ATLAS OF THE FLORA OF NEW ENGLAND:
FAMILIES OF VOLS. 6 & 14: FLORA OF NORTH AMERICA

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ABSTRACT

Dot maps are provided to depict the distribution at the county level of the taxa of Magnoliophyta: Families of volumes 6 and 14 of Flora of North America growing outside of cultivation in the six New England states of the northeastern United States. The maps treat 258 taxa (species, subspecies, varieties, and hybrids, but not forms) based primarily on specimens in the major herbaria of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, with most data derived from the holdings of the New England Botanical Club Herbarium (NEBC). Brief synonymy (to account for names used in standard manuals and floras for the area and on herbarium specimens), habitat, chromosome information, and common names are also provided.

KEY WORDS: flora, New England, atlas, distribution, Cucurbitales, Malvales, Solanales, Apocynaceae, Cistaceae, Convolvulaceae, Cucurbitaceae, Gentianaceae, Hypericaceae, Malvaceae, Solanaceae, Violaceae

This article is the twelfth in a series (Angelo & Boufford 1996, 1998, 2000, 2007, 2010, 2011a, 2011b, 2012a, 2012b, 2012c, 2013) that presents the distributions of the vascular flora of New England in the form of dot distribution maps at the county level (Figure 1). Three more articles are planned. The atlas is posted on the internet at <http://neatlas.org>, where it will be updated as new information becomes available.

This project encompasses all vascular plants (lycophytes, pteridophytes and spermatophytes) at the rank of species, subspecies, and variety growing independent of cultivation in the six New England states. Hybrids are also included, but forms and other ranks below the level of variety are not. The dots are based on voucher specimens primarily in New England herbaria (of colleges, universities, botanical gardens, and public museums) representing reproducing populations outside of cultivated habitats. This twelfth installment includes the families that will be included in volumes 6 and 14 of the Flora of North America North of Mexico. Of the 258 taxa treated, 113 are not native to the region. Future accounts will treat the distribution of additional non-monocot angiosperms.

The habitat data are distillations from a variety of sources augmented by our own field observations. An attempt was made to indicate habitat information as it applies to a particular taxon in New England rather than to the entire range of the taxon. Habitat information is not provided for hybrid taxa.

It is our hope that these articles will stimulate additional field work to supplement the distributions portrayed in the maps. The New England Botanical Club herbarium has proven to be the most important resource for this project. We are eager to receive information on voucher specimens in public herbaria documenting range extensions and filling county gaps in distributions. Similarly, because the atlas of the New England flora will be continuously updated as new information becomes
available, we are eager to receive notification of published corrections of cytological information and new, documented chromosome counts for taxa in the New England flora.

MATERIALS AND METHODS

Materials and methods are as outlined in Angelo and Boufford (1996) and in a web version (Angelo & Boufford 2011c) and are not repeated here.

TAXONOMY AND FORMAT

The taxonomy and nomenclature adopted for this work primarily follow that of draft treatments for the Flora of North America project and checklists of accepted taxa of The Flora of North America Expertise Network, except that families, genera, and species are arranged alphabetically. The families and their circumscription do not necessarily reflect current views on relationships or composition. The Angiosperm Phylogeny Website (Stevens 2001 onwards) should be consulted for a continuously updated treatment of families and their inclusive genera. Named and unnamed hybrid taxa are placed alphabetically at the end of the genus in which they occur. Unnamed hybrids combine the names of the progenitors alphabetically by epithet. Taxa that are not native to New England are indicated by uppercase text. Unpublished names are not used, even if publication is pending.

Chromosome numbers are taken primarily from draft treatments for the Flora of North America project and from Goldblatt and Johnson (1979–).

Synonymy is provided primarily with respect to names accepted in standard manuals covering New England published from 1950 onward, including Fernald (1950), Gleason and Cronquist (1991), and Seymour (1982) and on herbarium labels in New England herbaria. Synonyms have not been provided where the distribution for the synonymized name does not include New England.

The following list (which includes excluded taxa) will aid readers in finding familiar names that have been transferred to other taxa:

- **ASCLEPIADACEAE** => **APOCYNACEAE**
- *Centaurium* (in part) => *Schenkia*
- *Chamaesaracha* (in part) => *Leucophysalis*
- **CLUSIACEAE** (in part) => **HYPERICACEAE**
- *Convolvulus* (in part) => *Calystegia*
- **CUSCUTACEAE** => **CONVOLVULACEAE**
- *Gentiana* (in part) => *Gentianella*
- *Gentiana* (in part) => *Gentianopsis*
- **GENTIANACEAE** (in part) => **MENYANTHACEAE**
- **GUTTIFERAE** => **HYPERICACEAE**
- *Helianthemum* => *Crocanthemum*
- *Hypericum* (in part) => *Triadenum*
- *Lycopersicon* => *Solanum*
- **TILIACEAE** => **MALVACEAE**
- *Wissadula* (in part) => *Pseudabutilon*

The following species have been reported from our area but are excluded for the reasons noted:
Asclepias tuberosa Linnaeus subsp. interior Woodson [no voucher found; reported from New London County, Connecticut]

Browallia americana Linnaeus (B. viscosa misapplied) [no voucher of wild occurrence found; reported from New Haven County, Connecticut, and Norfolk County, Massachusetts]

Convulvulus wallichianus Sprengel [no voucher found; reported from Aroostook County, Maine]

Cuscuta cuspidata Engelmann [no voucher found; reported from New Haven County, Connecticut]

Cuscuta obtusiflora Kunth var. glandulosa Engelmann [reported in error from three counties in Connecticut based on 1917 literature that used C. obtusiflora in the sense of Gray’s Manual of Botany, 7th edition, which is C. polygonorum Engelmann]

Hypericum dolabriforme Ventenat [insufficient evidence of wild occurrence; The only voucher is the type specimen for H. Bisselli B.L. Robinson from Hartford County, Connecticut, which simply notes the road where it was found.]

Ipomoea quamoclit Linnaeus [no voucher of wild occurrence found; reported from Windsor County, Vermont]

Ipomoea tricolor Cavanilles [no voucher of wild occurrence found; reported from Middlesex County, Massachusetts]

Lagenaria sicararia (Molina) Standley [no vouchers found; reported from Suffolk and Worcester Counties, Massachusetts]

Lechea racemulosa Michaux [no vouchers found; reported from Connecticut; a specimen at NY collected in 2000 in a gravel quarry in Washington County, Maine, is deemed most likely to be misidentified as it is well outside the known range]

Modiola caroliniana (Linnaeus) G. Don [no voucher of wild occurrence found; reported from Hampshire County, Massachusetts]

Nicotiana × Sanderae W. Watson (pro species) (N. alata Link & Otto × N. forgetiana Sander) [no voucher of wild occurrence found; reported from Norfolk County, Massachusetts]

Physalis missouriensis Mackenzie & Bush [no voucher found; reported from Massachusetts]

Physalis philadelphica Lamarck var. philadelphica [no vouchers found; reported from Massachusetts and Vermont]

Physalis pubescens Linnaeus var. integrifolia (Dunal) Waterfall [specialist in this genus has found no New England vouchers (Dr. Janet Sullivan, pers. comm.).]
Vouchers with this name or misapplied “P. PRUINOSA” are likely to be P. grisea (Waterfall) M. Martinez

*SABATIA ANGULARIS* (Linnaeus) Pursh [no voucher of wild occurrence found; reported from Essex County, Massachusetts, and Connecticut; specimen at YU with locality simply “Connecticut” does not specify habitat]

*SABATIA DODECANDRA* (Linnaeus) Britton, Sterns & Poggenburg [no vouchers found; reported from Middlesex, New Haven and New London Counties, Connecticut]

*SCHIZANTHUS PINNATUS* Ruiz & Pavón [no voucher of wild occurrence found; reported from Connecticut]

*SOLANDRA GRANDIFLORA* Swartz [no voucher found; reported from York County, Maine]

*SPHAERALCEA FENDLERI* A. Gray subsp. *FENDLERI* [vouchers for this species are apparently misidentified *SPHAERALCEA MENDOCINA* (Philippi) K. Schumann; reported from Middlesex County, Massachusetts]

*TAMARIX GALLICA* Linnaeus [no voucher found; reported from Suffolk County, Massachusetts]

*TILIA PETIOLARIS* de Candolle [no voucher of wild occurrence found; reported from Suffolk County, Massachusetts]

*VIOLA BICOLOR* Pursh (*V. KITAIBELIANA* Schultes var. *RAFINESQUIII* (Greene) Fernald; *V. RAFINESQUIII* {sometimes as “RAFINESQUEI”} Greene) [no vouchers found; reported from Connecticut, Massachusetts, and Rhode Island]

*VIOLA CANINA* Linnaeus [specimen from Windsor County, Vermont, lacks habitat information to determine whether it is of wild or cultivated origin]

*Viola hirsutula* Brainerd [no voucher found; reported from Fairfield County, Connecticut]

*VIOLA JAPONICA* Langsdorff & Gingins [no voucher of wild occurrence found; reported from Middlesex County, Massachusetts]

*VIOLA SEPTEMLOBA* Leconte [no vouchers found; reported from Fairfield County, Connecticut, and Washington County, Rhode Island]

*Viola × consocia* House (*V. affinis* Leconte × *V. cucullata* Aiton) [no vouchers found; reported from Connecticut and Vermont]

*Viola × cordifolia* (Nuttall) Schwein (*pro species*) (*V. hirsutula* Brainerd × *V. sororia* Willdenow) [no voucher found; reported from Connecticut]

*Viola × eamesii* House (*V. brittoniana* Pollard × *V. palmata* Linnaeus var. *palmata*) [no voucher found; reported from Connecticut]
Viola × napae House (V. nephrophylla Greene × V. sororia Willdenow) [no voucher found; reported from Vermont]

VIOLA × WITTROCKIANA Gams ex Nauenberg & Buttler (V. ALTAICA Ker Gawler × V. LUTEA Hudson or V. TRICOLOR Linnaeus var. TRICOLOR) [no voucher of wild occurrence found; reported from Worcester County, Massachusetts]

ANGIOSPERMAE (MAGNOLIOPHYTA) – ANGIOSPERMS

APOCYNACEAE

AMSONIA TABERNAEMONTANA Walter var. TABERNAEMONTANA—Eastern Bluestar (Figure 2). 2n = 22. Waste places. From farther south and west.

Apocynum androsaemifolium Linnaeus—Spreading Dogbane (Figure 2). 2n = 16, 22. Roadsides, dry fields, thickets, woodland margins.

Apocynum cannabinum Linnaeus—Indian Hemp (Figure 2). 2n = 16, 22. Shores, thickets, woodland margins, open ground. [A. cannabinum var. pubescens (R. Brown) A. de Candolle; A. sibiricum Jacquin var. sibiricum; A. sibiricum var. cordigerum (Greene) Fernald]

— Apocynum hybrid —

Apocynum × floribundum Greene (pro sp.)— (Figure 2). [A. androsaemifolium Linnaeus × A. cannabinum Linnaeus; A. medium Greene]

Asclepias amplexicaulis Smith—(Figure 2). 2n = ?. Dry, open, sandy soil in woods, thickets, fields, roadsides. [A. obtusifolia Michaux]

Asclepias exaltata Linnaeus—Poke Milkweed (Figure 2). 2n = 22. Rich woods, woodland margins, clearings, thickets. [A. phytolaccoides G.F. Lyon ex Pursh]

Asclepias incarnata Linnaeus subsp. incarnata—Swamp Milkweed (Figure 2). 2n = 22. Swamps, pond shores, wet thickets, meadows and fields.

Asclepias incarnata Linnaeus subsp. pulchra (Ehrhart ex Willdenow) Woodson—Hairy Milkweed (Figure 2). 2n = ?. Swamps, pond shores, wet thickets, meadows and fields.

Asclepias purpurascens Linnaeus—Purple Milkweed (Figure 2). 2n = ?. Dry woods, woodland margins, thickets, openings, roadsides, dry fields.

Asclepias quadrifolia Jacquin—(Figure 3). 2n = ?. Rich, dry woods, often rocky and circumneutral or calcareous.

Asclepias syriaca Linnaeus—Common Milkweed (Figure 3). 2n = 22. Roadsides, fields, meadows, thickets, railroad banks.

Asclepias tuberosa Linnaeus subsp. tuberosa—Butterfly-weed (Figure 3). 2n = 22. Dry, open soil, roadsides, fields.
Asclepias variegata Linnaeus—White Milkweed (Figure 3). 2n = ? Dry, wooded hillsides, thickets.

Asclepias verticillata Linnaeus—(Figure 3). 2n = 22. Dry woods, open, often rocky, soil, fields, railroad banks.

Asclepias viridiflora Rafinesque—Green Milkweed (Figure 3). 2n = 22. Sandy fields, openings, roadsides.

— Asclepias hybrids —

Asclepias amplexicaulis Smith × A. exaltata Linnaeus—(Figure 3).

Asclepias amplexicaulis Smith × A. syriaca Linnaeus—(Figure 3).

PERIPLOCA GRAECA Linnaeus—Silk-vine (Figure 3). 2n = 22, 24. Roadsides, upper part of rocky beach. From Eurasia.

VINCA HERBACEA Waldstein & Kitaibel—(Figure 4). 2n = 46, 92. Terraces and wooded slope of riverbank. From Eurasia.

VINCA MAJOR Linnaeus—Large Periwinkle (Figure 4). 2n = 90, 92. Waste places. From Eurasia. [V. MAJOR var. VARIEGATA Loudon]

VINCA MINOR Linnaeus—Common Periwinkle (Figure 4). 2n = 46. Roadsides, cemeteries, waste places, open woods near habitation. From Eurasia.

VINCETOXICUM NIGRUM (Linnaeus) Moench—Black Swallow-wort (Figure 4). 2n = 22, 44. Roadsides, waste places, thickets, cemeteries, field margins. From southern Europe. [CYNANCHUM LOUISEAE Kartesz & Gandhi; C. NIGRUM (Linnaeus) Persoon, non Cavanilles]

VINCETOXICUM ROSSICUM (Klepow) Barbaricz—Pale Swallow-wort (Figure 4). 2n = ? Roadsides, waste places, cemeteries, field margins. From eastern Europe. [Cynanchum nigrum Klepow]

CISTACEAE

Crocanthemum bicknellii (Fernald) Janchen—Hoary Frostweed (Figure 4). 2n = 20. Dry, sandy soil in the open, roadsides, open woods. [Helianthemum bicknellii Fernald]

Crocanthemum canadense (Linnaeus) Britton—(Figure 4). 2n = 20. Dry, sandy or rocky soil in the open, roadsides, open woods, ledges. [Helianthemum canadense (Linnaeus) Michaux var. canadense; H. canadense var. sabulonum Fernald]

Crocanthemum dumosum E.P. Bicknell—(Figure 4). 2n = ? Dry, sandy soil in the open, open woods. [Helianthemum dumosum (E.P. Bicknell) Fernald]
Crocanthemum propinquum (E.P. Bicknell ex Britton) E.P. Bicknell—(Figure 4). 2n = ? Dry, sandy soil in the open, roadsides, open woods, fields. [Helianthemum propinquum E.P. Bicknell ex Britton]

Hudsonia ericoides Linnaeus—Golden-heather (Figure 5). 2n = 20. Sandy or rocky acidic, open soil, dunes, barrens, roadsides. [H. tomentosa Nuttall var. intermedia Peck]

Hudsonia tomentosa Nuttall—Beach-heath (Figure 5). 2n = 20. Sandy, open soil, dunes, beaches, sandy shores.

| — Hudsonia hybrid — |

Hudsonia ericoides Linnaeus × Hudsonia tomentosa Nuttall—(Figure 5).

Lechea intermedia Leggett ex Britton var. intermedia—(Figure 5). 2n = 18. Dry, open, sterile, sandy or rocky soil.

Lechea intermedia Leggett ex Britton var. juniperina (E.P. Bicknell) B.L. Robinson—(Figure 5). 2n = ? Dry, open, sterile, sandy or rocky soil.

Lechea maritima Leggett ex Britton var. maritima—Beach Pinweed (Figure 5). 2n = ? Sandy, open soil, usually near the sea, dunes, beaches, roadsides, waste places.

Lechea minor Linnaeus—Thyme-leaved Pinweed (Figure 5). 2n = ? Dry, sandy soil, pond shores, pine-oak woodlands, roadsides.

Lechea mucronata Rafinesque—Hairy Pinweed (Figure 5). 2n = ? Dry, sandy or gravelly open soil, pine-oak and oak-hickory woodland margins, fields, roadsides. [L. villosa Elliott]

Lechea pulchella Rafinesque var. pulchella—(Figure 5). 2n = ? Dry, pine-oak and oak-hickory woods, clearings, fields, pond shores, usually on sandy soil. [L. leggettii Britton & Hollick var. leggettii]

Lechea pulchella Rafinesque var. moniliformis (E.P. Bicknell ex Britton) Mohlenbrock—(Figure 6). 2n = ? Sandy soil, frequently damp. [L. leggettii Britton & Hollick var. moniliformis (E.P. Bicknell ex Britton) Hodgdon]

Lechea tenuifolia Michaux—(Figure 6). 2n = ? Dry, sandy fields, sandy or rocky woodland openings and margins, primarily oak or oak-pine woodlands.

| — Lechea hybrids — |

Lechea maritima Leggett ex Britton var. maritima × L. minor Linnaeus—(Figure 6).

Lechea maritima Leggett ex Britton var. maritima × L. mucronata Rafinesque—(Figure 6).
CONVOLVULACEAE

CALYSTEGIA PUBESCENS Lindley—(Figure 6). \(2n = ?\) Waste places, fields, roadsides, riverbanks. From eastern Asia. \([C. hederacea misapplied; Convulvus japonicus misapplied; C. pellitus misapplied]\)

CALYSTEGIA SEPIUM (Linnaeus) R. Brown subsp. SEPIUM—(Figure 6). \(2n = 22\). Waste places. From Eurasia, northern Africa. \([CONVOLVULUS SEPIUM Linnaeus var. SEPIUM]\) Note: The draft of the Flora of North America treatment of Calystegia asserts that this taxon is a rare introduction and has not been found in New England, implying that most or all of the records under this name in New England herbaria are misidentifications.

Calystegia sepium (Linnaeus) R. Brown subsp. americana (Sims) Brummitt—Wild Morning-glory (Figure 6). \(2n = 22\). Coastal and subcoastal rocky shores, salt marshes, grassy banks, waste areas. \([Convulvus sepium Linnaeus var. americanus Sims; C. sepium var. pubescens sensu Gray’s Manual 7th edition]\)

Calystegia sepium (Linnaeus) R. Brown subsp. angulata Brummitt—(Figure 6). \(2n = ?\) Riverbanks, roadsides, waste places. \([Convulvus sepium Linnaeus var. repens misapplied]\)

Calystegia sepium (Linnaeus) R. Brown subsp. appalachiana Brummitt—(Figure 6). \(2n = ?\) Roadsides, waste places, usually in upland areas.

Calystegia silvatica (Kitaibel) Grisebach subsp. fraterniflora (Mackenzie & Bush) Brummitt—Twin-flowered Morning-glory (Figure 7). \(2n = ?\) Grassy banks, fields, thickets, roadsides, waste places. \([Convulvus sepium Linnaeus var. americus Sims; C. sepium var. pubescens sensu Gray’s Manual 7th edition]\)

Calystegia spithamaea (Linnaeus) Pursh subsp. spithamaea—Upright Bindweed (Figure 7). \(2n = 22\). Sandy or rocky, open soil, thin woodlands, roadsides. \([Convulvus spithamaeae Linnaeus]\)

CONVOLVULUS ARvensIS Linnaeus—Field Bindweed (Figure 7). \(2n = 24, 48, 50\). Fields, roadsides, waste places. From Eurasia, northern Africa.

CUSCUTA APPROXIMATA Babington—Alfalfa Dodder (Figure 7). \(2n = 28\). Damp meadows, typically parasitic on Medicago and Trifolium. From Eurasia, northern Africa.

CUSCUTA CAMPESTRIS Yuncker—(Figure 7). \(2n = 28, 56\). Street gutter on Persicaria. From farther west and south, Caribbean.

Cuscuta cephalanthi Engelmann—Buttonbush Dodder (Figure 7). \(2n = 60\). Alluvial woodlands, riverbank thickets, Sphagnum bogs, marsh margins, parasitic on coarse herbs and shrubs.

Cuscuta compacta Jussieu ex Choisy var. compacta—(Figure 7). \(2n = ?\) Low woods and thickets, parasitic on various shrubs and coarse herbs.

Cuscuta coryli Engelmann—Hazel Dodder (Figure 7). \(2n = 30\). Dry, gravelly and sandy beaches, dryish, sandy, old fields, moist woods, pond margins, parasitic on various herbs and shrubs, especially Asteraceae such as Euthamia, Eurybia, Solidago and Symphyotrichum.
**CUSCUTA EPILINUM** Weihe—Flax Dodder (Figure 7). 2n = 42. Parasitic on flax (*Linum*). From western and central Asia.

**CUSCUTA EPITHYMUM** (Linnaeus) Linnaeus—Clover Dodder (Figure 8). 2n = 14. Parasitic on herbs, especially *Medicago, Trifolium* and other herbaceous Fabaceae. From Eurasia, northern Africa.

**CUSCUTA EUROPAEA** Linnaeus—Greater Dodder (Figure 8). 2n = 14. Hedge at field margin, low thicket, parasitic on *Solidago* and various other herbs and shrubs. From Eurasia, northern Africa.

*Cuscuta gronovii* Willdenow ex Roemer & Schultes var. *gronovii*—Common Dodder (Figure 8). 2n = 60. Low grounds, parasitic on many coarse herbs and shrubs. [*C. gronovii* var. *latiflora* Engelmann]

**CUSCUTA INDEORA** Choisy var. INDEORA—(Figure 8). 2n = 30. Dry, sandy or gravelly shores, parasitic on various herbs and shrubs, especially Asteraceae (such as *Euthamia, Solidago* and *Symphyotrichum*). From farther west and south.

*Cuscuta pentagona* Engelmann—(Figure 8). 2n = ca. 44, 56. Dry, open soil, parasitic on many herbs.

*Cuscuta polygonorum* Engelmann—Smartweed Dodder (Figure 8). 2n = ?. Pond shores, river thickets, parasitic on *Polygonum, Lycopus* and other herbs. [*C. obtusiflora* sensu Gray’s Manual 7th edition]

**IPOMOEA COCCINEA** Linnaeus—Red Morning-glory (Figure 8). 2n = 28, 30. Thickets, roadsides, waste places. From farther south.

**IPOMOEA HEDERACEA** Jacquin—(Figure 8). 2n = 30. Fields, pond shores, roadsides, waste places. From Mexico, Central America, western South America, Caribbean. [*I. HIRSUTULA* misapplied]

**IPOMOEA HEDERIFOLIA** Linnaeus—Scarlet Creeper (Figure 8). 2n = 56. Roadsides, waste places. From farther south, Central and South America, Caribbean.

**IPOMOEA LACUNOSA** Linnaeus—White Morning-glory (Figure 9). 2n = 30. Waste places, railroads. From farther south and west.

*Ipomoea pandurata* (Linnaeus) G. Meyer—Wild Potato-vine (Figure 9). 2n = 30. Dry fields.

**IPOMOEA PURPUREA** (Linnaeus) Roth—Common Morning-glory (Figure 9). 2n = 30. Roadsides, field margins, waste places. From tropical America. [*I. HIRSUTULA J. Jacquin*]

**CUCURBITACEAE**

**CITRULLUS COLOCYNTHIS** (Linnaeus) Schrader—Vine-of-Sodom (Figure 9). 2n = 22. Open, disturbed areas, sandy beaches. From the Mediterranean region, southwestern Asia.
CITRULLUS LANATUS (Thunberg) Matsumura & Nakai subsp. LANATUS—Watermelon (Figure 9). 2n = 22. Waste places, freshwater shores. From southern Africa, most likely. [C. VULGARIS Schrader]

CUCUMIS ANGURIA Linnaeus var. ANGURIA—Bur Gherkin (Figure 9). 2n = 24. Wool waste. From central and southern Africa.

CUCUMIS MELO Linnaeus subsp. MELO—Cantaloupe (Figure 9). 2n = 24. Waste places. From southwestern Asia.

CUCUMIS MELO Linnaeus subsp. AGRESTIS (Naudin) Pangolo—(Figure 9). 2n = 24. Moist, sandy, waste places. From Asia, probably.

CUCUMIS MYRIOCARPUS Naudin—Paddy Melon (Figure 9). 2n = 24. Waste places. From southern Africa.

CUCUMIS SATIVUS Linnaeus var. SATIVUS—Cucumber (Figure 10). 2n = 14, 28. Waste places. From India.

CUCURBITA MAXIMA Duchesne—Winter Squash (Figure 10). 2n = 40. Waste places. From South America.

CUCURBITA PEPO Linnaeus subsp. PEPO—Pumpkin (Figure 10). 2n = 40. Waste places, road sides, sandy beaches. From Mexico, South America. [C. PEPO var. MELOPEPO (Linnaeus) Harz; C. PEPO var. OVIFERA (Linnaeus) Harz]

Echinocystis lobata (Michaux) Torrey & A. Gray—Wild Cucumber (Figure 10). 2n = 32. Moist or wet thickets, rich soil along streams, meadows, roadsides.

MOMORDICA CHARANTIA Linnaeus—Bitter Melon (Figure 10). 2n = 22. Waste places. From tropical Africa, tropical Asia, northeastern Australia, south central and southwestern Pacific.

Sicyos angulatus Linnaeus—Bur cucumber (Figure 10). 2n = 24. River thickets, swamp margins, meadows, damp soil, roadsides, waste places.

THLADIANTHA DUBIA Bunge—Red Hailstone (Figure 10). 2n = 18. Waste places. From eastern Asia.

DROSERACEAE

Drosera anglica Hudson—(Figure 10). 2n = 40. Calcareous bogs and fens in Sphagnum.

Drosera filiformis Rafinesque—Dew-thread (Figure 10). 2n = 20. Sandy pond shores.

Drosera intermedia Hayne—(Figure 11). 2n = 20. Acidic sand or Sphagnum of bogs, swamps, shores.

Drosera linearis Goldie—(Figure 11). 2n = 20. Calcareous bogs and fens in Sphagnum.
Drosera rotundifolia Linnaeus var. rotundifolia—Round-leaved Sundew (Figure 11). $2n = 20$. Sphagnum or acidic soil of bogs, swamps, fens, shores, seepages. [D. rotundifolia var. comosa Fernald]

FRANKENIACEAE

FRANKENIA PULVERULENTA Linnaeus—European Sea-heath (Figure 11). $2n = 20$. Wool waste. From Mediterranean region, southwestern Asia.

GENTIANACEAE

Bartonia paniculata (Michaux) Muhlenberg subsp. paniculata—Screw-stem (Figure 11). $2n = 52$. Swamps, wet woods, bogs, sphagnum or sandy pond and lake margins, meadows.

Bartonia paniculata (Michaux) Muhlenberg subsp. iodandra (B.L. Robinson) J.M. Gillett—(Figure 11). $2n = ?$ Bogs, sphagnum lake and pond margins.

Bartonia virginica (Linnaeus) Britton, Sterns & Poggenburg—(Figure 11). $2n = 52$. Meadows, clearings, fields, mounds in swampy woods, bog margins, wet, open woods, acid soil.

CENTAURIUM ERYTHRAEA Rafin—Common Centaury (Figure 11). $2n = 20, 40, 42$. Fields, waste places. From Eurasia, northern Africa. [C. MINUS Garsault, illegitimate name; C. UMBELLATA Gilibert, illegitimate name]

CENTAURIUM PULCHELLUM (Swartz) Hayek ex Handel-Mazzetti, Stadlemann, Janchen & Faltis—Lesser Centaury (Figure 11). $2n = 36$. Waste places, roadsides, railroads, open sandy or gravelly areas. From Eurasia.

FRASERA ALBICAULIS Grisebach var. NITIDA (Bentham) C.L. Hitchcock—(Figure 12). $2n = ?$ Dry hills. From farther west.

Gentiana andrewsii Grisebach var. andrewsii—(Figure 12). $2n = 26$. Meadows, low thickets, moist, open woods, swamps.

Gentiana clausa Rafinesque—Bottle Gentian (Figure 12). $2n = 26$. Streambanks, moist woodland margins, meadows, moist thickets.

GENTIANA CRUCIATA Linnaeus—Star Gentian (Figure 12). $2n = 52$. Gravel banks. From Eurasia.

Gentiana linearis Froelich—Narrow-leaved Gentian (Figure 12). $2n = 26$. Bogs, meadows, thickets, shores, generally acid soils.

Gentiana rubricaulis Schweinitz—Great Lakes Gentian (Figure 12). $2n = ?$ Cleared ground, swales, fens, meadows, calcareous soils.

Gentianella amarella (Linnaeus) Börner subsp. acuta (Michaux) J.M. Gillett—Felwort (Figure 12). $2n = 18, 36$. Riverbanks, alpine brooks, generally moist, rocky or gravelly, calcareous soil. [Gentiana amarella Linnaeus (in part)]
*Gentianella quinquefolia* (Linnaeus) Small subsp. *quinquefolia*—Stiff Gentian (Figure 12). $2n = 36$. Meadows, rich, moist woods, wet, gravelly banks, roadsides. [*Gentiana quinquefolia* Linnaeus var. *quinquefolia*]

*Gentianopsis crinita* (Froelich) Ma—Fringed Gentian (Figure 12). $2n = 78$. Meadows, brooksides, wet thickets, low woods, fields, roadsides, usually in more or less calcareous soil. [*Gentiana crinita* Froelich]

*Halenia deflexa* (Smith) Grisebach var. *deflexa*—Spurred Gentian (Figure 13). $2n = 22$. Moist banks, wet woods, fields, roadsides.

*Lomatogonium rotatum* (Linnaeus) Fries var. *rotatum*—(Figure 13). $2n = 10, 16$. Brackish shores of spray pools, rocky crevices next to tide pools.

*Sabatia campanulata* (Linnaeus) Torrey—Slender Marsh-pink (Figure 13). $2n = 34$. Pond margins.

**SABATIA CAMPESTRIS** Nuttall—Texas-star (Figure 13). $2n = 26$. Waste places, fields. From farther west and south.

*Sabatia kennedyana* Fernald—Plymouth Gentian (Figure 13). $2n = 40$. Sandy and sphagnous shores of freshwater ponds.

*Sabatia stellaris* Pursh—Salt-marsh Pink (Figure 13). $2n = 36 + 0–4b$. Salt or brackish marshes and meadows, brackish pond shores.

— *Sabatia* hybrid —

*Sabatia campanulata* (Linnaeus) Torrey × *S. kennedyana* Fernald—(Figure 13).

*SCHENKIA SPICATA* (Linnaeus) G. Mansion—(Figure 13). $2n = 22$. Salt marshes. From Mediterranean region, western Russia, southwestern Asia. [*CENTAURIUM SPICATUM* (Linnaeus) Fritsch]

**HYPERICACEAE**

*Hypericum adpresso*um W.P.C. Barton—(Figure 13). $2n = 18$. Sandy or sphagnous pond shores and depressions.

*Hypericum ascyron* Linnaeus subsp. *pyramidatum* (Aiton) N. Robson—Great St. John’s-wort (Figure 14). $2n = ?$. River thickets and meadows. [*H. pyramidatum* Aiton]

*Hypericum boreale* (Britton) E.P. Bicknell—(Figure 14). $2n = 16$. Swamps, bogs, meadows, shores, and other open, wet places. [*H. mutilum* Linnaeus subsp. *boreale* (Britton) J.M. Gillett]

*Hypericum canadense* Linnaeus—(Figure 14). $2n = 16$. Bogs, shores, swamps, marshes, vernal pools, open places in moist sand.

*HYPERICUM DENSIFLORUM* Pursh—(Figure 14). $2n = 16, 18$. Fields, roadsides. From farther south.
Hypericum ellipticum Hooker—(Figure 14). 2n = 18. Sandy or gravelly shores, meadows, marshes, swamps and other wet places.

HYPERICUM FRONDOSUM Michaux—(Figure 14). 2n = 18. Fields, roadsides. From farther south.

Hypericum gentianoides (Linnaeus) Britton, Sterns & Poggenburg—Pineweed (Figure 14). 2n = 24. Sandy, open soil, railroads, roadsides, fields, waste places.

Hypericum hypericoides (Linnaeus) Crantz subsp. multicaule (Michaux ex Willdenow) N. Robson—St. Andrew’s Cross (Figure 14). 2n = 18. Dry sand plains. [H. stragulum W.P. Adams & N. Robson; Ascyrum hypericoides Linnaeus var. multicaule (Michaux ex Willdenow) Fernald]

Hypericum majus (A. Gray) Britton—(Figure 14). 2n = 16. Damp fields, shores, wet roadsides, other open, wet places.

Hypericum mutilum Linnaeus subsp. mutilum—(Figure 15). 2n = 16. Swamps, bogs, meadows, shores, and other open, wet places. [H. mutilum var. parviflorum Fernald]

HYPERICUM PERFORATUM Linnaeus subsp. PERFORATUM—Common St. John’s-wort (Figure 15). 2n = 16, 32, 48. Dry, sandy, fields, roadsides, riverbanks, meadows, railroads, waste places. From Eurasia, northern Africa.

HYPERICUM PROLIFICUM Linnaeus—Shrubby St. John’s-wort (Figure 15). 2n = 18. Sandy fields, roadsides. From farther south and west. [H. SPATHULATUM (Spach) Steudel]

Hypericum punctatum Lamarck—Spotted St. John’s-wort (Figure 15). 2n = 16. River thickets, meadows, swamps, woodlands, fields, openings, railroads, roadsides.

—Hypericum hybrids—

Hypericum canadense Linnaeus × H. majus (A. Gray) Britton—(Figure 15).

Hypericum canadense Linnaeus × H. mutilum Linnaeus subsp. mutilum—(Figure 15).

Hypericum × dissimulatum E.P. Bicknell (pro species)—(Figure 15). [H. canadense Linnaeus × H. mutilum Linnaeus subsp. boreale (Britton) J.M. Gillett]

Hypericum majus (A. Gray) Britton × H. mutilum Linnaeus subsp. mutilum—(Figure 15).

Triadenum fraseri (Spach) Gleason—(Figure 15). 2n = 38. Bogs, marshes, swamps, shores. [Hypericum fraseri (Spach) Steudel; H. virginicum Linnaeus var. fraseri (Spach) Fernald]

Triadenum virginicum (Linnaeus) Rafinesque—Marsh St. John’s-wort (Figure 16). 2n = 38. Bogs, marshes, swamps, shores. [H. virginicum Linnaeus]

MALVACEAE

ABELMOSCHUS ESCULENTUS (Linnaeus) Moench—Okra (Figure 16). 2n = 120. Waste places. From southern Asia or western Africa.
**ABUTILON PICTUM** (Gillies ex Hooker & Arnott) Walpers—Painted Indian-mallow (Figure 16). 2n = 16. Railroads. From South America. [*A. STRIATUM* G.F. Dickson ex Lindley]

**ABUTILON THEOPHRASTI** Medikus—Velvet-leaf (Figure 16). 2n = 42. Waste places, fields, roadsides. From Eurasia, northern Africa.

**ALCEA ROSEA** Linnaeus—Hollyhock (Figure 16). 2n = 42, 84. Waste places, roadsides, railroads, rocky beaches. From southwestern China. [*ALTHAEA ROSEA* (Linnaeus) Cavanilles]

**ALTHAEA OFFICINALIS** Linnaeus—Marsh-mallow (Figure 16). 2n = 42. Salt or brackish marsh margins, waste places. From Eurasia, northern Africa.

**ANODA CRISTATA** (Linnaeus) Schlechtendal—Violettas (Figure 16). 2n = 30, 60. Wool waste. From farther west, Mexico, Central America, South America, Caribbean.

**GOSSYPIUM HIRSUTUM** Linnaeus—Upland Cotton (Figure 16). 2n = 26, 39, 52. Waste places. From Mexico, Central America. [*G. HERBACEUM* misapplied]

*Hibiscus moscheutos* Linnaeus subsp. *moscheutos*—Swamp Rose-mallow (Figure 16). 2n = 38. Marshy river borders, brackish, freshwater, and salt marshes. [*H. palustris* Linnaeus]

**HIBISCUS SYRIACUS** Linnaeus—Rose-of-Sharon (Figure 17). 2n = 40, 80, 88, 90. Woodland margins, roadsides, thickets. From China, Taiwan.

**HIBISCUS TRIONUM** Linnaeus—Flower-of-an-hour (Figure 17). 2n = 28, 56. Railroads, roadsides, waste places. From Eurasia, Africa.

**LAVATERA TRIMESTRIS** Linnaeus—Annual Mallow (Figure 17). 2n = 14. Waste places. From Mediterranean region.

**MALVA ALCEA** Linnaeus—Vervain Mallow (Figure 17). 2n = 84. Roadsides, waste places. From Europe, Turkey.

**MALVA MOSCHATA** Linnaeus—Musk Mallow (Figure 17). 2n = 42. Roadsides, fields, waste places. From Europe, Turkey.

**MALVA NEGLICETA** Wallroth—Common Mallow (Figure 17). 2n = 42. Waste places, roadsides, fields. From Eurasia, northern Africa. [*M. ROTUNDIFOLIA* Linnaeus - rejected name]

**MALVA PARVIFLORA** Linnaeus—Cheeseweed (Figure 17). 2n = 42. Waste places. From Eurasia, northern Africa.

**MALVA PUSILLA** Smith—Dwarf Mallow (Figure 17). 2n = 42. Fields, waste places, roadsides. From Eurasia. [*M. ROTUNDIFOLIA* Linnaeus - rejected name]

**MALVA SYLVESTRIS** Linnaeus—High Mallow (Figure 17). 2n = 42. Waste places, roadsides. From Eurasia, northern Africa. [*M. SYLVESTRIS* var. *MAURITANIA* (Linnaeus) Boissier]
MALVA VERTICILLATA Linnaeus—Chinese Mallow (Figure 18). 2n = 84, 112. Waste places, roadsides. From China. [M. VERTICILLATA var. CRISPA Linnaeus; M. CRISPA (Linnaeus) Linnaeus]

MALVASTRUM COROMANDELIANUM (Linnaeus) Garcke—(Figure 18). 2n = 24. Wool waste. From Texas, Mexico, Central America, Caribbean, South America.

NAPAEA DIOICA Linnaeus—Glade-mallow (Figure 18). 2n = ca. 30. Roadsides, railroads. From farther west and south.

PSEUDABUTILON STUCKERTII R.E. Fries—(Figure 18). 2n = ? Wool waste. From South America. [WISSADULA CALLIMORPHA (Hochreutiner) Hassler var. FRIESII Hassler]

SIDA HERMPHRODITA (Linnaeus) Rusby—Virginia Mallow (Figure 18). 2n = 28. Waste places, fields. From farther south.

SIDA SPINOSA Linnaeus—Prickly Mallow (Figure 18). 2n = 14, 28. Waste places, wool waste, fields. From tropical Americas, tropical Africa, tropical Asia.

SPHAERALCEA MENDOCINA (Philippi) K. Schumann—(Figure 18). 2n = ? Wool waste. From South America.

Tilia americana Linnaeus var. americana—Basswood (Figure 18). 2n = 82. Rich woods. [T. glabra Ventenat - illegitimate name; T. neglecta Spach]

TILIA AMERICANA Linnaeus var. CAROLINIANA (Miller) Castiglioni—(Figure 18). 2n = 82. Wooded hillside. From farther south. [T. PUBESCENS Aiton]

TILIA AMERICANA Linnaeus var. HETEROPHYLLA (Ventenat) Loudon—White Basswood (Figure 19). 2n = 82. Roadsides, dry, open soil near river. From farther south and west. [T. HETEROPHYLLA Ventenat]

TILIA CORDATA Miller—(Figure 19). 2n = 82. Roadsides, railroads, hedgerows, woodland margins, floodplain woods. From Eurasia.

TILIA PLATYPHYLLOS Scopoli—Large-leaved Linden (Figure 19). 2n = 82. Roadsides. From Europe, Turkey.

—Tilia hybrid—

TILIA × EUROPAEA Linnaeus (pro species)—(Figure 19). [T. CORDATA Miller × T. PLATYPHYLLOS Scopoli; T. × VULGARIS Hayne (pro species)]

PODOSTEMACEAE

Podostemum ceratophyllum Michaux—Threadfoot (Figure 19). 2n = ? On rocks in rapid current of streams.
**Solanaceae**

*Capsicum annuum* Linnaeus var. *Glabriusculum* (Dunal) Heiser & Pickersgill—Bird Pepper (Figure 19). $2n = 24, 48$. Waste places, railroads. From farther south and west, Mexico, Central America, Caribbean, South America.

*Datura inoxia* Miller—Downy Thorn-apple (Figure 19). $2n = 24$. Waste places, roadsides, railroads. From Texas, Mexico, Central America, Caribbean, South America.

*Datura stramonium* Linnaeus—Jimsonweed (Figure 19). $2n = 24$. Waste places, roadsides, fields. From Mexico and perhaps elsewhere in the Americas. [D. stramonium var. *Tatula* (Linnaeus) Torrey]

*Datura wrightii* Regel—Sacred Thorn-apple (Figure 19). $2n = 24$. Waste places. From farther west.

*Hyoscyamus niger* Linnaeus—Black Henbane (Figure 20). $2n = 34$. Roadsides, waste places, wool waste. From Eurasia, northern Africa.

*Leucophysalis grandiflora* (Hooker) Rydberg—White Ground-cherry (Figure 20). $2n = 48$. Lake shores. [Chamaesaracha grandiflora (Hooker) Fernald; Physalis grandiflora Hooker]

*Lychnis barbarum* Linnaeus—Common Matrimony-vine (Figure 20). $2n = 24, 48$. Waste places, roadsides, fields, waste places, thickets. From China. [L. halimifolium Miller]

*Lychnis chinense* Miller var. *Chinense*—Chinese Matrimony-vine (Figure 20). $2n = 24, 36, 48$. Waste places, roadsides. From eastern Asia.

*Nicandra physalodes* (Linnaeus) Gaertner—Apple-of-Peru (Figure 20). $2n = 20$. Waste places, roadsides. From Peru.

*Nicotiana alata* Link & Otto—Jasmine Tobacco (Figure 20). $2n = 18$. Waste places, roadsides. From South America. [N. Affinis T. Moore]

*Nicotiana langsdorffii* Weinmann—(Figure 20). $2n = 18, 36$. Waste places. From South America.

*Nicotiana longiflora* Cavanilles—(Figure 20). $2n = 20$. Waste places. From South America.

*Nicotiana quadrivalvis* Pursh var. *Bigelovii* (Torrey) DeWolf—(Figure 20). $2n = ?$ Wool waste. From farther west.

*Nicotiana rustica* Linnaeus—Aztec Tobacco (Figure 21). $2n = 48$. Fields, roadsides, waste places. From western South America.

*Nicotiana tabacum* Linnaeus—Common Tobacco (Figure 21). $2n = 24, 48$. Fields, waste places. From tropical America.

*Petunia axillaris* (Lamarck) Britton, Sterns & Poggenburg—White Moon Petunia (Figure 21). $2n = 14, 21, 56$. Roadsides, railroads, waste places. From South America.
**PETUNIA INTEGRIFOLIA** (Hooker) Schinz & Thellung—Violet Petunia (Figure 21). 2n = 14. Waste places. From South America. [*P. VIOLACEA* Lindley]

—Petunia hybrid—

**PETUNIA × ATKINSIANA** (Sweet) D. Don *ex* W.H. Baxter (*pro species*)—(Figure 21). [*P. AXILLARIS* (Lamarck) Britton, Sterns & Poggenburg × *P. INTEGRIFOLIA* (Hooker) Schinz & Thellung; *P. × HYBRIDA* misapplied]

**PHYSALIS ALKEKENGI** Linnaeus—Chinese-lantern (Figure 21). 2n = 24. Waste places, roadsides, thickets, railroads. From Eurasia. Note: This species will placed in the genus *ALKEKENGI* in the forthcoming Flora of North America treatment, but the specific epithet is still undetermined.

**PHYSALIS ANGULATA** Linnaeus—(Figure 21). 2n = 24, 48. Waste places. From farther west and south.

**Physalis grisea** (Waterfall) M. Martínez—Strawberry-tomato (Figure 21). 2n = 24. Waste places, roadsides, sandy fields and bluffs. [*P. pruinosa* misapplied; *P. pubescens* Linnaeus var. *grisea* Waterfall]

**Physalis heterophylla** Nees—Clammy Ground-cherry (Figure 21). 2n = 24. Fields, dry, open woods, clearings, roadsides, waste places. [*P. heterophylla* var. *ambigua* (A. Gray) Rydberg; *P. nyctaginea* Dunal]

**PHYSALIS IXOCARPA** Brotero *ex* Hornemann var. **IMMACULATA** (Waterfall) Kartesz & Gandhi—(Figure 22). 2n = ? Waste places. From ? [*P. PHILADELPHICA* Lamarck var. *IMMACULATA* Waterfall]


**Physalis virginiana** Miller—(Figure 22). 2n = 24. Waste places, fields, dry, sandy or rocky woodlands, woodland margins, clearings.

**SALPIGLOSSIS SINUATA** Ruiz & Pavón—Painted-tongue (Figure 22). 2n = 44. Waste places. From Chile.

**SOLANUM CAPSICOIDES** Allioni—Cockroach-berry (Figure 22). 2n = 24. Waste places. From South America. [*S. SPHAEROCARPUM* Moricand]

**SOLANUM CAROLINENSE** Linnaeus—Horse-nettle (Figure 22). 2n = 24. Dry fields, openings, roadsides, railroads, waste places, especially in sandy soil. From farther south.

**SOLANUM CITRULLIFOLIUM** A. Braun var. **CITRULLIFOLIUM**—(Figure 22). 2n = 24. Waste places. From Texas, Mexico.
SOLANUM DULCAMARA Linnaeus—Climbing Nightshade (Figure 22). 2n = 24. Moist thickets, clearings, streambanks, roadsides, waste places. From Eurasia, northern Africa. [S. DULCAMARA var. VILLOSIISSIMUM Desvaux]

SOLANUM LYCOPERSICUM Linnaeus—Garden Tomato (Figure 22). 2n = 24, 48. Waste places, roadsides, railroads, shores, streambanks. From Mexico. [LYCOPERSICON ESCULENTUM Miller]

SOLANUM MELOMENA Linnaeus—Eggplant (Figure 23). 2n = 24, 48. Waste places. From Africa.

SOLANUM NIGRUM Linnaeus—European Black Nightshade (Figure 23). 2n = 24, 36, 48, 72. Sea beaches, waste places. From Eurasia, northern Africa.

SOLANUM PHYSALIFOLIUM Rusby—(Figure 23). 2n = 16. Waste places, field and woodland margins, roadsides. From South America. [S. SARACHOIDES misapplied]

SOLANUM PSEUDOCAPSICUM Linnaeus—Jerusalem-cherry (Figure 23). 2n = 24. Waste places. From Mexico, Central America, Caribbean, South America.

Solanum pytchanthum Dunal—Eastern Black Nightshade (Figure 23). 2n = 24. Woodlands, shores, thickets, waste places, usually moist soil. [S. americanum misapplied; S. nigrum misapplied]

SOLANUM ROSTRATUM Dunal—Buffalo-bur (Figure 23). 2n = 24. Waste places, railroads, shores. From farther west. [S. CORNUTUM misapplied]

SOLANUM SISYMBRIIFOLIUM Lamarck—Sticky Nightshade (Figure 23). 2n = 24. Waste places. From South America.

SOLANUM TRIFLORUM Nuttall—(Figure 23). 2n = 24. Waste places. From farther west.

SOLANUM TUBEROUM Linnaeus—Potato (Figure 23). 2n = 24, 36, 48. Waste places, roadsides, railroads, fields. From western South America.

SOLANUM VILLOSUM Miller—(Figure 24). 2n = 48. Waste places. From southern Europe.

TAMARICACEAE

TAMARIX PARVIFLORA de Candolle—(Figure 24). 2n = ?. Waste places, sandy roadsides. From southeastern Europe, southwestern Asia.

TAMARIX RAMOSISSIMA Ledebour—Pink Tamarisk (Figure 24). 2n = 22, 24. Dry gravel fill over salt marsh. From eastern Europe, Asia. [T. PENTANDRA Pallas - illegitimate name]

THYMELAEACEAE

DAPHNE CNEORUM Linnaeus—Rose Daphne (Figure 24). 2n = 18. Dry, woodland roadside near cellar hole. From Europe.
**DAPHNE MEZEREUM** Linnaeus—Mezereon (Figure 24). 2n = 18. Roadsides, thickets, calcareous rocky knolls and hillsides, dry woods, fields. From Eurasia.

**Dirca palustris** Linnaeus—Leatherwood (Figure 24). 2n = 2. Damp, rich, deciduous or mixed woods.

**VIOLACEAE**

**Hybanthus concolor** (T.F. Forster) Sprengel—Green Violet (Figure 24). 2n = 48. Shaded, calcareous talus.

**Viola adunca** Smith var. adunca—(Figure 24). 2n = 20, 30, 40. Dry, open woods, fields, rocky slopes, roadsides, railroads, often in dry, sandy soil.

**Viola affinis** Leconte—(Figure 24). 2n = 54. Rich, moist woods, moist fields, meadows, damp thickets, streambanks, shores. [**V. venustula** Greene]

**VIOLA ARVENSIS** Murray—European Field Pansy (Figure 25). 2n = 34. Fields, waste places, roadsides. From Eurasia, northern Africa.

**Viola blanda** Willdenow—Sweet White Violet (Figure 25). 2n = 44, 48. Rich, moist woods, swamps. [**V. blanda** var. *palustriformis* A. Gray; **V. incognita** Brainerd var. *incognita*; **V. incognita** var. *forbesii* Brainerd]

**Viola brittoniana** Pollard—Coastal Violet (Figure 25). 2n = 54. Sandy soil, often near streams, meadows or coastal marshes. [**V. brittoniana** var. *pectinata* (E.P. Bicknell) Alexander; **V. pectinata** E.P. Bicknell; **V. pedatifida** G. Don var. *brittoniana* (Pollard) R.J. Little & L.E. McKinney]

**Viola canadensis** Linnaeus var. *canadensis*—Tall White Violet (Figure 25). 2n = 24. Rich, moist, deciduous woods, often calcareous or rocky.

**Viola cucullata** Aiton—Marsh Blue Violet (Figure 25). 2n = 54. Swamps, wet meadows, rich woods, streamsides.

**Viola labradorica** Schrank—American Dog Violet (Figure 25). 2n = 20. Rich woods, woodland clearings, meadows, swamps, bogs, alluvial thickets, streambanks, ledges, talus. [**V. adunca** Leconte var. *minor* (Hooker) Fernald; **V. conspersa** Reichenbach]

**Viola lanceolata** Linnaeus—Lance-leaved Violet (Figure 25). 2n = 24. Shores, swamps, meadows, in damp or wet, sandy or sphagnous, open or slightly shaded soil.

**Viola mackloskeyi** F.E. Lloyd—Northern White Violet (Figure 25). 2n = 24. Swamps, wet or springy woods, meadows, shores, alpine areas, often among mosses. [**V. pallens** (Banks ex Gingins) Brainerd]

**Viola nephrophylla** Greene—Northern Bog Violet (Figure 25). 2n = 24. Rocky or gravelly river shores, often calcareous, bogs, meadows, rich, moist woods.
Viola novae-angliae House—(Figure 26). 2n = ? Rocky, gravelly or sandy river shores. [V. sororia Willdenow var. grisea (Fernald) L.E. McKinney]

VIOLA ODORATA Linnaeus—English Violet (Figure 26). 2n = 20. Fields, waste places, roadsides. From Eurasia, northern Africa.

Viola palmata Linnaeus var. palmata—Wood Violet (Figure 26). 2n = 54. Wooded hillsides, rich, deciduous woods, calcareous ledges. [V. palmata var. triloba (Schweinitz) Gingins ex de Candolle; V. triloba Schweinitz var. triloba; V. triloba var. dilatata (Elliott) Brainerd]

Viola palustris Linnaeus—Alpine Marsh Violet (Figure 26). 2n = 48. Alpine and subalpine brookside and rocky slopes.

Viola pedata Linnaeus var. pedata—Bird-foot Violet (Figure 26). 2n = 54, 56. Dry, open, sandy soil. [V. pedata var. lineariloba de Candolle]

Viola primulifolia Linnaeus var. primulifolia—(Figure 26). 2n = 24. Meadows, swamps, shores, thin, moist woods. [V. primulifolia var. acuta (Bigelow) Torrey & A. Gray]

Viola pubescens Aiton var. pubescens—Downy Yellow Violet (Figure 26). 2n = 12. Rich, often dry, usually deciduous woods. [V. pubescens var. eriocarpa Nuttall; V. pubescens var. peckii House]

Viola pubescens Aiton var. scabriuscula Torrey & A. Gray—Smooth Yellow Violet (Figure 26). 2n = 12. Rich, often moist woods. [V. pubescens var. leiocarpa (Fernald & Wiegand) B. Boivin; V. pensylvanica Michaux var. pensylvanica; V. pensylvanica var. leiocarpa (Fernald & Wiegand) Fernald]

Viola renifolia A. Gray—(Figure 26). 2n = 24. Rich, cool, often moist, woods, swamps, damp thickets. [V. renifolia var. brainerdii (Greene) Fernald]

Viola rostrata Pursh—Long-spurred Violet (Figure 27). 2n = 20. Rich, often calcareous, woods.

Viola rotundifolia Michaux—Early Yellow Violet (Figure 27). 2n = 12. Rich woods.

Viola sagittata Aiton var. sagittata—Arrow-leaved Violet (Figure 27). 2n = 54. Sterile meadows, dry, sandy fields and open woods, clearings, roadsides. [V. emarginata (Nuttall) Leconte]

Viola sagittata Aiton var. ovata (Nuttall) Torrey & A. Gray—(Figure 27). 2n = 54. Dry, sterile fields, woods, roadsides and clearings, railroads. [V. fimbriatula Smith]

Viola selkirkii Pursh ex Goldie—Great-spurred Violet (Figure 27). 2n = 24. Rich woods, rocky, shady slopes.

Viola sororia Willdenow—Common Blue Violet (Figure 27). 2n = 54. Rich woods, thickets, streambanks, fields, clearings, roadsides, waste places. [V. latiuscula Greene; V. septentrionalis Greene]

Viola striata Aiton—Cream Violet (Figure 27). 2n = 20. Brookside in woodland.
Viola subsinuata (Greene) Greene—(Figure 27). 2n = 54. Rich, often rocky, woods, calcareous ledges, dry hillsides, roadsides.

VIOLA TRICOLOR Linnaeus var. TRICOLOR—Heart’s-ease (Figure 27). 2n = 26. Field, waste places, gravel banks, roadsides, open woods. From Eurasia.

—Viola hybrids—

Viola adunca Smith var. adunca × V. labradorica Schrank—(Figure 28).

Viola affinis Leconte × V. nephrophylla Greene—(Figure 28). [Viola × subaffinis House]

Viola affinis Leconte × V. palmata Linnaeus var. palmata—(Figure 28).

Viola affinis Leconte × V. sagittata Aiton var. sagittata—(Figure 28).

Viola affinis Leconte × sagittata Aiton var. ovata (Nuttall) Torrey & A. Gray—(Figure 28). [Viola × hollickii House (pro species)]

Viola affinis Leconte × V. sororia Willdenow—(Figure 28). [V. × champlainensis House; Viola × filicetorum Greene (pro species)]

Viola brittoniana Pollard × V. cucullata Aiton—(Figure 28). [Viola × notabilis E.P. Bicknell (pro species)]

Viola brittoniana Pollard × V. lanceolata Linnaeus—(Figure 28).

Viola brittoniana Pollard × V. sagittata Aiton var. sagittata—(Figure 28).

Viola brittoniana Pollard × V. sagittata Aiton var. ovata (Nuttall) Torrey & A. Gray—(Figure 29). [Viola × mulfordae Pollard (pro species)]

Viola brittoniana Pollard × V. sororia Willdenow—(Figure 29). [Viola × insolita House]

Viola cucullata Aiton × V. nephrophylla Greene—(Figure 29). [Viola × insessa House]

Viola cucullata Aiton × V. palmata Linnaeus var. palmata—(Figure 29). [Viola × greenmanii House; V. × ryoniae House]

Viola cucullata Aiton × V. sagittata Aiton var. sagittata—(Figure 29). [Viola × festata House] Note: Since one of the parent species, V. sagittata var. sagittata, is limited primarily to southern New England, the specimens from northern New England identified as this hybrid are more likely to be V. × porteriana Pollard.

Viola cucullata Aiton × V. sagittata Aiton var. ovata (Nuttall) Torrey & A. Gray—(Figure 29). [Viola × porteriana Pollard (pro species)]

Viola cucullata Aiton × V. sororia Willdenow—(Figure 29). [Viola × bissellii House; ? V. papilionacea Pursh]
Viola labradorica Schrank × V. rostrata Pursh—(Figure 29). [Viola × malteana House]

Viola labradorica Schrank × V. striata Aiton—(Figure 29). [Viola × eclipes H.E. Ballard]

Viola lanceolata Linnaeus × V. primulifolia Linnaeus var. primulifolia—(Figure 30). [Viola × modesta House, illegitimate name]

Viola palmata Linnaeus var. palmata × V. sagittata Aiton var. sagittata—(Figure 30). [Viola × mistura House]

Viola palmata Linnaeus var. palmata × V. sagittata Aiton var. ovata (Nuttall) Torrey & A. Gray—(Figure 30). [V. × convicta House; Viola × robinsoniana House]

Viola palmata Linnaeus var. palmata × V. sororia Willdenow—(Figure 30). [Viola × populifolia Greene (pro species)]

Viola sagittata Aiton var. sagittata × V. sororia Willdenow—(Figure 30). [Viola × conjugens Greene (pro species)]

Viola sagittata Aiton var. ovata (Nuttall) Torrey & A. Gray × V. sororia Willdenow—(Figure 30). [Viola × fernaldii House]

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LITERATURE CITED & CONSULTED

(general references listed in our previous articles are not repeated here)

Stevens, P.F. 2001 onwards. Angiosperm Phylogeny Website, version 9, June 2008 [and more or less continuously updated since]. <http://www.mobot.org/MOBOT/research/APweb/>
Figure 1. Key map for counties of the New England states (and Mt. Desert Island, Maine; Block Island, Rhode Island; arbitrary divisions of larger Maine counties and of Coös County, New Hampshire).
AMSONIA TABERNAEMONTANA

Apocynum androsaemifolium

Apocynum cannabinum

Apocynum X floribundum

Asclepias amplexicaulis

Asclepias exaltata

Asclepias incarnata

Asclepias incarnata

Asclepias purpurascens

Figure 2. Distribution maps.
Asclepias quadrifolia

Asclepias syriaca

Asclepias tuberosa
subsp. tuberosa

Asclepias variegata

Asclepias verticillata

Asclepias viridiflora

Asclepias amplexicaulis
X. A. exaltata

Asclepias amplexicaulis
X. A. syriaca

PERIPLOCA GRAECA

Figure 3. Distribution maps.
Figure 4. Distribution maps.
Figure 5. Distribution maps.
Figure 6. Distribution maps.
Figure 7. Distribution maps.
Figure 8. Distribution maps.
Figure 9. Distribution maps.
Figure 10. Distribution maps.
Figure 11. Distribution maps.
FRASERA ALBICAULIS
var. NITIDA

Gentiana andrewsii
var. andrewsii

Gentiana clausa

GENTIANA CRUCIATA

Gentiana linearis

Gentiana rubricaulis

Gentianella amarella
subsp. acuta

Gentianella quinquefolia
subsp. quinquefolia

Gentianopsis crinita

Figure 12. Distribution maps.
Figure 13. Distribution maps.
Figure 14. Distribution maps.
Figure 15. Distribution maps.
Figure 16. Distribution maps.
Figure 17. Distribution maps.
Figure 18. Distribution maps.
Figure 19. Distribution maps.
Figure 20. Distribution maps.
Figure 21. Distribution maps.
Figure 22. Distribution maps.
Figure 23. Distribution maps.
Figure 24. Distribution maps.
Figure 25. Distribution maps.
Figure 26. Distribution maps.
Figure 27. Distribution maps.
Figure 28. Distribution maps.
Figure 29. Distribution maps.
Figure 30. Distribution maps.