael Hill *(Aster),* and Craig Nessler, Susannah von Oettingen and Veronica Terry (groups of the Asteraceae).

A major undertaking for this edition was to sketch in, much more thoroughly than herbaria holdings would make possible, the main outlines of the distributions of our weedy species. In our era, a fascinating story is being told by migrant plants which largely follow the railroads. On extensive stretches of tracks and adjacent areas, which are now largely abandoned or little used, well-drained seed beds become ripe for invasions by scores of migrating species, both native and foreign. These plants cannot compete in

areas of closed vegetational cover, but such poorly maintained spaces assure their migrations and persistence far into the future.

Distributions of the species here accepted as belonging to the Virginia flora are based on more than 300,000 specimens studied. Waifs and species of doubtful persistence will be published at a later date.

I am very appreciative of substantial travel grants from the Longwood College Research Committee for field work. We are also indebted to the Longwood Foundation for a generous grant covering the costs for printing the binomials and headings.

Ted Bradley and Charles Stevens continue invaluable contributions, not only with huge numbers of specimens from their collecting endeavors, but with help in many other phases of this work, and their botanical activities extend back through a long succession of years in Virginia.

Four species came in too late to be mapped and are here newly recorded for the state: **Geranium bicknellii** Britton, Rockingham Co. (Roe); *Prunella laciniata* L., Frederick Co. (Wieboldt); **Utricularia cornuta** Michaux, Accomack Co. (Wieboldt); and **Ribes lacustre** (Persoon) Poirer, Rockingham Co. (Roe).

A. M. Harvill, Jr.

PREFACE

Since the publication of the first edition of the *Atlas of the Virginia Flora*, in 1977 and 1981, more than 50 species new for the state have been added and mapped. In addition, 220 waifs and taxa of doubtful persistence, along with 8 hybrids, are now recognized in a list following the maps. These are arranged by families in the same order as those on the maps which, because of many requests, retain the order of the first edition: first the lower vascular plants - *Equisetum, Isoetes, Lycopodium, Selaginella, Botrychium, Osmunda,* Polypodiaceae, *Salvinia* and *Lygodium*; then the gymnosperms with families in alphabetical order. The monocotyledons and dicotyledons which follow are also in alphabetical order for easy reference.

We have also added records from the Virginia holdings in the herbaria of Old Dominion University, Randolph-Macon College and the University of Richmond. Additional contributions of specimens, information, and studies come from David Askegaard, Charles Bryson *(Carex),* Steve Croy, Richard Davis, Rebecca Bray, Wilton Fansler, Gary Fleming, Susan Grimshaw, John Hayden, Cliff Hupp, Randall Kendrick, Richard Keyser, Bruce King, Kay Kirkman, Larry Klotz, Barbara Miller, Kent Minichiello, Marcia Minichiello, Charles Moncure, Lytton Musselman, Gretchen North, Thomas Patrick *(Trillium),* Gerald Roe, Bill Scholl; Alfred Schuyler, Philip Sheridan *(Drosera, Sarracenia, Utricularia),* Melissa Stanley, Dale Thomas *(Ophioglossum),* Craig Tufts, Anna Vascott, Frank Watson and Robert Wright. Moreover, we acknowledge further assistance from William Hathaway, Michael Hill *(Sisyrinchium),* Charles Lane, Robert Simpson, Leonard Uttal and Spencer Wise.

With so much work by so many botanists over more than two centuries, and with intensive efforts by so many field and herbarium workers during the last two decades, we are building the foundations necessary for an understanding of the distributions of the species of vascular plants in Virginia. The patterns they describe and the causes of many of the apparently anomalous groupings in the state are also beginning to come into focus.

The list of waifs, etc. should be an important data base for workers in the future. As an example, *Petunia parviflora* was collected by Fernald and Long in Accomack County in 1934, the first collection north of Florida. It was not included in our Atlas in 1981 because it had not been seen in Virginia since 1934. But after about 50 years, this tropical *Petunia* was found again near Wachapreague by Ted Bradley, and later by Bill Hathaway, and is now mapped in this edition.

Because so many of our species are very localized in Virginia, it seems worth while to bring together those species which are known from only one county and to determine the patterns described by their over-all ranges, as well as their possible origins. This is the basis for part of a conspectus on distribution, which also includes a discussion of the coastal plain - mountain disjunctions and the gap in the ranges of many species in southwestern Virginia.

Gametophytes, but not sporophytes, of **Trichomanes** are known from Dickenson County, and **Vittaria** from Dickenson, Giles, Lee and Wise counties. Too late to be included elsewhere, two species have been added to the state: *Galeopsis tetrahit* L., an introduction, in Washington County, and **Prunus nigra** Aiton in Fauquier County. Since the conspectus was printed, two of the one-county species became

known in a second county, but the reasons for such colonies to be so localized remain the same.

There is still much to be done on plant distribution in Virginia. This is especially true for the southwestern part of the state, and undoubtedly Buchanan and Franklin counties could benefit most from further field work. As with the first edition of this atlas, which served us so well, we hope this second edition will encourage more botanical activity throughout the Old Dominion. - A.M.H.

Longwood College, June, 1986

POST SCRIPTUM. Since the preface was printed, Douglas Ogle has added **Sullivantia sullivantii** (T. & G.) Britton to our flora. Growing on cliffs along the Clinch River in Russell County, it is a most significant discovery because the station is the southernmost of several widely-spread but isolated populations. He has also added gametophytes of the fern genus **Trichomanes** from Giles County.

Tom Wieboldt discovered **Fimbristylis perpusilla** Harper in York County, one of the rarest species, and he also adds *Ludwigia peploides* (H.B.K.) Raven to Buchanan County.

Larry Klotz found **Carex hyalinolepis x C. lacustris** forming an extensive colony in Accomack County. This is a relictual hybrid whose parents are not known from the area today.

It has also been pointed out that **Prunus nigra** is documented for Warren as well as for Fauquier County. And with fine collections from far southeastern Virginia, Gisela Grimm and Joan Wright join the long lists of Virginia field workers.

August, 1986

After going to press, Louis Cullipher sent a specimen of *Hydrocotyle bonariensis* Lam. collected on dunes near Sandbridge, Virginia Beach.

PREFACE

While reflecting on the work with the Virginia flora during the last five years, since publishing the second edition of the **Atlas**, it became clear that this period saw greater progress than any similar period since the beginning of field work in Virginia during Colonial times. Such advances have enabled us to elucidate the mysteries of many distributional problems which are so abundant in our flora. And all of this progress has been due primarily to work of many able and enthusiastic field botanists who have added thousands of county records and 39 species new to this flora. We now have populations of 38 species recorded from every county and distributional unit in the state.

A study of herbarium resources in Virginia by Tom Wieboldt places the approximate number of specimens at 440,500. Most of them are Virginian and these, along with huge Virginia holdings in the Harvard Herbaria, the Philadelphia Academy of Natural Sciences, the National Herbarium and the University of North Carolina, form the bulk of the documentation for the distributions mapped in this volume. Our maps now show patterns of distribution reasonably well and one can rely on them for any purpose.

We are also fortunate that previews of the maps for this edition were made for additions and corrections by Ted Bradley, Gary Fleming, Douglas Ogle, Gwynn Ramsey, Charles Stevens, Donna Ware, Tom Wieboldt, and Robert Wright. But we await a consensus for some proposed changes in binomials and authors.

Many naturalists requested our reprinting the **History of Botanical Exploration** published in Part I of the first edition, 1977. We are including this and now Donna Ware brings the history up to date for posterity. We are indebted to Tom Wieboldt for the index and to Robert Wright for the waif list; and Jennifer Morlang joins the collectors.

Through the intensive sleuthing of Alfred Schuyler, we now recognize two more long-distance disjuncts, **Bacopa innominata** and **B. rotundifolia**, instead of the putative endemics **B. stragula** and **B. simulans.**

Due to recent advances in our knowledge of the flora of eastern North America in general, and of Virginia in particular, we are now able to expand a sketch of the plant geography, as well as to add greater depth to this discussion. Virginia appears to be the hinge of fate for the flora of eastern North America because massive migrations to the south and southwest during the Wisconsin were followed by equally massive migrations to the north and northeast during the Late Wisconsin and the Holocene, and these vast movements left indelible imprints on the vegetation of our state.

Moreover, recent work in palynology, paleo-climatology and Holocene paleontology gives us bases for a chronology not only of the vast migrations noted above, but also of mass eliminations of populations over wide areas in the Holocene. While these eliminations were taking place, very local colonies persisted in favorable nitches, as the many scattered relictual populations, so well known and abundant in Virginia, bear witness. Finding so many of these small and widely scattered colonies make the achievements of our field workers all the remarkable. Now two questions need to be answered: How many of these colonies are still waiting to be found? And how much will they add to our floristic history?

A.M.H. Herbarium
Longwood College
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