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ATLAS OF THE FLORA OF NEW ENGLAND: SALICACEAE TO BRASSICACEAE

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ABSTRACT

Dot maps are provided to depict the distribution at the county level of the taxa of Magnoliophyta: Salicaceae to Brassicaceae (corresponding to *Flora of North America*, *Volume 7* (Flora of North America Editorial Committee 2010)) growing outside of cultivation in the six New England states of the northeastern United States. The maps treat 205 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), habitat, chromosome information, and common names are also provided.

KEY WORDS. Flora, New England, atlas, distribution, Brassicaceae, Capparaceae, Cleomaceae, Limnanthaceae, Resedaceae, Salicaceae, Tropaeolaceae

This article is the eighth in a series (Angelo & Boufford 1996, 1998, 2000, 2007, 2010, 2011, 2012) that will present the distributions of the vascular flora of New England in the form of dot distribution maps at the county level (Fig. 1). 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 (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 eighth installment includes the families in Magnoliophyta: Salicaceae to Brassicaceae corresponding to the families treated in *Flora of North America*, *Volume 7* (Flora of North America Editorial Committee 2010). Of the 205 taxa treated, 109 are not native to the region – a surprising 53%. 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. Such information is omitted where habitat is not indicated on the label and where we also lack personal knowledge of the plant in New England. All omissions of habitat information are for a few introduced taxa and for all hybrids.

We plan to gather this series of articles, together with additional background material, into a separate volume upon completion of all the installments. It is our hope, in the meantime, 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 at http://neatlas.org/Intro-Pterid&Gym.html, and are not repeated here..

TAXONOMY AND FORMAT

The taxonomy and nomenclature adopted for this work essentially follow that of the Flora of North America project, 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 *Flora of North America*, *Volume 7* (Flora of North America Editorial Committee 2010) and from Missouri Botanical Garden's Index to Plant Chromosome Numbers [website (http://mobot.mobot.org/W3T/Search/ipcn.html); St. Louis, MO].

Synonymy is provided primarily with respect to names accepted in standard manuals covering New England published from 1950 onward, including Fernald (1950), Gleason (1952), Gleason and Cronquist (1991), and Seymour (1982). 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:

Capparaceae	=>	Cleomaceae
Alyssum (in part)	=>	*Aurinia*
Arabis (in part)	=>	*Arabidopsis*
Arabis (in part)	=>	*Boechera*
Arabis (in part)	=>	*Turritis*
Armoracia (in part)	=>	*Rorippa*
Brassica (in part)	=>	*Sinapis*
Cardaria	=>	*Lepidium*
Cleome (in part)	=>	*Peritoma*
Cleome (in part)	=>	*Tarenaya*
Coronopus	=>	*Lepidium*
Dentaria	=>	*Cardamine*
Neobeckia	=>	*Rorippa*
Neotularia (in part)	=>	*Braya*
Rorippa (in part)	=>	*Nasturtium*

The following species have been reported from our area but are excluded for the reasons noted:

Arabis procurrens Waldstein & Kitaibel [no voucher for wild occurrence found; reported from Massachusetts]

Diplotaxis erucoides (Linnaeus) de Candolle [no voucher for wild occurrence found; reported from Massachusetts]

Draba aurea Vahl *ex* Hornemann [specimen collected from Barnstable Co., Massachusetts lacks information to indicate wild occurrence]

Draba lactea Adams (*D. allenii* Fernald) [no specimen located; reported from Maine]

Draba nivalis Liljeblad [specimen collected from Barnstable Co., Massachusetts lacks information to indicate wild occurrence]

Lepidium hirtum (Linnaeus) Smith [no specimen located; reported from Maine]

Lepidium ramosissimum A. Nelson [no specimen located; reported from Maine]

Malcolmia maritima (Linnaeus) W.T. Aiton [no specimen located; reported from New Hampshire]

Rorippa sessiliflora (Nuttall) Hitchcock [specimen from Massachusetts is deemed not to represent wild occurrence]

Salix aurita Linnaeus [no specimen located; reported from Massachusetts]

Salix daphnoides Villars [no specimen located; reported from Massachusetts]

ANGIOSPERMAE (MAGNOLIOPHYTA) - ANGIOSPERMS

BRASSICACEAE

ALLIARIA PETIOLATA (M. Bieberstein) Cavara & Grande—Garlic Mustard (Figure 2). 2*n* = 42. Shaded roadsides, waste places, fields, thin woods. From Eurasia, northern Africa. [*A. OFFICINALIS* Andrzejowski *ex* M. Bieberstein]

ALYSSUM ALYSSOIDES (Linnaeus) Linnaeus—Pale Madwort (Figure 2). 2*n* = 32. Dry fields, roadsides, waste places. From Eurasia, northern Africa.

Arabidopsis lyrata (Linnaeus) O'Kane & Al-Shehbaz subsp. *lyrata*—Sand Cress (Figure 2). 2*n* = 16, 32. Dry ledges (especially basic soil), gravels, sands. [*Arabis lyrata* Linnaeus]

ARABIDOPSIS THALIANA (Linnaeus) Heynhold—Mouse-ear Cress (Figure 2). 2*n* = 10. Sandy roadsides, waste places, dry fields. From Eurasia.

Arabis alpina Linnaeus—Alpine Rock-cress (Figure 3). 2*n* = 16. Calcareous rocks, alpine meadows.

ARABIS CAUCASICA Willdenow—Garden Rock-cress (Figure 3). 2*n* = 16. Waste places. From southwestern Asia.

Arabis pycnocarpa M. Hopkins var. *pycnocarpa*—Hairy Rock-cress (Figure 3). 2*n* = 32. Dry, calcareous ledges. [*A. hirsuta* (Linnaeus) Scopoli var. *pycnocarpa* (M. Hopkins) Rollins]

ARMORACIA RUSTICANA P. Gaertner, B. Meyer & Scherbius—Horseradish (Figure 3). 2*n* = 32. Moist soil of waste places, roadsides, fields. From Eurasia. [*A. LAPATHIFOLIA* Gilibert]

AURINIA SAXATALIS (Linnaeus) Desvaux—Basket-of-gold (Figure 4). 2*n* = 16. Rock outcrops. From Eurasia. [*ALYSSUM SAXATILE* Linnaeus]

Barbarea orthoceras Ledebour—American Yellow-rocket (Figure 4). 2*n* = 16. Streambanks, swamps, wet rocks.

BARBAREA STRICTA Andrzejowski—Small-flowered Winter-cress (Figure 4). 2*n* = 16. Roadsides, waste places, fields, usually in moist soil. From Eurasia. [*B. VULGARIS* W.T. Aiton (in part) misapplied]

BARBAREA VERNA (Miller) Ascherson—Early Winter-cress (Figure 4). 2*n* = 16. Roadsides, fields, waste places. From Eurasia.

BARBAREA VULGARIS W.T. Aiton—Common Winter-cress (Figure 5). 2*n* = 16. Roadsides, fields, waste places, usually in moist soil. From Eurasia, northern Africa. [*B. VULGARIS* var. *ARCUATA* (Opiz *ex* C. Presl) Fries; *B. VULGARIS* var. *BRACHYCARPA* Rouy & Foucaud]

BERTEROA INCANA (Linnaeus) de Candolle—Hoary Alyssum (Figure 5). 2*n* = 16. Dry fields, roadsides, waste places. From Eurasia.

BERTEROA MUTABILIS (Ventenat) de Candolle—(Figure 5). 2*n* = 74, 111, 148, 185. Roadsides, waste places. From Eurasia.

Boechera canadensis (Linnaeus) Al-Shehbaz—Sicklepod (Figure 5). 2*n* = 14. Rocky wooded slopes, rich woods. [*Arabis canadensis* Linnaeus]

Boechera grahamii (Lehmann) Windham & Al-Shehbaz—Purple Rock-cress (Figure 6). 2*n* = 21. Ledges. [*Arabis brachycarpa* (Torrey & A. Gray) Britton; *Arabis divaricarpa* A. Nelson misapplied]

Boechera laevigata (Muhlenberg *ex* Willdenow) Al-Shehbaz—Smooth Rock-cress (Figure 6). 2*n* = 14. Dry, rocky, wooded slopes, shaded ledges (chiefly calcareous), rich woods. [*Arabis laevigata* (Muhlenberg *ex* Willdenow) Poiret]

Boechera missouriensis (Greene) Al-Shehbaz—Green Rock-cress (Figure 6). 2*n* = ? Dry ledges, rocky woods. [*Arabis missouriensis* Greene]

Boechera stricta (Graham) Al-Shehbaz—Drummond's Rock-cress (Figure 6). 2*n* = 14. Rocky slopes, ledges. [*Arabis drummondii* A. Gray]

BRASSICA JUNCEA (Linnaeus) Czernajew—Indian Mustard (Figure 7). 2*n* = 36. Fields, waste places, roadsides. From Eurasia, Africa. [*B. JUNCEA* var. *CRISPIFOLIA* L.H. Bailey]

BRASSICA NAPUS Linnaeus—Turnip (Figure 7). 2*n* = 38. Fields, waste places, roadsides. From Eurasia, Africa. [*B. NAPOBRASSICA* (Linnaeus) Miller]

BRASSICA NIGRA (Linnaeus) W.D.J. Koch—Black Mustard (Figure 7). 2*n* = 16. Fields, waste places, roadsides. From Eurasia, Africa.

BRASSICA OLERACEA Linnaeus—Cabbage (Figure 7). 2*n* = 18. Waste places. From Eurasia, Africa.

BRASSICA RAPA Linnaeus—Field Mustard (Figure 8). 2*n* = 20. Fields, waste places, roadsides. From Eurasia, Africa.

Braya humilis (C.A. Meyer) B.L. Robinson subsp. *humilis*—Northern Rock-cress (Figure 8). 2*n* = 28, 42, 56, 70. Calcareous cliffs and talus. [*B. humilis* var. *leiocarpa* (Trautvetter) Fernald; *Neotorularia humilis* (C.A. Meyer) Hedge & J. Léonard]

BUNIAS ORIENTALIS Linnaeus—Turkish Rocket (Figure 8). 2*n* = 14. Roadsides, waste places. From Eurasia.

Cakile edentula (Bigelow) Hooker var. *edentula*—American Sea-rocket (Figure 8). 2*n* = 18. Sandy sea beaches..

CAMELINA MICROCARPA de Candolle—(Figure 9). 2*n* = 40. Fields, roadsides, railroads. From Eurasia, northern Africa.

CAMELINA SATIVA (Linnaeus) Crantz—Gold-of-pleasure (Figure 9). 2*n* = 40. Fields, roadsides, waste places. From Eurasia.

CAPSELLA BURSA-PASTORIS (Linnaeus) Medikus—Shepherd's-purse (Figure 9). 2*n* = 32. Roadsides, fields, waste places. From Eurasia, northern Africa. [*C. BURSA-PASTORIS* var. *BIFIDA* Crépin; *C. RUBELLA* Reuter]

Cardamine bellidifolia Linnaeus—Alpine Cress (Figure 9). 2*n* = 16. Alpine brooks, wet, mossy rocks at high altitudes.

Cardamine bulbosa (Schreber *ex* Muhlenberg) Britton, Sterns & Poggenburg—Spring Cress (Figure 10). 2*n* = 16, 56, 64, 80, 96, 112. About springs, wet woods, meadows. [*C. rhomboidea* (Persoon) de Candolle]

Cardamine concatenata (Michaux) O. Schwarz—Pepper-root (Figure 10). 2*n* = 128-256. Rich, moist woods, calcareous rocky banks. [*Dentaria laciniata* Muhlenberg *ex* Willdenow]

Cardamine dentata Schultes—(Figure 10). 2*n* = 64, ca. 80. Margins of shallow water, often calcareous, swampy woods. [*C. pratensis* Linnaeus var. *palustris* Wimmer & Grabowski; see Marhold 1994, also Marhold (pers. comm.)]

Cardamine diphylla (Michaux) Alph. Wood—Crinkleroot (Figure 10). 2*n* = 96. Rich, moist woods. [*Dentaria diphylla* Michaux]

Cardamine douglassii Britton—Purple Cress (Figure 11). 2*n* = 56, 64, 96, 112 144. Rich, moist woods.

CARDAMINE FLEXUOSA Withering—Woodland Bitter-cress (Figure 11). 2*n* = 32. Fields, roadsides, disturbed areas. From Eurasia.

CARDAMINE HIRSUTA Linnaeus—Hairy Bitter-cress (Figure 11). 2*n* = 16. Roadsides, fields, waste places. From Eurasia.

CARDAMINE IMPATIENS Linnaeus—Narrow-leaved Bitter-cress (Figure 11). 2*n* = 16. Shaded grasslands, roadsides, disturbed areas, open woodlands. From Eurasia.

Cardamine longii Fernald—(Figure 12). 2*n* = ? Tidal estuaries, tidal marshes.

Cardamine maxima (Nuttall) Alph. Wood—Large Toothwort (Figure 12). 2*n* = 120, 124, 132, 138, 156, 161, ca. 208. Rich woods, woodland streambanks. [*C. anomala* (Eames) K. Schumann; *Dentaria anomala* Eames; *D. maxima* Nuttall]

Cardamine parviflora Linnaeus—Sand Bitter-cress (Figure 12). 2*n* = 16. Dry, rocky or sandy woods, ledges. [*C. parviflora* var. *arenicola* (Britton) O.E. Schulz]

Cardamine pensylvanica Muhlenberg *ex* Willdenow—Common Bitter-cress (Figure 12). 2*n* = 32, 64. Springs, brooksides, pond shores, swamps. [*C. pensylvanica* var. *brittoniana* Farwell]

Cardamine pratensis Linnaeus—Cuckooflower (Figure 13). 2*n* = 16. Meadows, moist grounds.

—*Cardamine* hybrids—

Cardamine concatenata (Michaux) O. Schwarz × *C. maxima* (Nuttall) Alph. Wood—(Figure 13). [*C.* × *incisa* K. Schumann; *Dentaria* × *incisifolia* Eames *ex* Britton]

CHORISPORA TENELLA (Pallas) de Candolle—Purple Mustard (Figure 13). 2*n* = 14. Roadsides, fields, waste places. From Eurasia, northern Africa.

CONRINGIA ORIENTALIS (Linnaeus) Dumortier—Hare's-ear Mustard (Figure 13). 2*n* = 14. Roadsides, fields, waste places. From Eurasia.

Descurainia incana (Bernhardi *ex* Fischer & C.A. Meyer) Dorn—Mountain Tansy-mustard (Figure 14). 2*n* = 14, 28. Calcareous gravels, roadsides. [*D. richardsonii* O.E. Schulz]

Descurainia pinnata (Walter) Britton subsp. *brachycarpa* (Richardson) Detling—Green Tansy-mustard (Figure 14). 2*n* = 14, 28. Roadsides, dry, rocky or sandy soils.

DESCURAINIA SOPHIA (Linnaeus) Webb *ex* Prantl—Flixweed (Figure 14). 2*n* = 28. Roadsides, waste places. From Eurasia.

DIPLOTAXIS MURALIS (Linnaeus) de Candolle—Annual Wall-rocket (Figure 14). 2*n* = 42. Waste places, roadsides. From Eurasia, Africa.

DIPLOTAXIS TENUIFOLIA (Linnaeus) de Candolle—Perennial Wall-rocket (Figure 15). 2*n* = 22. Waste places, roadsides. From Eurasia, Africa.

Draba arabisans Michaux—Rock Whitlow-grass (Figure 15). 2*n* = 96. Rock outcrops, usually calcareous or dolomitic.

Draba cana Rydberg—Ashy Whitlow-grass (Figure 15). 2*n* = 32. Calcareous cliffs. [*D. breweri* S. Watson var. *cana* (Rydberg) Rollins; *D. lanceolata* Royle - misapplied]

Draba glabella Pursh—Smooth Whitlow-grass (Figure 15). 2*n* = 64, 80. Rock outcrops, usually calcareous. [*D. glabella* var. *orthocarpa* (Fernald & Knowlton) Fernald]

Draba incana Linnaeus—Twisted Whitlow-grass (Figure 16). 2*n* = 32. Rock outcrops, usually calcareous.

Draba reptans (Lamarck) Fernald—Carolina Whitlow-grass (Figure 16). 2*n* = 16, 30, 32. Fields, ledges, dry sands.

DRABA VERNA Linnaeus—Common Whitlow-grass (Figure 16). 2*n* = 14, 16, 20, 24, 28, 30, 32, 34, 36, 38, 40, 52, 54, 58, 60, 64. Roadsides, fields, waste places, open, dry places. From Eurasia, northwestern Africa. [*D. VERNA* var. *BOERHAAVII* (H.C. Hall) Dumortier]

ERUCA VESICARIA (Linnaeus) Cavanilles subsp. *SATIVA* (Miller) Thellung—Arugula (Figure 16). 2*n* = 22. Waste places, roadsides, fields. From Europe, Africa. [*ERUCA SATIVA* Miller]

ERUCASTRUM GALLICUM (Willdenow) O.E. Shulz—Dog Mustard (Figure 17). 2*n* = 30. Waste places, roadsides, railroads, fields. From Europe.

ERYSIMUM CHEIRANTHOIDES Linnaeus—Wormseed Mustard (Figure 17). 2*n* = 16. Waste places, roadsides, railroads, fields. From Eurasia, northern Africa.

ERYSIMUM HIERACIFOLIUM Linnaeus—European Wallflower (Figure 17). 2*n* = 81. Roadsides, waste places, fields. From Eurasia.

ERYSIMUM INCONSPICUUM (S. Watson) MacMillan—Small-flowered Prairie-rocket (Figure 17). 2*n* = 26. Railroad embankments, roadsides, dry, open soil. From farther west.

ERYSIMUM MARSCHALLIANUM Andrzejowski *ex* M. Bieberstein—(Figure 18). 2*n* = 48. Moist thickets. [*E. DURUM* J. Presl & C. Presl; Note: Dr. Ihsan Al-Shehbaz (pers. comm.) believes the Grand Isle Co., VT voucher to be *E. VIRGATUM* Roth]

ERYSIMUM ODORATUM Ehrhart—Pannonian Wallflower (Figure 18). 2*n* = 14, 32. Wool waste. From Eurasia.

ERYSIMUM REPANDUM Linnaeus—Spreading Wallflower (Figure 18). 2*n* = 16. Waste places, roadsides. From Eurasia, northern Africa.

EUCLIDIUM SYRIACUM (Linnaeus) W.T. Aiton—(Figure 18). 2*n* = 14. Waste places, roadsides. From Eurasia.

HESPERIS MATRONALIS Linnaeus—Dame's-rocket (Figure 19). 2*n* = 24. Roadsides, waste places, thickets. From Eurasia, northern Africa.

IBERIS AMARA Linnaeus—Rocket Candytuft (Figure 19). 2*n* = 14. Waste places, especially dumps. From western Europe.

IBERIS SEMPERVIRENS Linnaeus—Evergreen Candytuft (Figure 19). 2*n* = 22. Fields, waste places. From Europe.

IBERIS UMBELLATA Linnaeus—Globe Candytuft (Figure 19). 2*n* = 14, 16, 18, 34. Waste places. From Europe.

ISATIS TINCTORIA Linnaeus—Dyer's Woad (Figure 20). 2*n* = 14, 28. Roadsides, fields, waste places. From Eurasia, northern Africa.

LEPIDIUM CAMPESTRE (Linnaeus) W.T. Aiton—Cow-cress (Figure 20). 2*n* = 16. Waste places, fields, roadsides. From Eurasia.

LEPIDIUM CORONOPUS (Linnaeus) Al-Shehbaz—Swine-cress (Figure 20). 2*n* = 32. Waste places, fields, roadsides. From Eurasia, northern Africa. [*CORONOPUS SQUAMATUS* (Forsskål) Ascherson]

LEPIDIUM DENSIFLORUM Schrader—Prairie Peppergrass (Figure 20). 2*n* = 32. Roadsides, waste places, railroads. From farther west or south.

LEPIDIUM DIDYMUM Linnaeus—Lesser Wort-cress (Figure 21). 2*n* = 32. Waste places, roadsides, fields. Form South America. [*CORONOPUS DIDYMUM* (Linnaeus) Smith]

LEPIDIUM DRABA Linnaeus—Hoary Cress (Figure 21). 2*n* = 32, 64. Roadsides, waste places, fields. From Eurasia. [*CARDARIA DRABA* (Linnaeus) Desvaux]

LEPIDIUM HETEROPHYLLUM Bentham—Smith's Pepperwort (Figure 21). 2*n* = 48. Roadsides, fields, waste places.

LEPIDIUM LATIFOLIUM Linnaeus—Dittander (Figure 21). 2*n* = 24. Waste places, tidal shores. From Eurasia, northern Africa.

LEPIDIUM PERFOLIATUM Linnaeus—Clasping Pepperwort (Figure 22). 2*n* = 16. Roadsides, railroads, fields, waste places. From Eurasia, northern Africa.

LEPIDIUM RUDERALE Linnaeus—Roadside Pepperwort (Figure 22). 2*n* = 16, 32. Roadsides, waste places, railroads. From Eurasia.

LEPIDIUM SATIVUM Linnaeus—Garden Cress (Figure 22). 2*n* = 16, 32. Roadsides, waste places. From Eurasia.

Lepidium virginicum Linnaeus subsp. *virginicum*—Wild Pepper-grass (Figure 22). 2*n* = 32. Roadsides, waste places, dry, open soil.

LOBULARIA MARITIMA (Linnaeus) Desvaux—Sweet Alyssum (Figure 23). 2*n* = 24. Waste places, roadsides. From Eurasia, Africa.

LUNARIA ANNUA Linnaeus—Honesty (Figure 23). 2*n* = 30. Roadsides, waste places. From Europe.

MICROTHLASPI PERFOLIATUM (Linnaeus) F.K. MEYER—Perfoliate Penny-cress (Figure 23). 2*n* = 14, 28, 42. Fields, waste places. From Eurasia, northern Africa. [*THLASPI PERFOLIATUM* Linnaeus]

NASTURTIUM MICROPHYLLUM Boenninghausen *ex* Reichenbach—(Figure 23). 2*n* = 64. Brooks. From Europe. [*N. OFFICINALE* W.T. Aiton var. *MICROPHYLLUM* (Boenninghausen *ex* Reichenbach) Thellung; *RORIPPA MICROPHYLLA* (Boenninghausen *ex* Reichenbach) Hylander *ex* Á. Löve & D. Löve]

NASTURTIUM OFFICINALE W.T. Aiton—True Water-cress (Figure 24). 2*n* = 32. Brooks, ditches, springheads. From Eurasia, northern Africa. [*N. OFFICINALE* var. *SIIFOLIUM* Reiche; *RORIPPA NASTURTIUM-AQUATICUM* (Linnaeus) Hayek]

—*Nasturtium* hybrids—

NASTURTIUM × *STERILE* (Airy Shaw) Oefelein—(Figure 24). [*N. MICROPHYLLUM* Boenninghausen *ex* Reichenbach × *N. OFFICINALE* W.T. Aiton; *RORIPPA* × *STERILIS* Airy Shaw]

NESLIA PANICULATA (Linnaeus) Desvaux—Ball-mustard (Figure 24). 2*n* = 14. Railroads, waste places, fields, roadsides. From Eurasia, northern Africa.

RAPHANUS RAPHANISTRUM Linnaeus—Wild Radish (Figure 24). 2*n* = 18. Fields, waste places, roadsides, railroads. From Eurasia.

RAPHANUS SATIVUS Linnaeus—Garden Radish (Figure 25). 2*n* = 18. Fields, roadsides, waste places. From Eurasia.

RAPISTRUM RUGOSUM (Linnaeus) Allioni—Bastard Cabbage (Figure 25). 2*n* = 16. Waste places, roadsides. From Europe. [*R. RUGOSUM* var. *VENOSUM* (Persoon) de Candolle]

RORIPPA AMPHIBIA (Linnaeus) Besser—Great Yellow-cress (Figure 25). 2*n* = 16, 32. Quiet water, shores, waste places. From Eurasia.

Rorippa aquatica (Eaton) E.J. Palmer & Steyermark—Lake-cress (Figure 25). 2*n* = 24. Lakes, quiet streams. [*Armoracia aquatica* (Eaton) Wiegand; *A. lacustris* (A. Gray) Al-Shehbaz & V.M. Bates; *Neobeckia aquatica* (Eaton) Greene]

RORIPPA AUSTRIACA (Cranz) Besser—Austrian Yellow-cress (Figure 26). 2*n* = 24. Low fields, muddy shores, ditches. From Europe.

RORIPPA GLOBOSA (Turczaninow *ex* Fischer & C.A. Meyer) Hayek—Wind Cauliflower (Figure 26). 2*n* = 16. Waste places. From eastern Asia.

Rorippa palustris (Linnaeus) Besser subsp. *palustris*—Marsh Cress (Figure 26). 2*n* = 32. Shores, damp openings, ditches. [*R. palustris* subsp. *fernaldiana* (Butters & Abbe) Jonsell; *R. islandica* (Oeder *ex* Murray) Borbás var. *fernaldiana* Butters & Abbe; *R. islandica* var. *islandica* misapplied]

Rorippa palustris (Linnaeus) Besser subsp. *hispida* (Desvaux) Jonsell—(Figure 26). 2*n* = 32. Shores, damp openings, waste places. [*R. islandica* (Oeder *ex* Murray) Borbás var. *hispida* (Desvaux) Butters & Abbe; *R. islandica* var. *islandica* misapplied]

RORIPPA SYLVESTRIS (Linnaeus) Besser—Creeping Yellow-cress (Figure 27). 2*n* = 32, 40, 48. Wet roadsides, meadows, other wet places. From Eurasia.

—*Rorippa* hybrids—

RORIPPA × *PROSTRATA* (J.P. Bergeret) Schinz & Thellung—(Figure 27). [*R. AMPHIBIA* (Linnaeus) Besser × *R. SYLVESTRIS* (Linnaeus) Besser]

SINAPIS ALBA Linnaeus—White Mustard (Figure 27). 2*n* = 24. Roadsides, waste places, railroads. From Eurasia. [*BRASSICA ALBA* (Linnaeus) Rabenhorst; *B. HIRTA* Moench]

SINAPIS ARVENSIS Linnaeus—Charlock (Figure 27). 2*n* = 18. Waste places, fields, roadsides. From Eurasia. [*BRASSICA KABER* (de Candolle) L.C. Wheeler; *B. KABER* var. *PINNATIFIDA* (Stokes) L.C. Wheeler; *B. KABER* var. *SCHKUHRIANA* (Reichenbach) L.C. Wheeler]

SISYMBRIUM ALTISSIMUM Linnaeus—Tumble-mustard (Figure 28). 2*n* = 14. Waste places, fields, roadsides. From Eurasia, northwestern Africa.

SISYMBRIUM IRIO Linnaeus—London Rocket (Figure 28). 2*n* = 14. Roadsides, railroads, waste places. From Eurasia, northern Africa.

SISYMBRIUM LOESELII Linnaeus—False London Rocket (Figure 28). 2*n* = 14. Waste places, fields, roadsides. From Eurasia.

SISYMBRIUM OFFICINALE (Linnaeus) Scopoli—Hedge-mustard (Figure 28). 2*n* = 14. Waste places, roadsides, fields. From Eurasia, northern Africa. [*S. OFFICINALE* var. *LEIOCARPUM* de Candolle]

SISYMBRIUM ORIENTALE Linnaeus—Indian Hedge-mustard (Figure 29). 2*n* = 14. Waste places, roadsides. From Eurasia, northern Africa.

Subularia aquatica Linnaeus subsp. *americana* G.A. Mulligan & Calder—Awlwort (Figure 29). 2*n* = 30. Submersed at sandy lake shores.

TEESDALIA NUDICAULIS (Linnaeus) W.T. Aiton—Shepherd's Cress (Figure 29). 2*n* = 36. Sandy fields, roadsides, waste places. From Eurasia.

THLASPI ARVENSE Linnaeus—Field Penny-cress (Figure 29). 2*n* = 14. Roadsides, waste places, fields. From Eurasia.

TROPIDOCARPUM GRACILE Hooker—Dobie Pod (Figure 30). 2*n* = 16. Wool waste. From farther west.

Turritis glabra Linnaeus—Tower-mustard (Figure 30). 2*n* = 12, 16, 32. Rich, open woods, ledges, fields, railroads. [*Arabis glabra* (Linnaeus) Bernhardi]

CLEOMACEAE

PERITOMA SERRULATA (Pursh) de Candolle—Rocky Mountain Beeplant (Figure 30). 2*n* = 34, 60. Waste places. From farther west. [*CLEOME SERRULATA* Pursh]

Polanisia dodecandra (Linnaeus) de Candolle subsp. *dodecandra*—Clammyweed (Figure 30). 2*n* = 20. Sandy or gravelly shores. [*P. graveolens* Rafinesque]

POLANISIA DODECANDRA (Linnaeus) de Candolle subsp. *TRACHYSPERMA* (Torrey & A. Gray) H.H. Iltis—Sandyseed (Figure 31). Roadsides. From farther west and south. [*P.TRACHYSPERMA* Torrey & A. Gray]

TARENAYA HASSLERIANA (Chodat) H.H. Iltis—Pink-queen (Figure 31). Waste places, roadsides. From South America. [*CLEOME HASSLERIANA* Chodat; *C. SPINOSA* (Jacquin) Rafinesque - misapplied]

LIMNANTHACEAE

Floerkea proserpinacoides Willdenow—False Mermaid (Figure 31). 2*n* = 10. Alluvial woods, usually wet.

RESEDACEAE

RESEDA ALBA Linnaeus—White Mignonette (Figure 31). 2*n* = 40. Waste places, roadsides. From Eurasia, northern Africa.

RESEDA LUTEA Linnaeus—Yellow Mignonette (Figure 32). 2*n* = 48. Fields, roadsides, waste places. From Eurasia, northern Africa.

RESEDA LUTEOLA Linnaeus—Dyer's Rocket (Figure 32). 2*n* = 24, 26. Waste places. From Eurasia, northern Africa.

RESEDA ODORATA Linnaeus—Garden Mignonette (Figure 32). 2*n* = 12. Waste places. From northern Africa.

SALICACEAE

POPULUS ALBA Linnaeus—White Poplar (Figure 32). 2*n* = 38. Roadsides, waste places, field borders. From Eurasia.

Populus balsamifera Linnaeus—Balsam Poplar (Figure 33). 2*n* = 38. Alluvial soils, streambanks, rich, low woods. [*P. balsamifera* var. *subcordata* Hylander]

Populus deltoides W. Bartram *ex* Marshall subsp. *deltoides*—Cottonwood (Figure 33). 2*n* = 38. Streambanks, lake shores, floodplains.

Populus grandidentata Michaux—Bigtooth Aspen (Figure 33). 2*n* = 38. Dry woods, recent burns, hillsides.

Populus heterophylla Linnaeus—Swamp Poplar (Figure 33). 2*n* = ? Swamps, flooded bottomlands.

POPULUS NIGRA Linnaeus—Lombardy Poplar (Figure 34). 2*n* = 38, 57. Roadsides, old house sites. From Eurasia. [*P. NIGRA* var. *ITALICA* Münchhausen]

POPULUS TREMULA Linnaeus—European Aspen (Figure 34). 2*n* = 38. Waste places. From Eurasia.

Populus tremuloides Michaux—Quaking Aspen (Figure 34). 2*n* = 38, 57, 76. Dry, open woods, recent burns and clearings, roadsides. [*P. tremuloides* var. *magnifica* Victorin]

—*Populus* hybrids—

Populus × *canadensis* Moench—(Figure 34). [*P. deltoides* W. Bartram *ex* Marshall subsp. *deltoides* × *P. NIGRA* Linnaeus]

POPULUS × *CANESCENS* (Aiton) Smith—Gray Poplar (Figure 35). [*P. ALBA* Linnaeus × *P. TREMULA* Linnaeus]

Populus × *heimburgii* B. Boivin—(Figure 35). [*P. ALBA* Linnaeus × *P. tremuloides* Michaux]

Populus × *jackii* Sargent—Balm-of-Gilead (Figure 35). [*P. balsamifera* Linnaeus × *P. deltoides* W. Bartram *ex* Marshall subsp. *deltoides*; *P.* × *gileadensis* Rouleau]

Populus × *rouleauiana* B. Boivin—(Figure 35). [*P. ALBA* Linnaeus × *P. grandidentata* Michaux]

Populus × *smithii* B. Boivin—(Figure 36). [*P. grandidentata* Michaux × *P. tremuloides* Michaux]

SALIX ALBA Linnaeus—White Willow (Figure 36). 2*n* = 76. Low moist ground, along streams, shores, roadsides. From Eurasia. [*S. ALBA* var. *CALVA* Michaux; *S. ALBA* var. *CALVA* (Linnaeus) Stokes]

Salix amygdaloides Andersson—Peach-leaved Willow (Figure 36). 2*n* = 38. Lake shores, low woods.

Salix arctophila Cockerell *ex* A. Heller—Northern Willow (Figure 36). 2*n* = 76. Alpine meadows.

Salix argyrocarpa Andersson—Labrador Willow (Figure 37). 2*n* = 76. Alpine or subalpine meadows.

SALIX ATROCINEREA Brotero—Rusty Willow (Figure 37). 2*n* = 76. Marshes, wooded wetlands. From Europe.

SALIX BABYLONICA Linnaeus—Weeping Willow (Figure 37). 2*n* = 76. Streambanks, shores, low grounds, near settlements. From Asia.

Salix bebbiana Sargent—Bebb Willow (Figure 37). 2*n* = 38. Damp thickets, springy places.

Salix candida Flüggé *ex* Willdenow—Hoary Willow (Figure 38). 2*n* = 38. Calcareous bogs and swamps.

SALIX CAPREA Linnaeus—Goat Willow (Figure 38). 2*n* = 38. Thickets, roadsides. From Europe.

SALIX CINEREA Linnaeus—Gray Willow (Figure 38). 2*n* = 76. Sandy or gravelly, freshwater shores, wet thickets, moist waste places. From Eurasia.

Salix cordata Michaux—Dune Willow (Figure 38). 2*n* = 38. Sandy or gravelly shores, beaches, dunes.

Salix discolor Muhlenberg—Pussy Willow (Figure 39). 2*n* = 76, 95, 114. Damp thickets, freshwater shores, swamps. [*S. discolor* var. *overi* C.R. Ball]

SALIX ELAEAGNOS Scopoli—Olive Willow (Figure 39). 2*n* = 38. Shores, rocky banks. From Europe. [*S. INCANA* Schrank]

Salix eriocephala Michaux—Wand Willow (Figure 39). 2*n* = 38. Low thickets, pond shores, streambanks, swamps. [*S. cordata* Muhlenberg var. *abrasa* Fernald; *S. rigida* Muhlenberg; *S. rigida* var. *angustata* (Pursh) Fernald]

Salix herbacea Linnaeus—Dwarf Willow (Figure 39). 2*n* = 38. Mossy rocks in alpine areas.

Salix humilis Marshall var. *humilis*—Prairie Willow (Figure 40). 2*n* = 38, 76. Dry thickets, openings, dry, mixed woods. [*S. humilis* var. *hyporhysa* Fernald; *S. humilis* var. *keweenawensis* Farwell]

Salix humilis Marshall var. *tristis* (Aiton) Griggs—Dwarf Prairie Willow (Figure 40). 2*n* = ? Dry barrens, open woods, swampy areas in woods. [*S. humilis* var. *microphylla* (Andersson) Fernald; *S. occidentalis* Walter]

Salix interior Rowlee—Sandbar Willow (Figure 40). 2*n* = 38. Sandy or silty alluvial soil, river sandbars, streambanks, shores. [*S. interior* var. *exterior* Fernald; *S. exigua* Nuttall subsp. *interior* (Rowlee) Cronquist]

Salix lucida Muhlenberg—Shining Willow (Figure 40). 2*n* = 76. Low grounds, freshwater shores, swamps. [*S. lucida* var. *angustifolia* (Andersson) Andersson; *S. lucida* var. *intonsa* Fernald]

Salix myricoides Muhlenberg—Blue-leaf Willow (Figure 41). 2*n* = ? River thickets, gravelly shores, usually in calcareous soil. [*S. glaucophylloides* Fernald]

SALIX MYRSINIFOLIA Salisbury—Dark-leaved Willow (Figure 41). 2*n* = 114. Waste places, roadsides. From Eurasia.

Salix nigra Marshall—Black Willow (Figure 41). 2*n* = 38. Streambanks, shores, rich, low, woods.

Salix pedicellaris Pursh—Bog Willow (Figure 41). 2*n* = 38, 57, 76. *Sphagnum* bogs and swamps, sphagnous shores. [*S. pedicellaris* var. *hypoglauca* Fernald; *S. pedicellaris* var. *tenuescens* Fernald]

Salix pellita (Andersson) Bebb—Satin Willow (Figure 42). 2*n* = 38. Streambanks, shores, rich, thickets.

SALIX PENTANDRA Linnaeus—Bay-leaved Willow (Figure 42). 2*n* = 38. Roadsides, meadows, shores, waste places. From Eurasia.

Salix petiolaris Smith—Slender Willow (Figure 42). 2*n* = 38. Meadows, river thickets, low, moist openings in deciduous woods. [*S. gracilis* Andersson; *S. gracilis* var. *textoris* Fernald; *S.* × *subsericea* (Andersson) C.K. Schneider]

Salix planifolia Pursh—Tea-leaved Willow (Figure 42). 2*n* = 57, 76. Alpine, subalpine and boreal meadows, streambanks, wet thickets.

SALIX PURPUREA Linnaeus—Purple Osier (Figure 43). 2*n* = 38. Low, wet ground. From Europe.

Salix pyrifolia Andersson—Balsam Willow (Figure 43). 2*n* = 38. Bogs, swamps, damp thickets.

Salix sericea Marshall—Silky Willow (Figure 43). 2*n* = ? River thickets, swamps. [*S. coactilis* Fernald]

Salix serissima (L.H. Bailey) Fernald—Autumn Willow (Figure 43). 2*n* = 76. Calcareous marshes, bogs and swamps.

SALIX TRIANDRA Linnaeus—Almond Willow (Figure 44). 2*n* = 38 (44), 57, 88. Streambanks, waste places. From Eurasia.

Salix uva-ursi Pursh—Bearberry Willow (Figure 44). 2*n* = 38. Exposed, rocky, alpine areas.

SALIX VIMINALIS Linnaeus—Osier (Figure 44). 2*n* = 38. Streambanks, roadsides, freshwater shores. From Europe.

—*Salix* hybrids—

SALIX ALBA Linnaeus × *S. petiolaris* Smith—(Figure 44).

Salix bebbiana Sargent × *S. eriocephala* Michaux—(Figure 45).

Salix bebbiana Sargent × *S. humilis* Marshall var. *humilis*—(Figure 45).

Salix bebbiana Sargent × *S. petiolaris* Smith—(Figure 45).

Salix × *besschelii* B. Boivin—(Figure 45). [*S. bebbiana* Sargent × *S. discolor* Muhlenberg]

Salix candida Flüggé *ex* Willdenow × *S. pellita* (Andersson) Bebb—(Figure 46).

SALIX CINEREA Linnaeus × *S. eriocephala* Michaux—(Figure 46).

Salix cordata Michaux × *S. sericea* Marshall—(Figure 46).

Salix × *cryptodonta* Fernald—(Figure 46). [*S. bebbiana* Sargent × *S. candida* Flüggé *ex* Willdenow]

Salix discolor Muhlenberg × *S. eriocephala* Michaux—(Figure 47).

Salix discolor Muhlenberg × *S. humilis* Marshall var. *humilis*—(Figure 47).

Salix discolor Muhlenberg × *S. petiolaris* Smith—(Figure 47).

Salix discolor Muhlenberg × *S. pyrifolia* Andersson—(Figure 47).

SALIX × *EHRHARTIANA* G. Meyer—(Figure 48). [*S. ALBA* Linnaeus × *S. PENTANDRA* Linnaeus]

Salix eriocephala Michaux × *S. lucida* Muhlenberg—(Figure 48).

Salix eriocephala Michaux × *S. myricoides* Muhlenberg—(Figure 48).

Salix eriocephala Michaux × *S. pedicellaris* Pursh—(Figure 48).

Salix eriocephala Michaux × *S. petiolaris* Smith—(Figure 49).

Salix eriocephala Michaux × *S. sericea* Marshall—(Figure 49).

SALIX × *FRAGILIS* Linnaeus—Crack Willow (Figure 49). [*S. ALBA* Linnaeus × *S. EUXINA* I.V. Belyaeva; *S.* × *RUBENS* Schrank]

Salix × *grayi* C.K. Schneider—(Figure 49). [*S. argyrocarpa* Andersson × *S. planifolia* Pursh]

Salix humilis Marshall var. *humilis* × *S. petiolaris* Smith—(Figure 50).

Salix humilis Marshall var. *humilis* × *S. sericea* Marshall—(Figure 50).

Salix humilis Marshall var. *tristis* (Aiton) Griggs × *S. petiolaris* Smith—(Figure 50).

Salix × *jesupii* Fernald—(Figure 50). [*S. ALBA* Linnaeus × *S. lucida* Muhlenberg]

Salix lucida Muhlenberg × *S. serissima* (L.H. Bailey) Fernald —(Figure 51).

Salix × *peasei* Fernald—(Figure 51). [*S. herbacea* Linnaeus × *S. uva-ursi* Pursh]

SALIX × *PENDULINA* Wenderoth—Weeping Willow (Figure 51). [*S. BABYLONICA* Linnaeus × *S. EUXINA* I.V. Belyaeva]

Salix petiolaris Smith × *S. sericea* Marshall—(Figure 51).

Salix × *rubella* Bebb *ex* C.K. Schneider—(Figure 52). [*S. candida* Flüggé *ex* Willdenow × *S. eriocephala* Michaux]

SALIX × *SEPULCRALIS* Simonkai—Weeping Willow (Figure 52). [*S. ALBA* Linnaeus × *S. BABYLONICA* Linnaeus]

SALIX × *SMITHIANA* Willdenow—(Figure 52). [*S. CAPREA* Linnaeus × *S. VIMINALIS* Linnaeus; *S.* × *SERICANS* Tausch]

TROPAEOLACEAE

TROPAEOLUM MAJUS Linnaeus—Garden Nasturtium (Figure 52). 2*n* = 28. Waste places, roadsides. From South America.

TROPAEOLUM MINUS Linnaeus—Dwarf Nasturtium (Figure 53). 2*n* = ? Roadsides near dwellings. From South America.

ACKNOWLEDGMENTS

We thank the curators and directors of the herbaria of the New England Botanical Club, the Harvard University Herbaria, the University of Massachusetts, the University of Vermont, and the University of Connecticut for allowing access to their collections. For the University of Maine herbarium we used their exceptional online database of Maine specimens. We are grateful also to Karen Searcy for facilitating access to the herbarium and to the notebooks of Harry E. Ahles at the University of Massachusetts (Amherst) and for kindly answering requests for information after our visit. James Hinds also generously checked information on voucher specimens at the University of Maine (Orono). The following persons checked certain records for us at their respective institutions: Janet R. Sullivan, and Elizabeth F. Allen. In particular we thank the following individuals for repeated checking of specimens at their institution: Robert Capers of the University of Connecticut and Lisa I. Palmer of Dartmouth College. George Argus and Robert Bertin kindly provided information about *Salix* vouchers. Karol Marhold provided information relating to *Cardamine.* Lastly, Ihsan A. Al-Shehbaz generously provided much assistance with questions relating to Brassicaceae. We thank Kanchi Gandhi for nomenclatural advice.

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Angelo, R. and D.E. Boufford. 1998. Atlas of the flora of New England: Poaceae. Rhodora 100: 101–233.

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Angelo, R. and D.E. Boufford. 2007. Atlas of the flora of New England: Cyperaceae. Rhodora 109: 237-360.

Angelo, R. and D.E. Boufford. 2010. Atlas of the flora of New England: Magnoliidae &

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ERRATA

Page 4. For BERTEROA MUTABILIS the chromosome counts stated should be replaced by "2n = 16".
Page 7. For ERYSIMUM INCONSPICUUM the chromosome count stated should be replaced by "2n = 81".
Page 10. For POLANISIA DODECANDRA subsp. TRACHYSPERMA the chromosome count "2n = 20" should be added.
Page 10. For TARENAYA HASSLERIANA the chromosome count "2n = 20" should be added.
Page 11. The taxon name "Populus × heimburgii" should read "Populus × heimburgeri".

For the following taxa the distribution dot shown for Dukes Co, Massachusetts should be moved to Nantucket Co., Massachusetts in the figures indicated (while the taxa might occur in Dukes Co. we did not find a voucher):

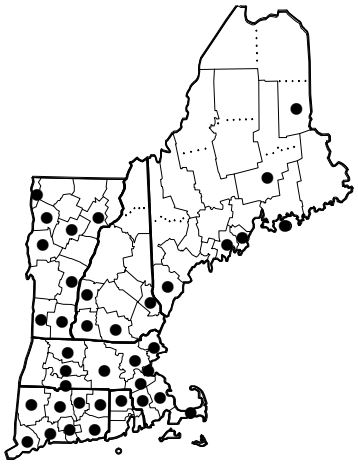
ALLYSUM ALYSSOIDES (Fig. 2)
BRASSICA JUNCEA (Fig. 7)
CAMELINA SATIVA (Fig. 9)

LEPIDIUM SATIVUM (Fig. 22)
Rorippa palustris subsp. hispida (Fig. 26)
Salix cordata (Fig. 38)
TROPAEOLUM MAJUS (Fig. 52)

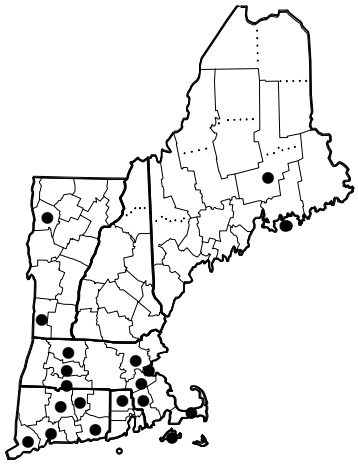
For the following taxa the distribution dot shown for Dukes Co, Massachusetts should be deleted in the figures indicated (while the taxa might occur in Dukes Co. we did not find a voucher):

BRASSICA NIGRA (Fig. 7)
CARDAMINE HIRSUTA (Fig. 11)
DIPLOTAXIS MURALIS (Fig. 14)
LEPIDIUM DIDYMUM (Fig. 21)
NASTURTIUM OFFICINALE (Fig. 24)
RORIPPA SYLVESTRIS (Fig. 27)
SINAPIS ARVENSIS (Fig. 27)
RESEDA ALBA (Fig. 31)
RESEDA LUTEA (Fig. 32)
SALIX ALBA (Fig. 36)
Salix eriocephala (Fig. 39)
Salix petiolaris (Fig. 42)
SALIX VIMINALIS (Fig. 44)

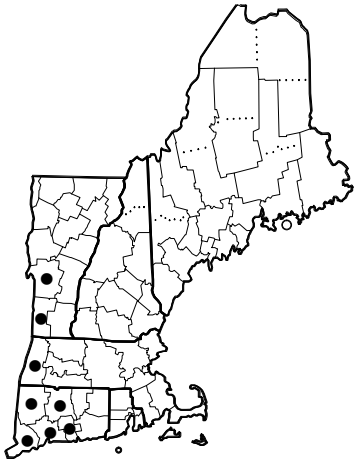
Figure 1. Key map for counties of the New England states (and Mt. Desert Island, Maine; Block Island, Rhode Island; arbitrary divisions of larger Maine counties and of Coös County, New Hampshire).



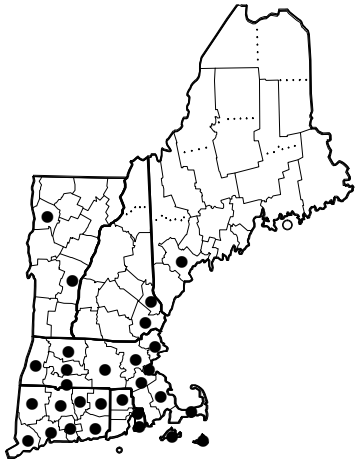
ALLIARIA PETIOLATA



ALYSSUM ALYSSOIDES

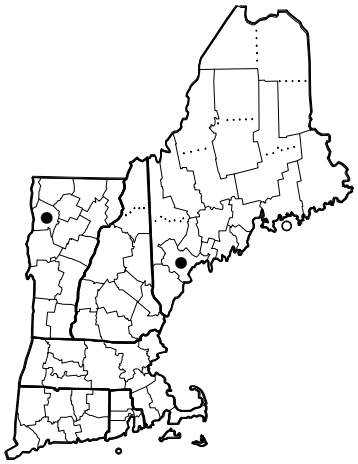


Arabidopsis lyrata
subsp. *lyrata*

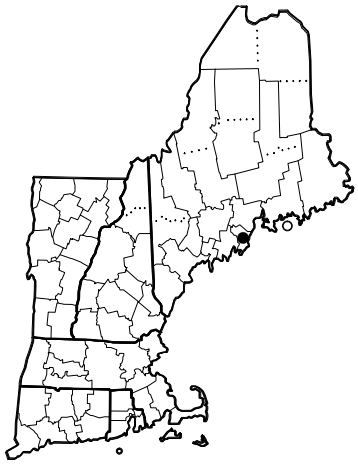


ARABIDOPSIS THALIANA

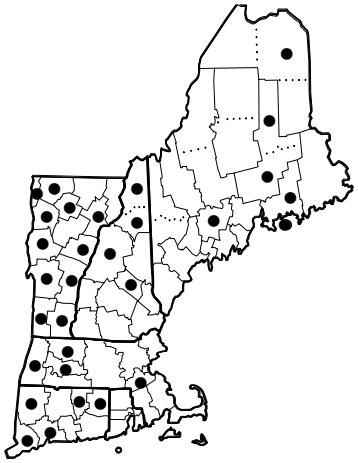
Figure 2. Distribution maps.



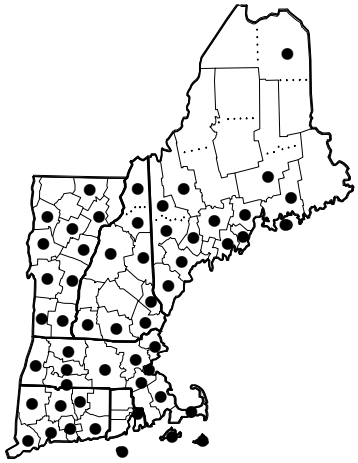
Arabis alpina



ARABIS CAUCASICA

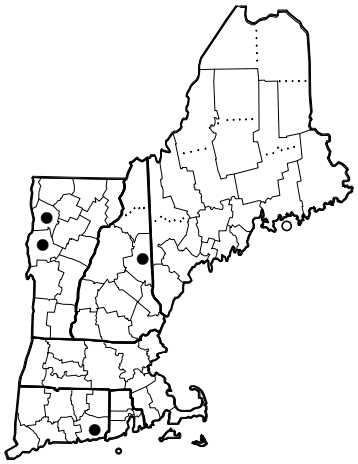


Arabis pycnocarpa
var. *pycnocarpa*

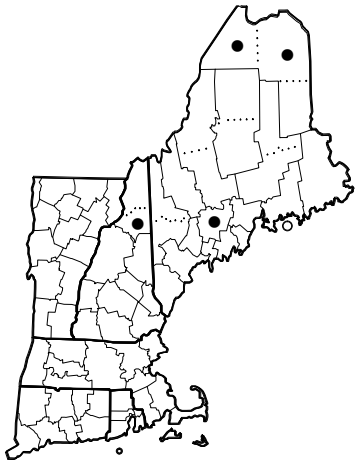


ARMORACIA RUSTICANA

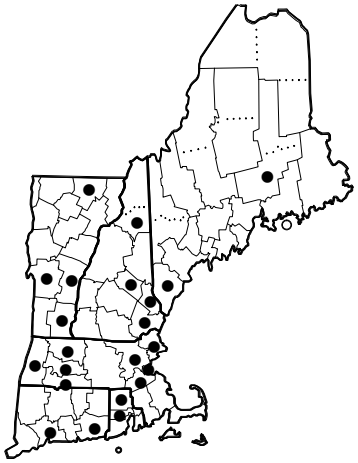
Figure 3. Distribution maps.



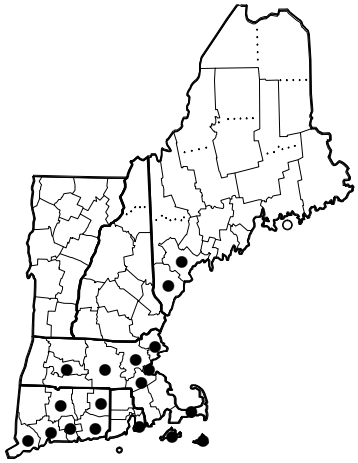
AURINIA SAXATALIS



Barbarea orthoceras

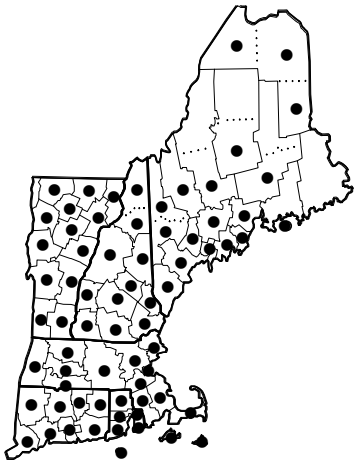


BARBAREA STRICTA

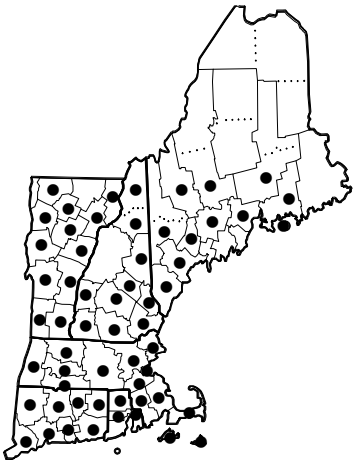


BARBAREA VERNA

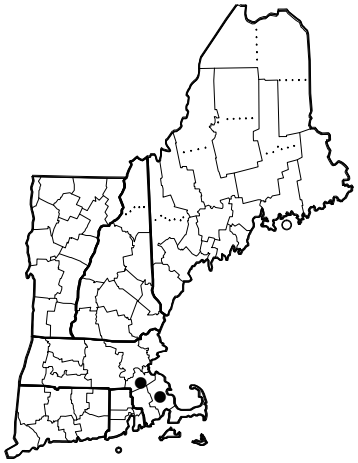
Figure 4. Distribution maps.



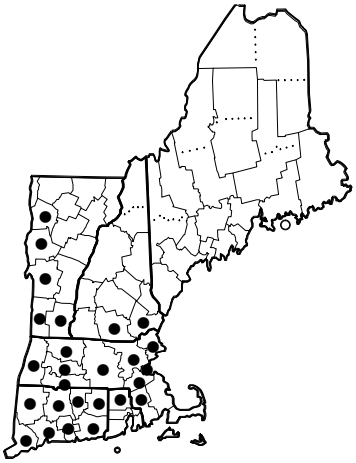
BARBAREA VULGARIS



BERTEROA INCANA

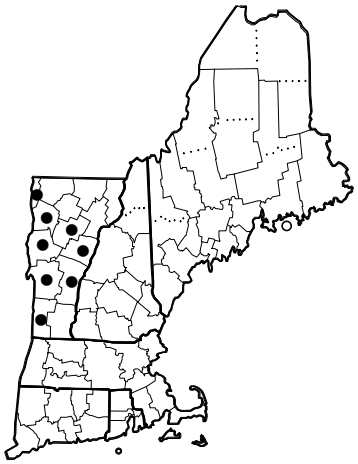


BERTEROA MUTABILIS

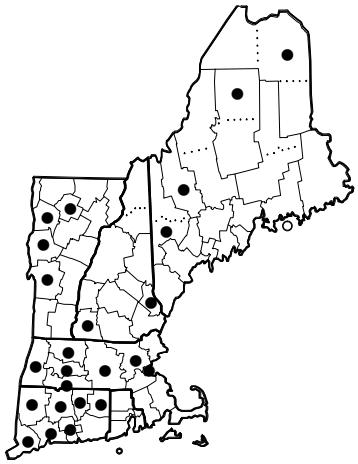


Boechera canadensis

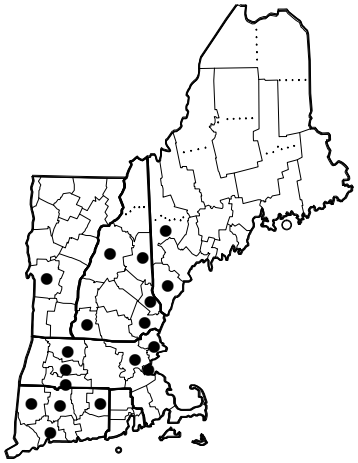
Figure 5. Distribution maps.



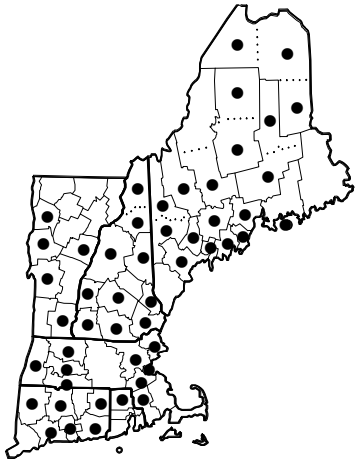
Boechera grahamii



Boechera laevigata

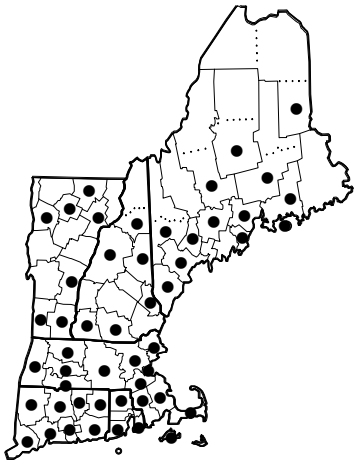


Boechera missouriensis

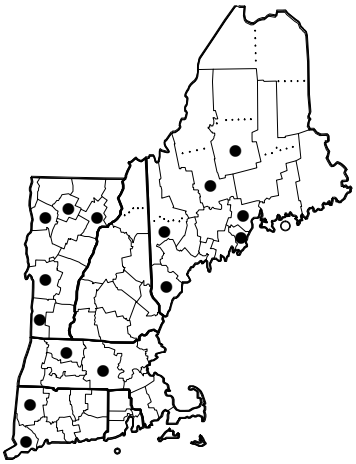


Boechera stricta

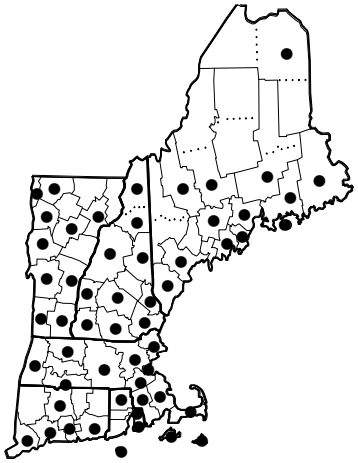
Figure 6. Distribution maps.



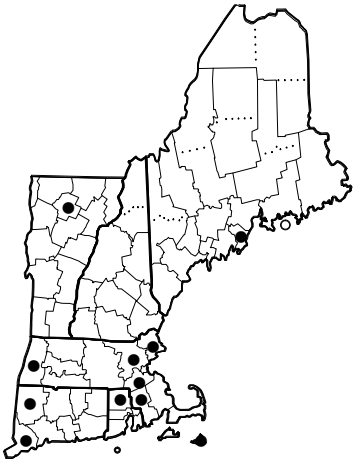
BRASSICA JUNCEA



BRASSICA NAPUS

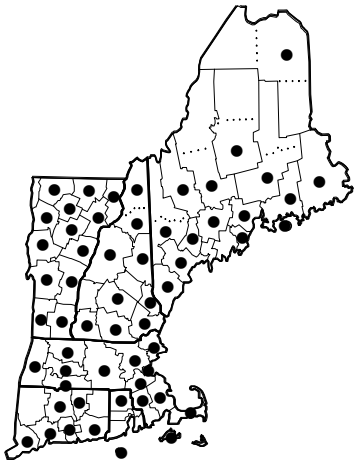


BRASSICA NIGRA

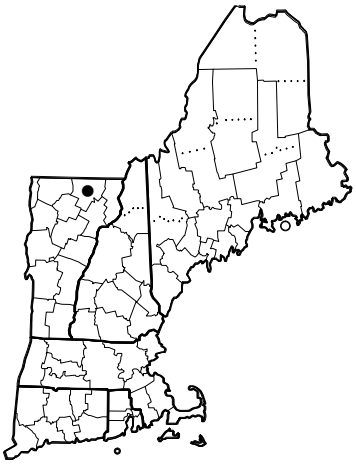


BRASSICA OLERACEA

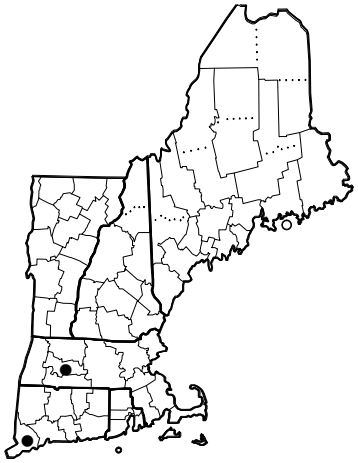
Figure 7. Distribution maps.



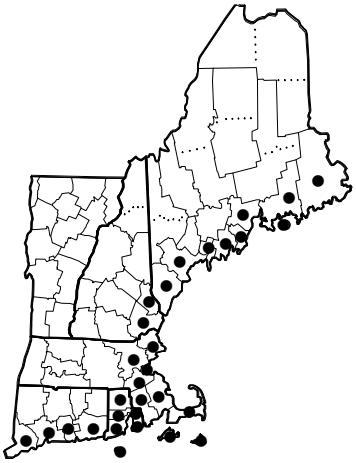
BRASSICA RAPA



Braya humilis
subsp. *humilis*

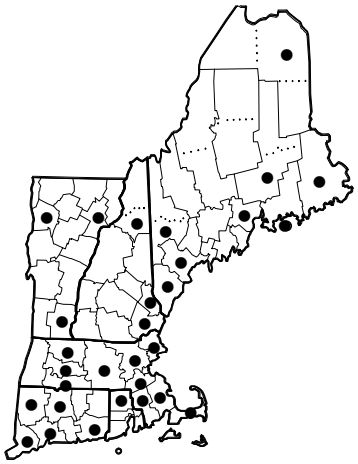


BUNIAS ORIENTALIS

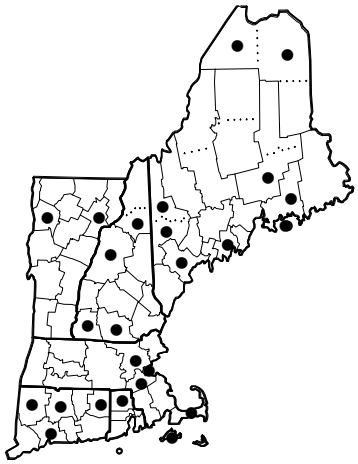


Cakile edentula
var. *edentula*

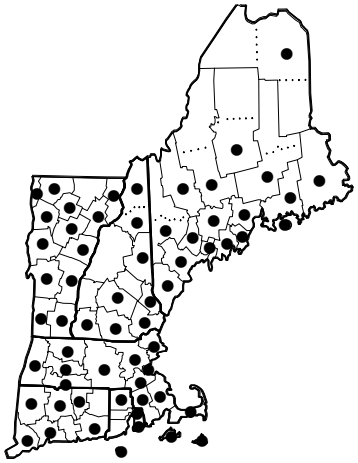
Figure 8. Distribution maps.



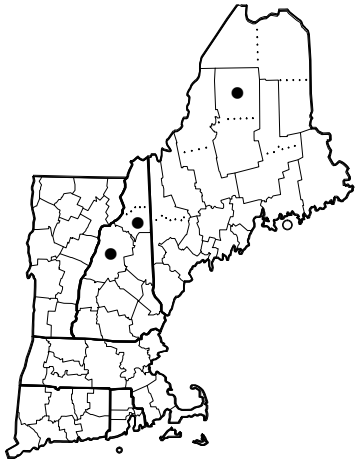
CAMELINA MICROCARPA



CAMELINA SATIVA

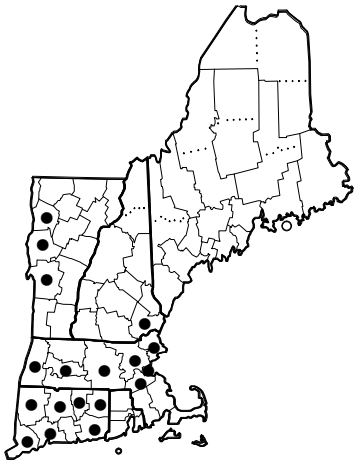


CAPSELLA BURSA-PASTORIS

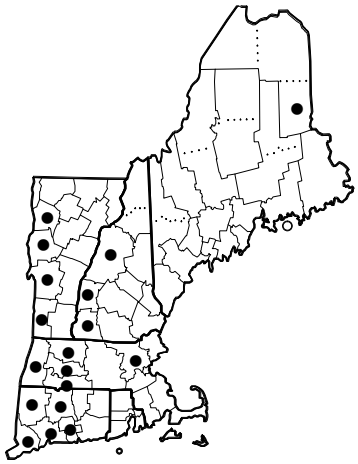


Cardamine bellidifolia

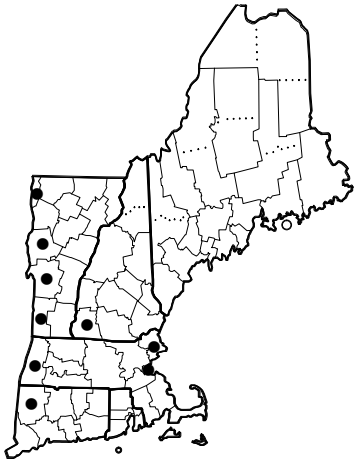
Figure 9. Distribution maps.



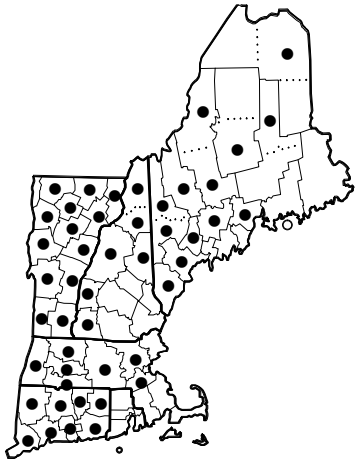
Cardamine bulbosa



Cardamine concatenata

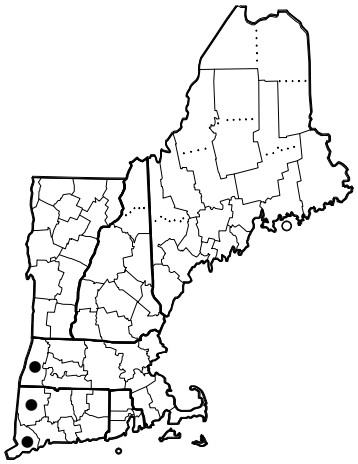


Cardamine dentata

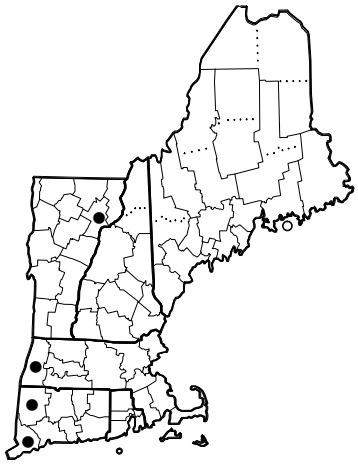


Cardamine diphylla

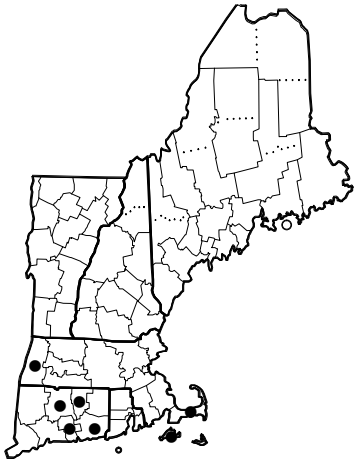
Figure 10. Distribution maps.



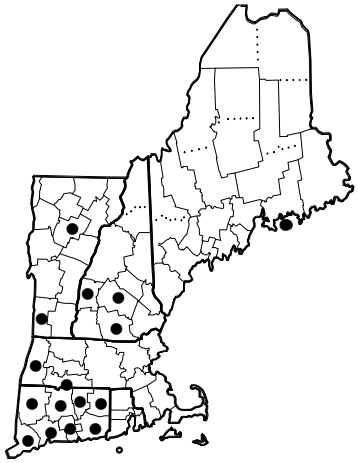
Cardamine douglasii



CARDAMINE FLEXUOSA

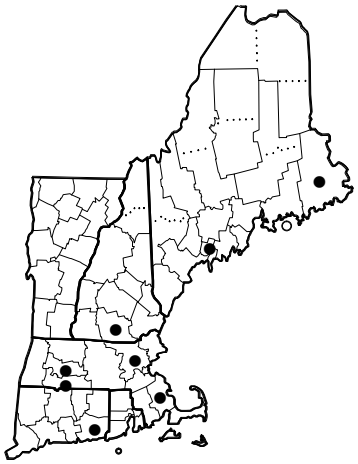


CARDAMINE HIRSUTA

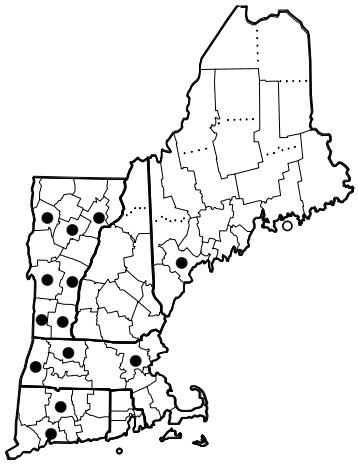


CARDAMINE IMPATIENS

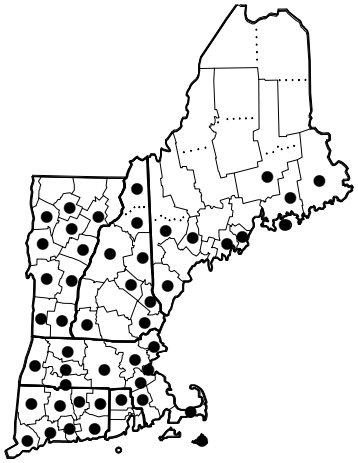
Figure 11. Distribution maps.



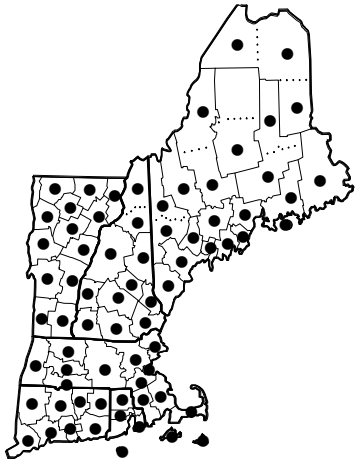
Cardamine longii



Cardamine maxima

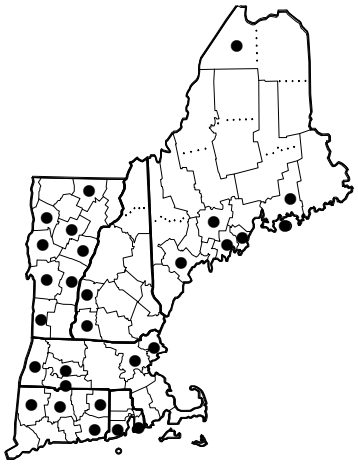


Cardamine parviflora

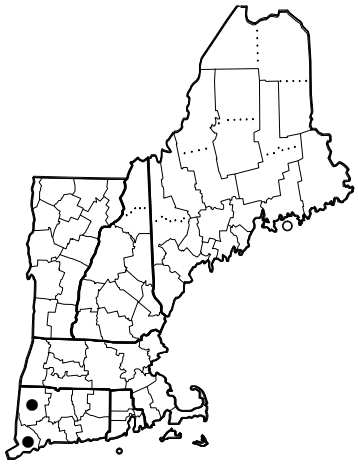


Cardamine pensylvanica

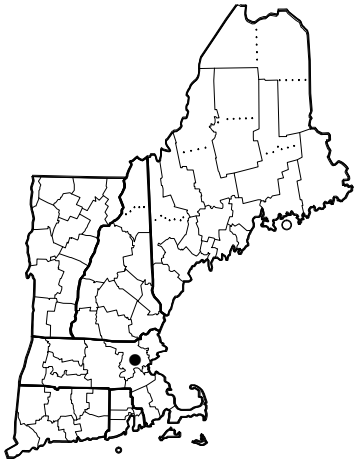
Figure 12. Distribution maps.



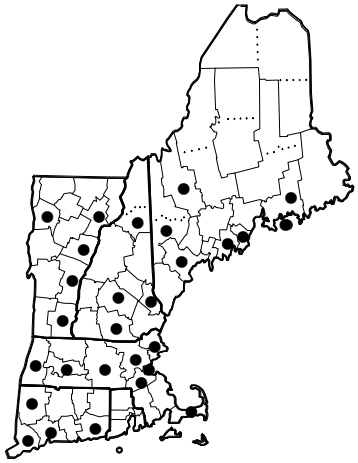
Cardamine pratensis



Cardamine concatenata
× *C. maxima*

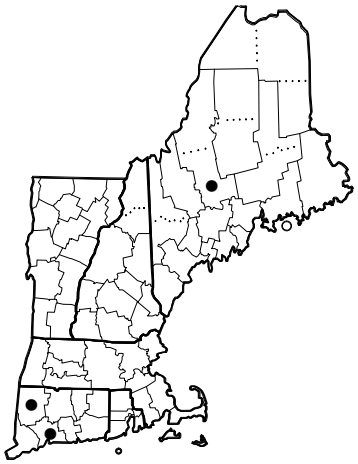


CHORISPORA TENELLA

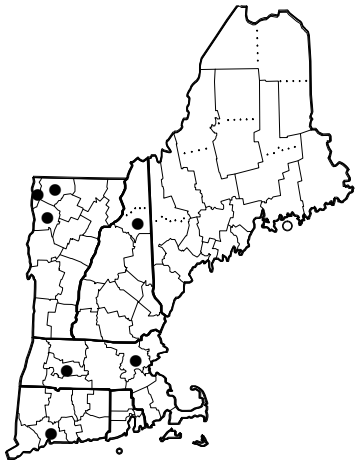


CONRINGIA ORIENTALIS

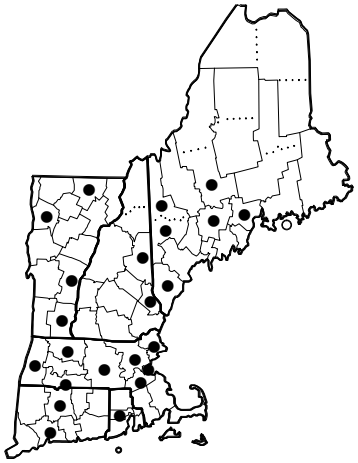
Figure 13. Distribution maps.



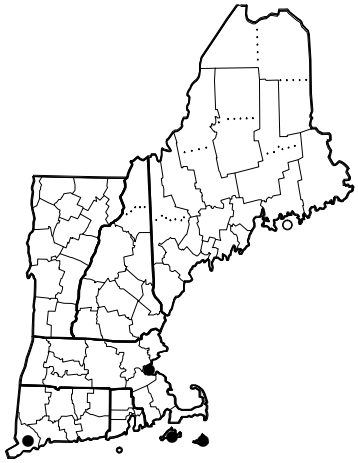
Descurainia incana



Descurainia pinnata
subsp. *brachycarpa*

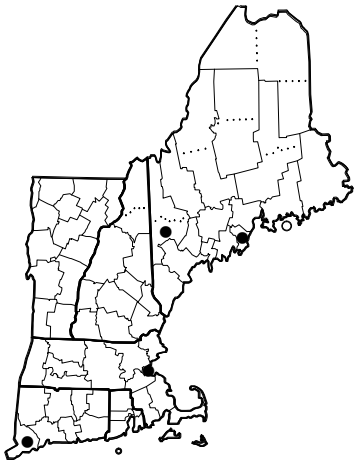


DESCURAINIA SOPHIA

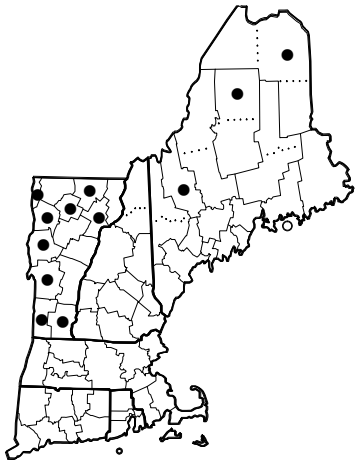


DIPLOTAXIS MURALIS

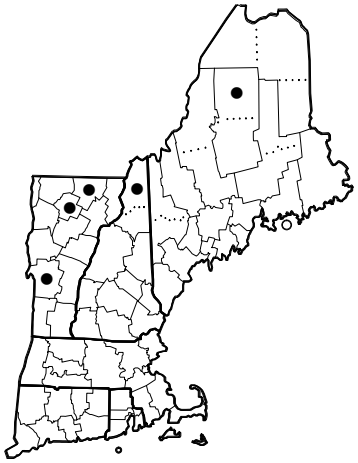
Figure 14. Distribution maps.



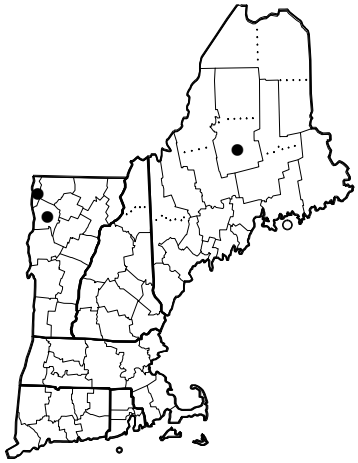
DIPLOTAXIS TENUIFOLIA



Draba arabisans

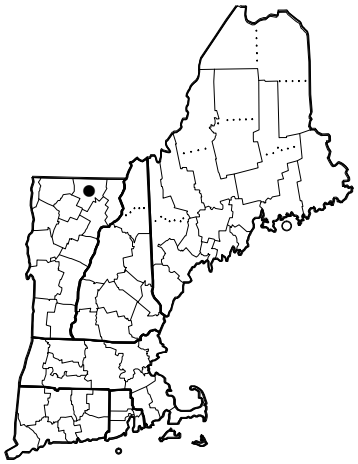


Draba cana

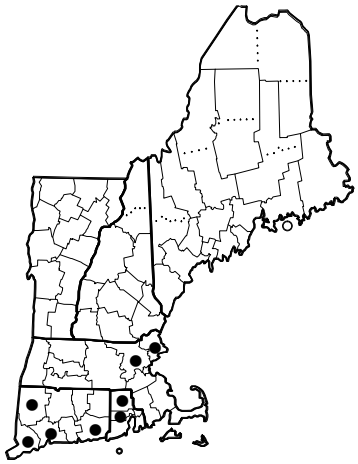


Draba glabella

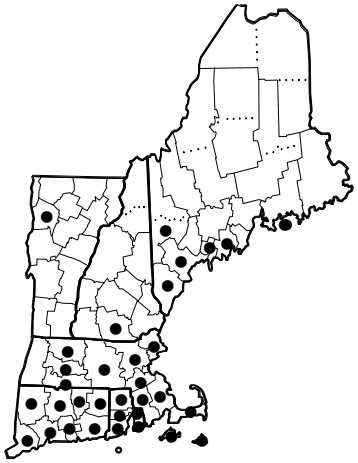
Figure 15. Distribution maps.



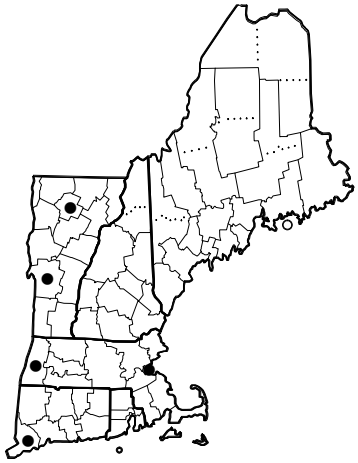
Draba incana



Draba reptans

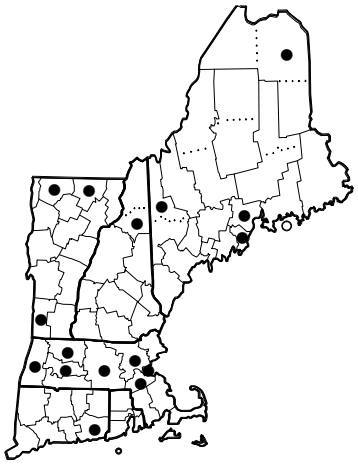


DRABA VERNA

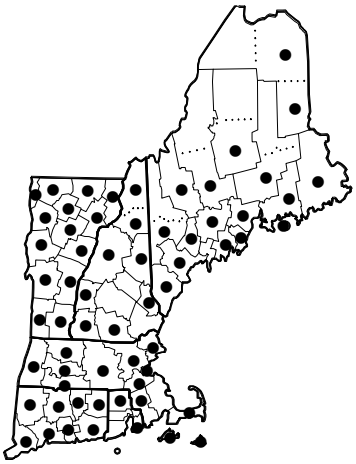


ERUCA VESICARIA
subsp. *SATIVA*

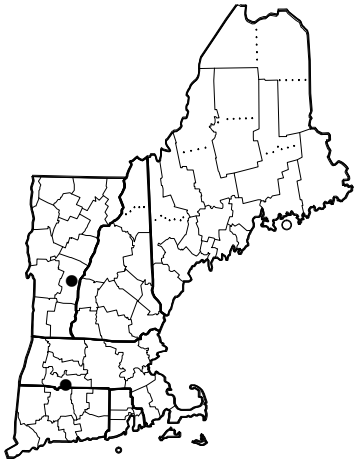
Figure 16. Distribution maps.



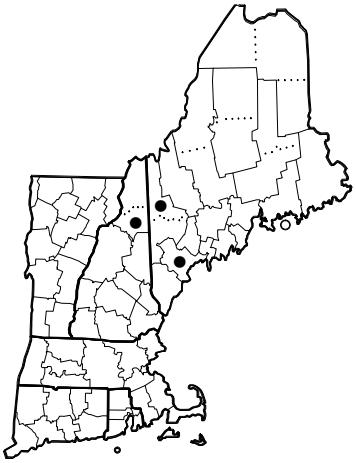
ERUCASTRUM GALLICUM



ERYSIMUM CHEIRANTHOIDES

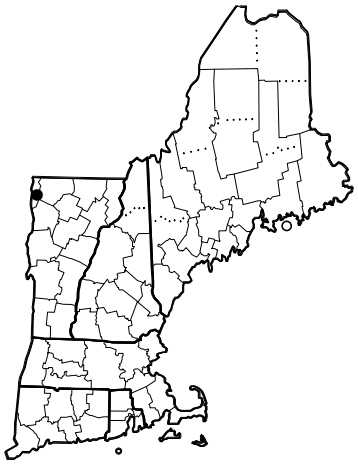


ERYSIMUM HIERACIFOLIUM

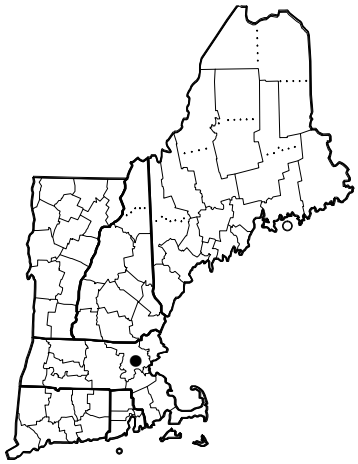


ERYSIMUM INCONSPICUUM

Figure 17. Distribution maps.



ERYSIMUM MARSCHALLIANUM



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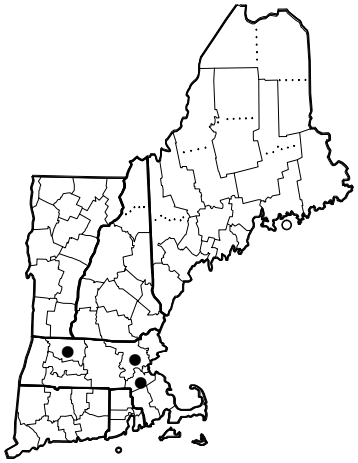
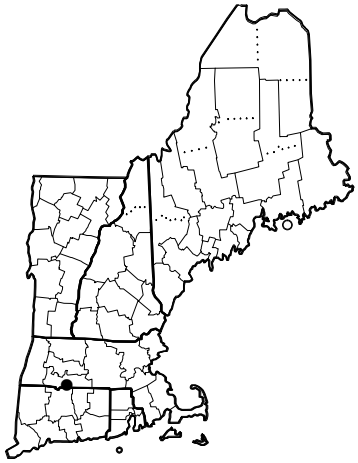
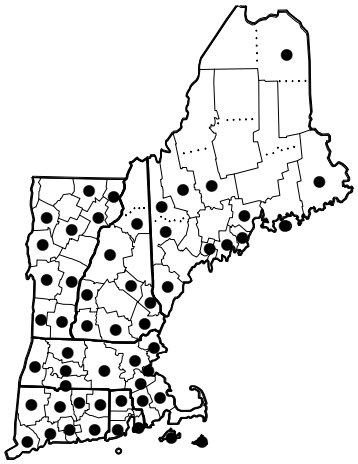


ERYSIMUM REPANDUM

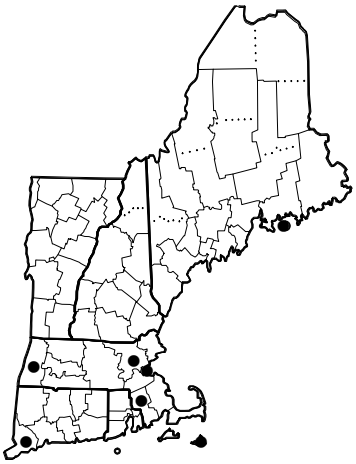


EUCLIDIUM SYRIACUM

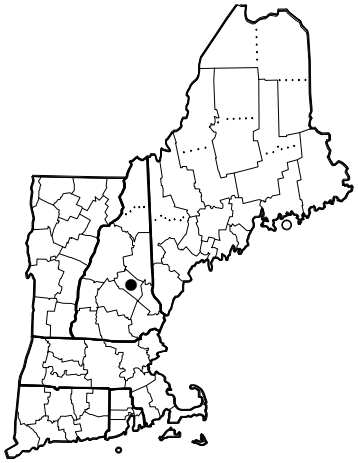
Figure 18. Distribution maps.



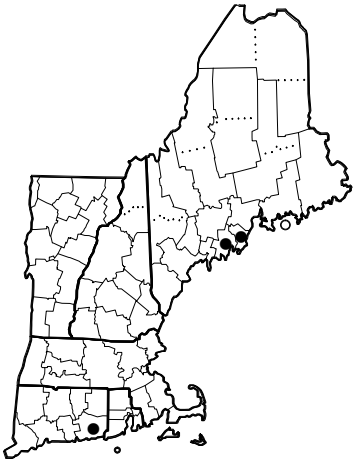
HESPERIS MATRONALIS



IBERIS AMARA

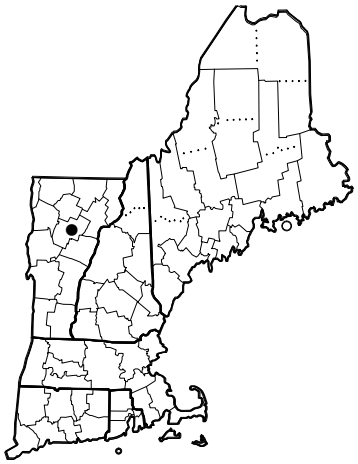


IBERIS SEMPERVIRENS

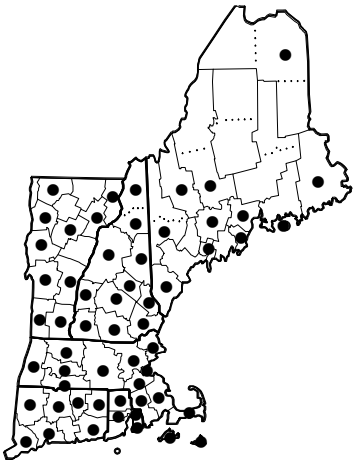


IBERIS UMBELLATA

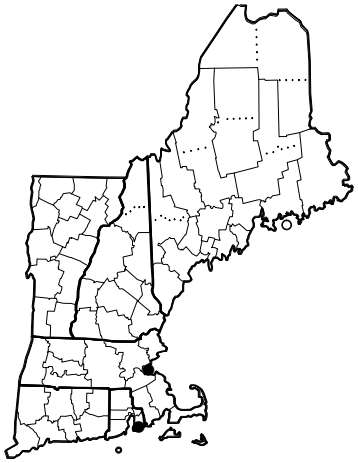
Figure 19. Distribution maps.



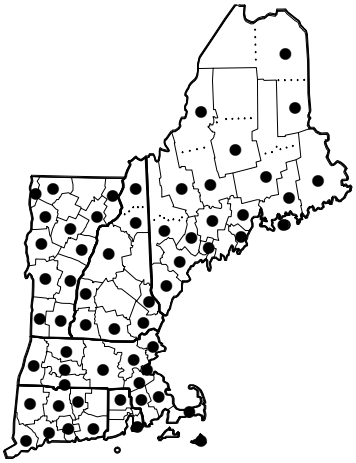
ISATIS TINCTORIA



LEPIDIUM CAMPESTRE

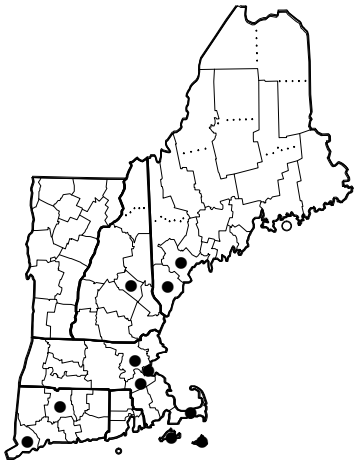


LEPIDIUM CORONOPUS

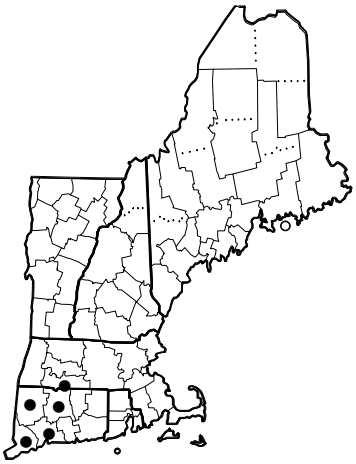


LEPIDIUM DENSIFLORUM

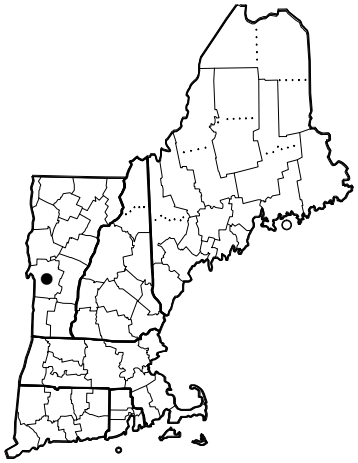
Figure 20. Distribution maps.



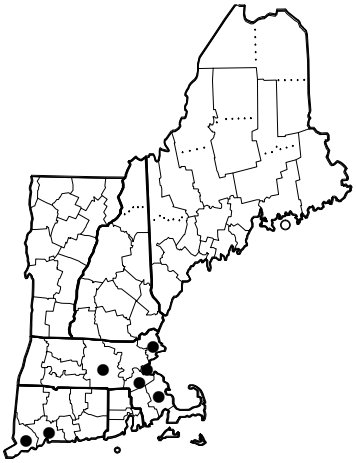
LEPIDIUM DIDYMUM



LEPIDIUM DRABA

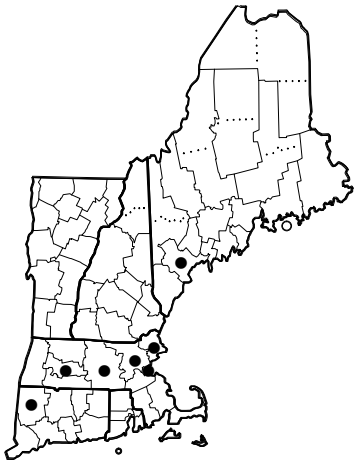


LEPIDIUM HETEROPHYLLUM

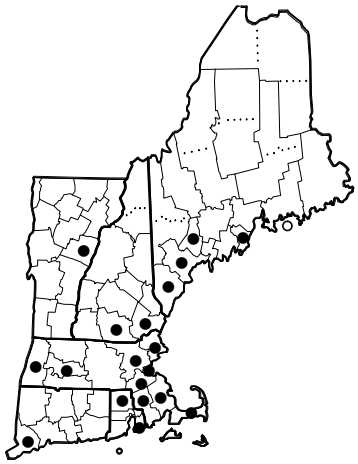


LEPIDIUM LATIFOLIUM

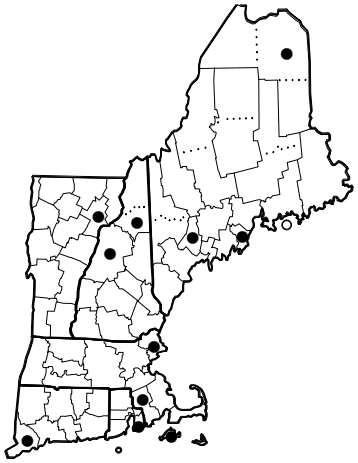
Figure 21. Distribution maps.



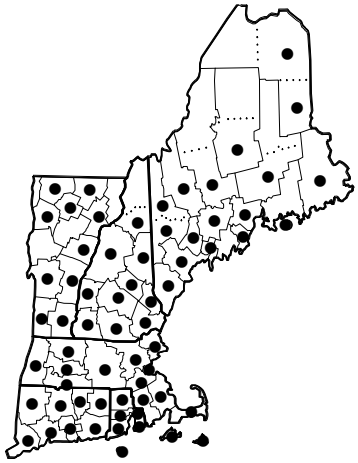
LEPIDIUM PERFOLIATUM



LEPIDIUM RUDERALE

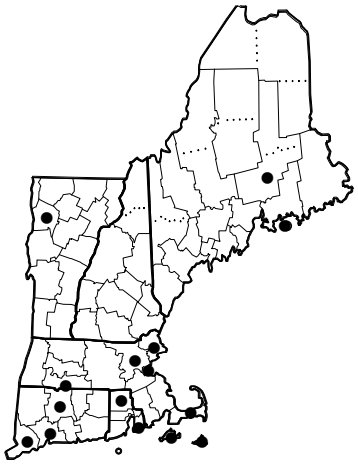


LEPIDIUM SATIVUM

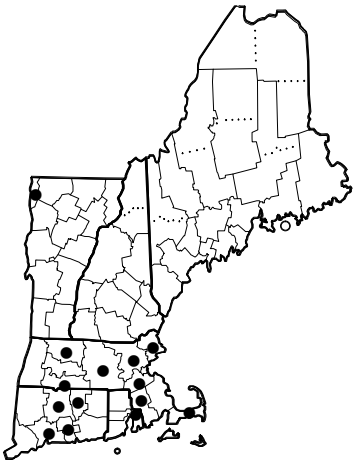


Lepidium virginicum subsp. *virginicum*

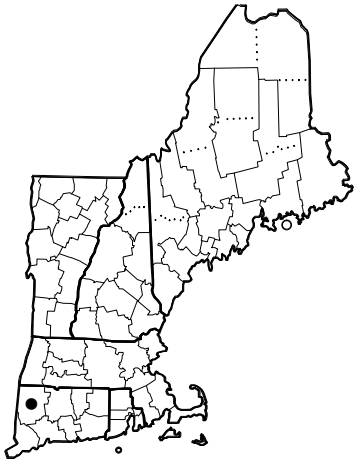
Figure 22. Distribution maps.



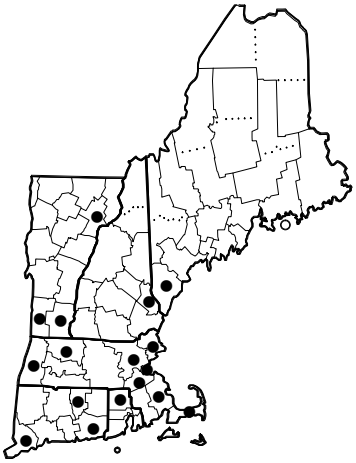
LOBULARIA MARITIMA



LUNARIA ANNUA

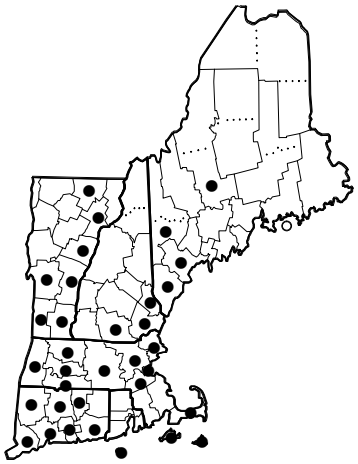


MICROTHLASPI PERFOLIATUM

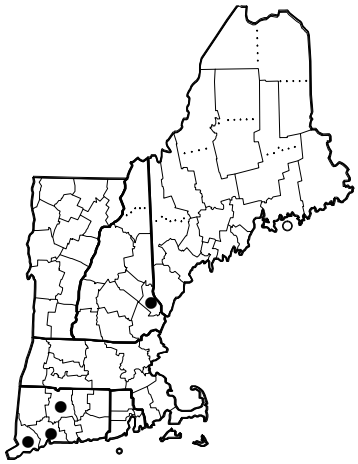


NASTURTIUM MICROPHYLLUM

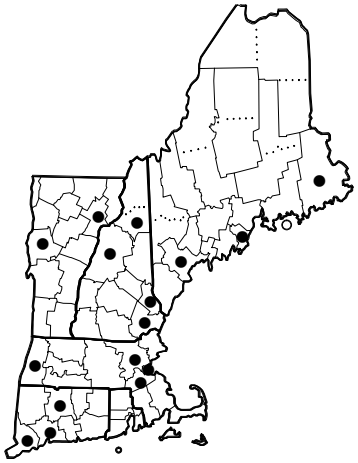
Figure 23. Distribution maps.



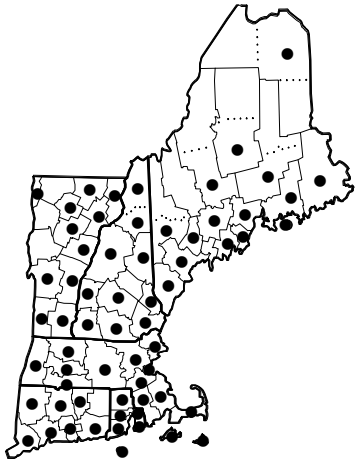
NASTURTIUM OFFICINALE



NASTURTIUM × STERILE

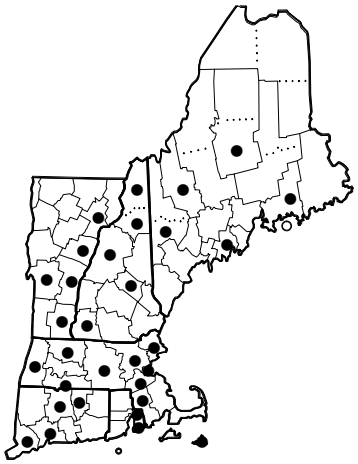


NESLIA PANICULATA

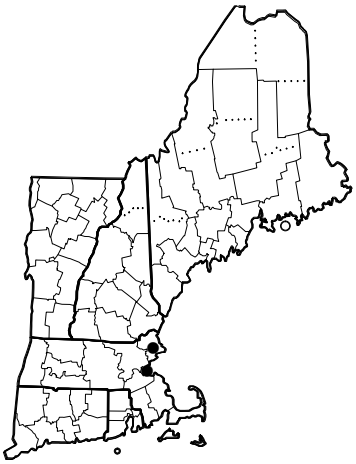


RAPHANUS RAPHANISTRUM

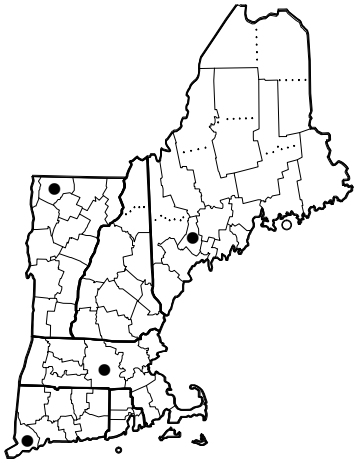
Figure 24. Distribution maps.



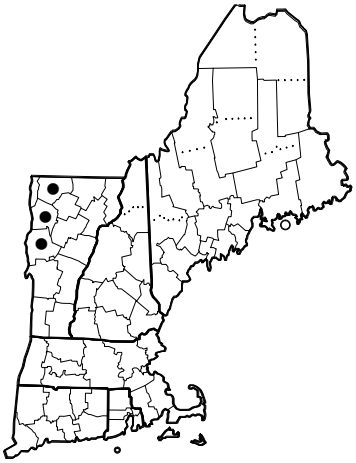
RAPHANUS SATIVUS



RAPISTRUM RUGOSUM

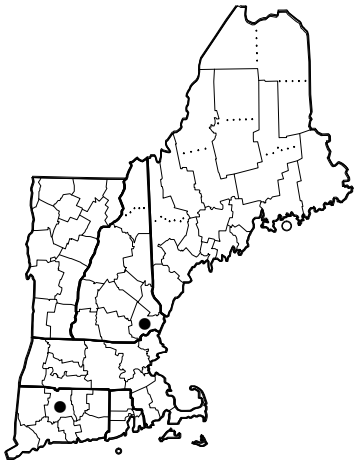


RORIPPA AMPHIBIA

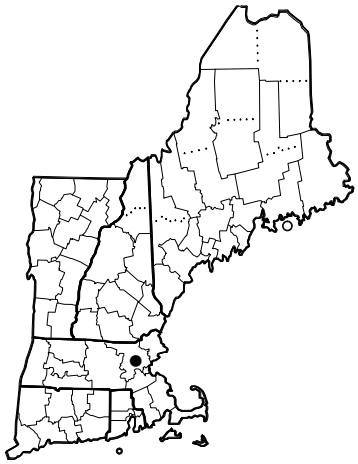


Rorippa aquatica

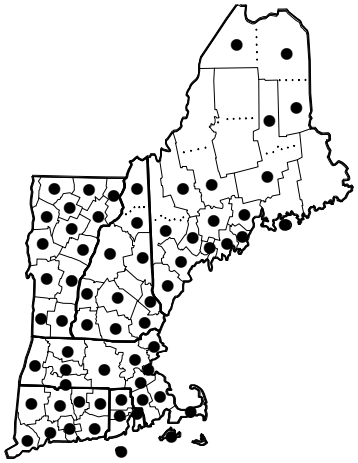
Figure 25. Distribution maps.



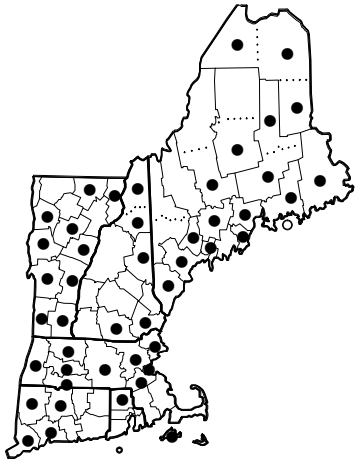
RORIPPA AUSTRIACA



RORIPPA GLOBOSA

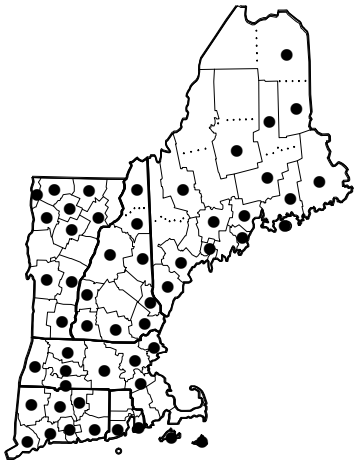


Rorippa palustris
subsp. *palustris*

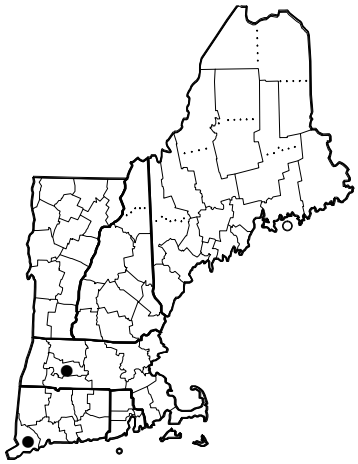


Rorippa palustris
subsp. *hispida*

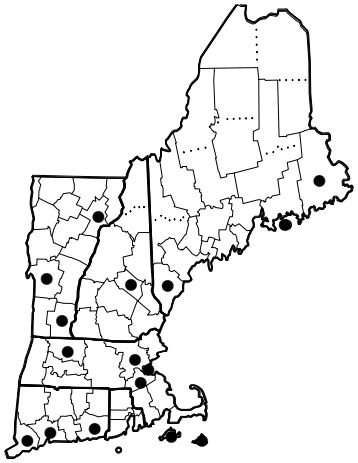
Figure 26. Distribution maps.



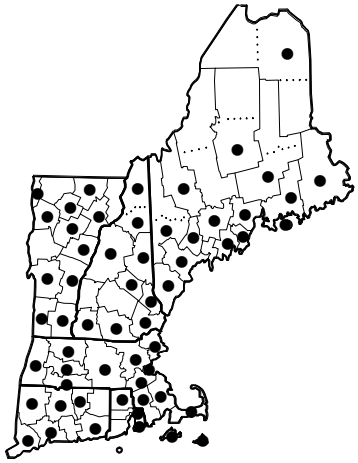
RORIPPA SYLVESTRIS



RORIPPA × *PROSTRATA*

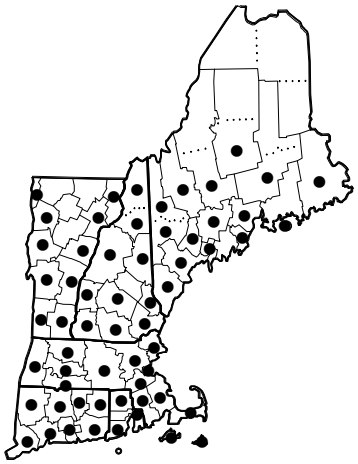


SINAPIS ALBA

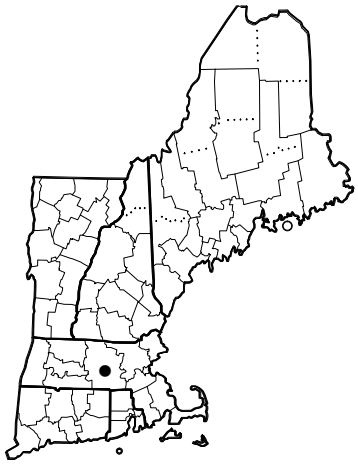


SINAPIS ARVENSIS

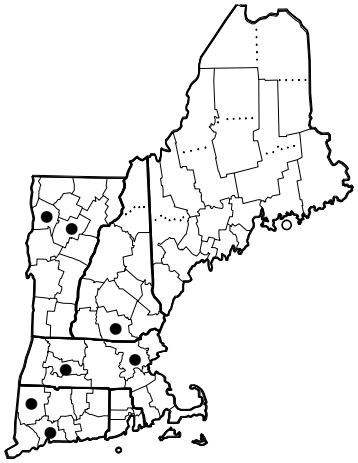
Figure 27. Distribution maps.



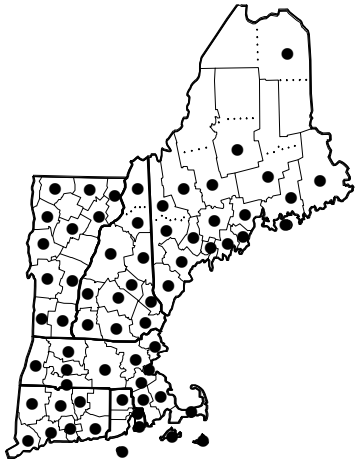
SISYMBRIUM ALTISSIMUM



SISYMBRIUM IRIO

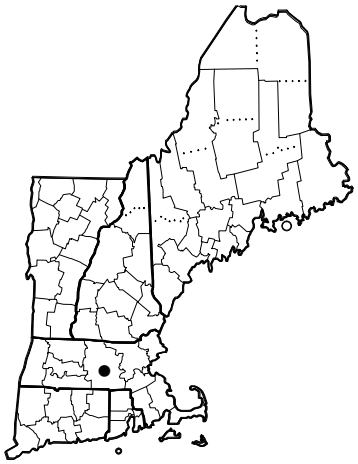


SISYMBRIUM LOESELII

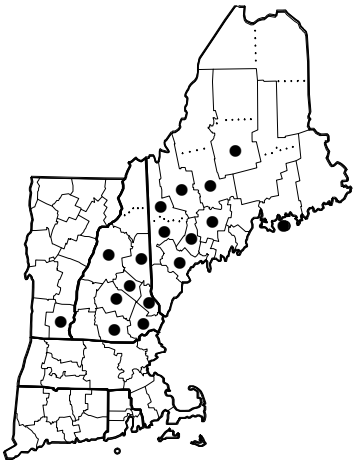


SISYMBRIUM OFFICINALE

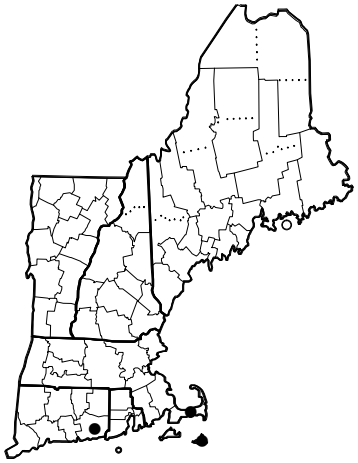
Figure 28. Distribution maps.



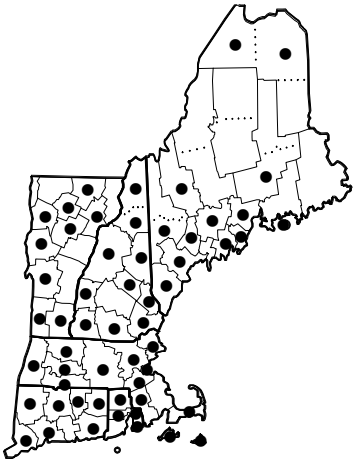
SISYMBRIUM ORIENTALE



Subularia aquatica subsp. *americana*

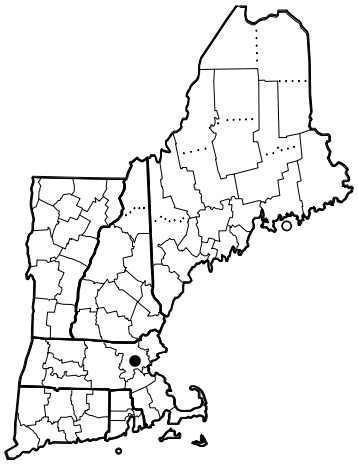


TEESDALIA NUDICAULIS

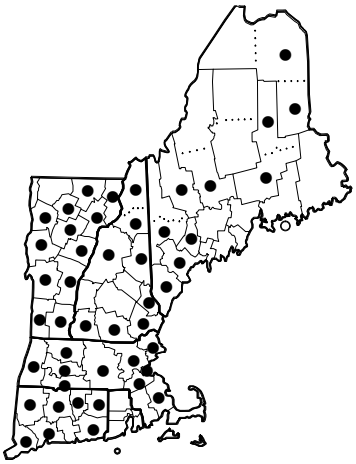


THLASPI ARVENSE

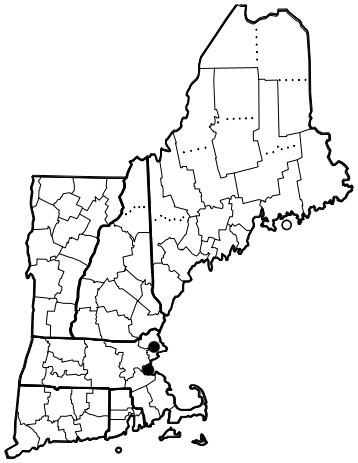
Figure 29. Distribution maps.



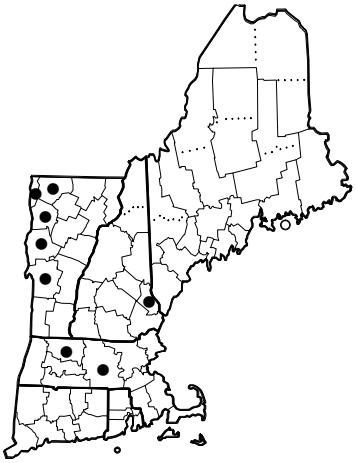
TROPIDOCARPUM GRACILE



Turritis glabra

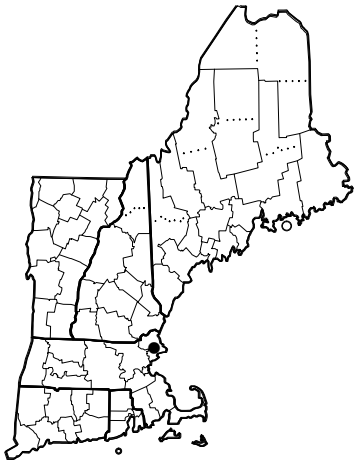


PERITOMA SERRULATA

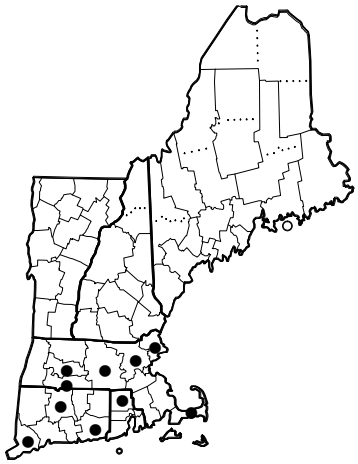


Polanisia dodecandra subsp. *dodecandra*

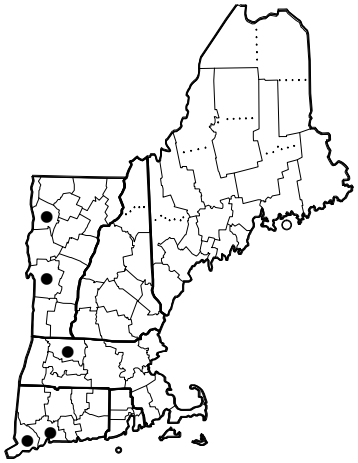
Figure 30. Distribution maps.



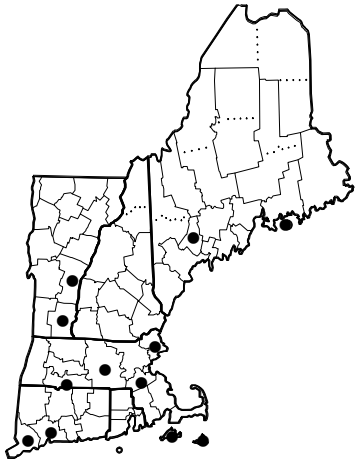
POLANISIA DODECANDRA
subsp. *TRACHYSPERMA*



TARENAYA HASSLERIANA

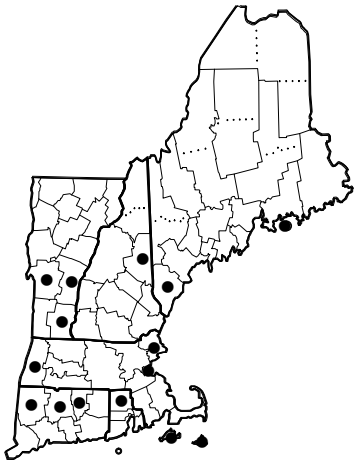


Floerkea proserpinacoides

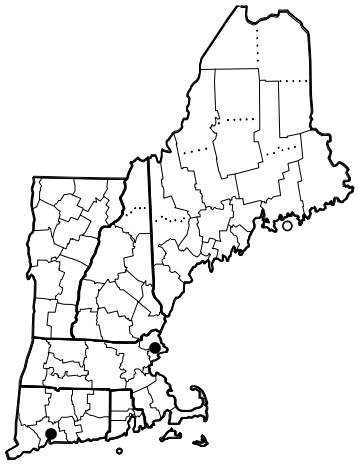


RESEDA ALBA

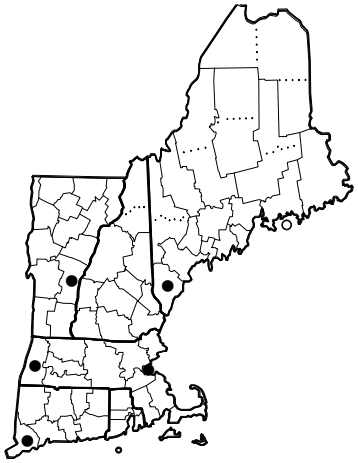
Figure 31. Distribution maps.



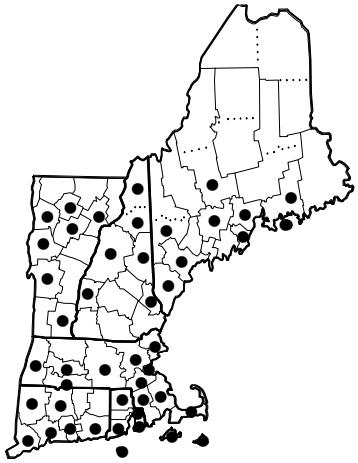
RESEDA LUTEA



RESEDA LUTEOLA

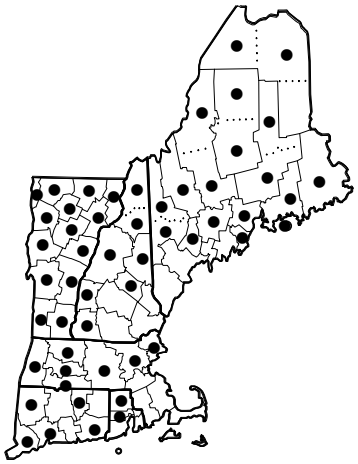


RESEDA ODORATA

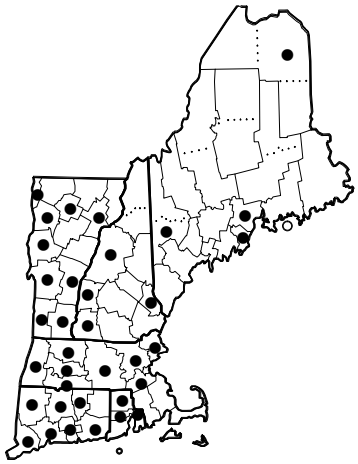


POPULUS ALBA

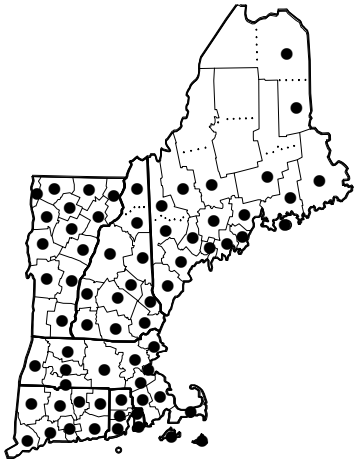
Figure 32. Distribution maps.



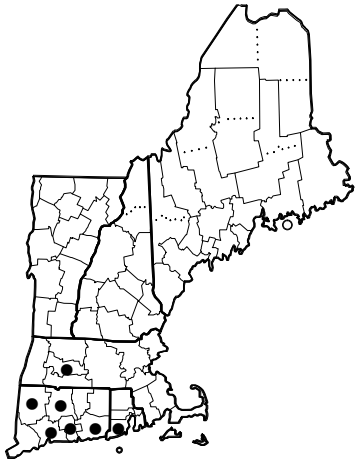
Populus balsamifera



Populus deltoides
subsp. *deltoides*

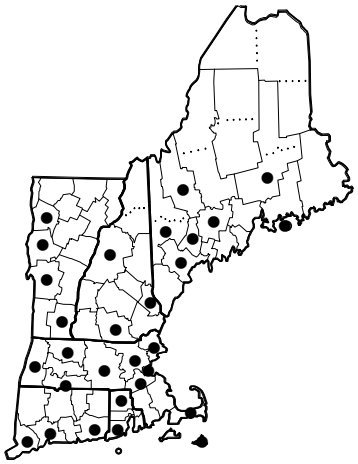


Populus grandidentata

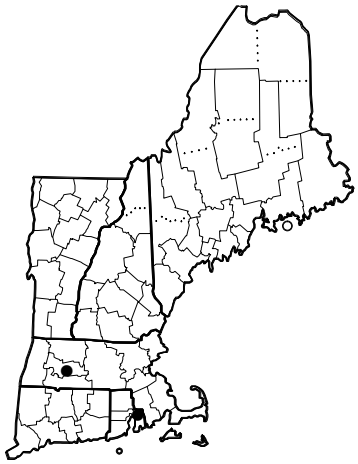


Populus heterophylla

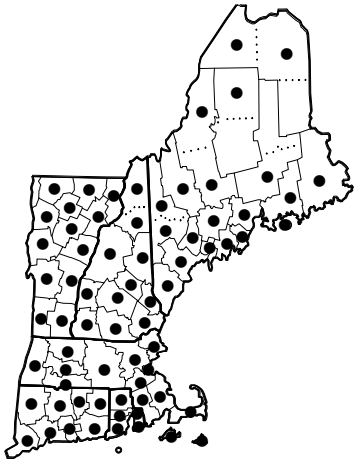
Figure 33. Distribution maps.



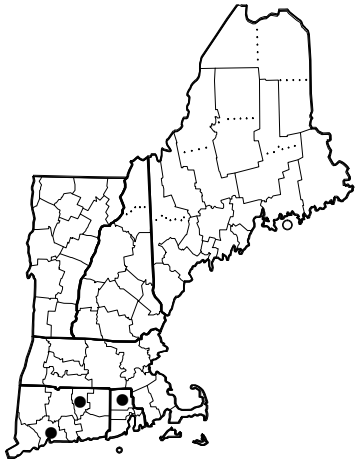
POPULUS NIGRA



POPULUS TREMULA

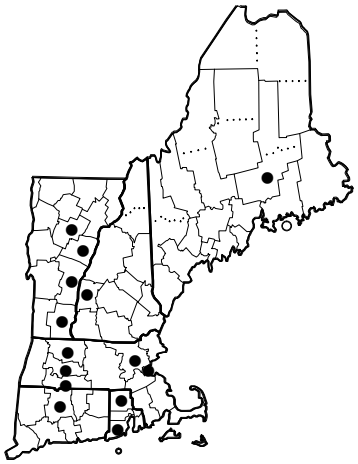


Populus tremuloides

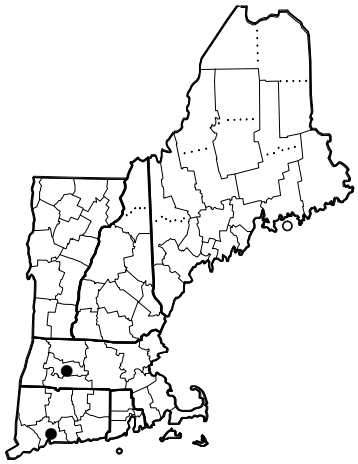


Populus x canadensis

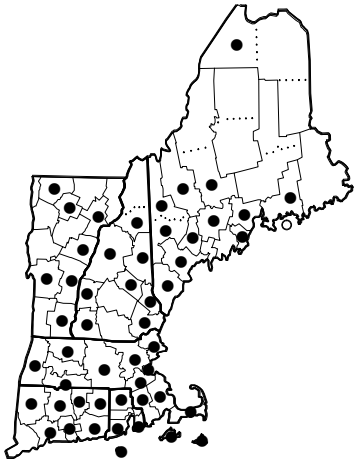
Figure 34. Distribution maps.



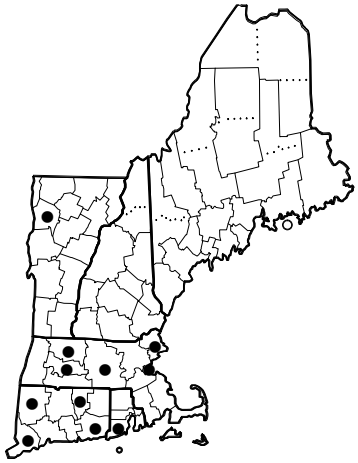
POPULUS × *CANESCENS*



Populus × *heimburgeri*

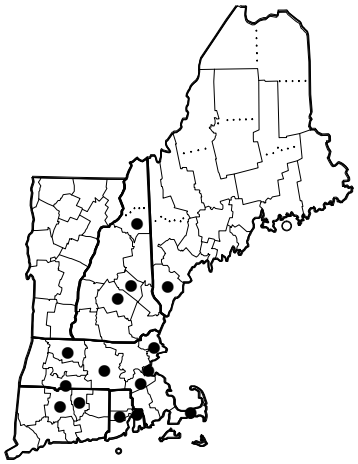


Populus × *jackii*

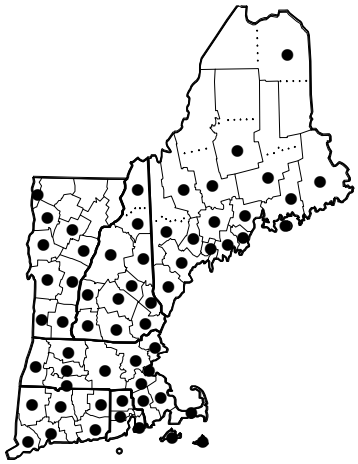


Populus × *rouleauiana*

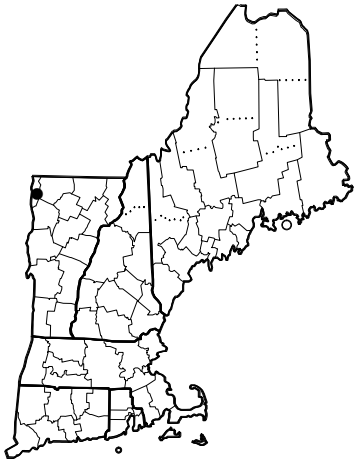
Figure 35. Distribution maps.



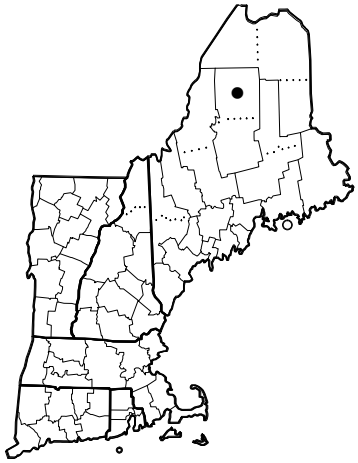
Populus × *smithii*



SALIX ALBA

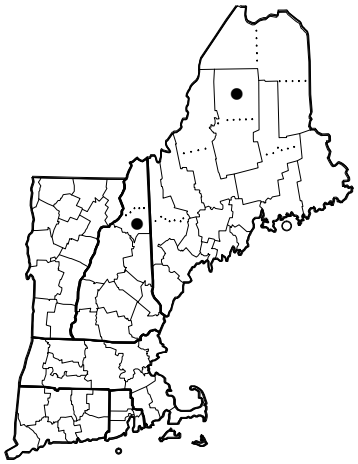


Salix amygdaloides

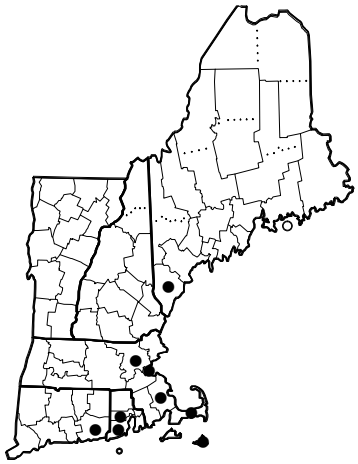


Salix arctophila

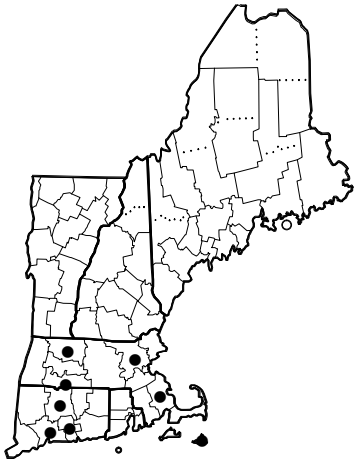
Figure 36. Distribution maps.



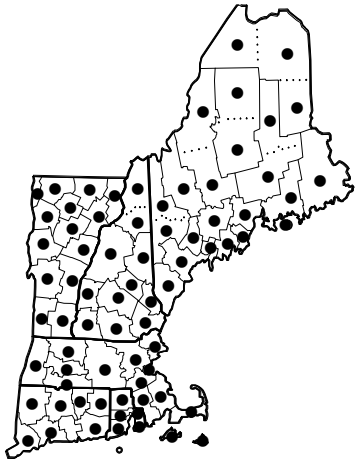
Salix argyrocarpa



SALIX ATROCINEREA

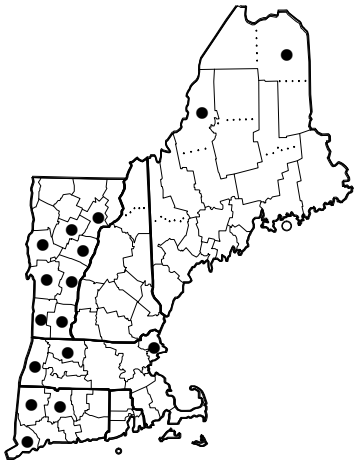


SALIX BABYLONICA

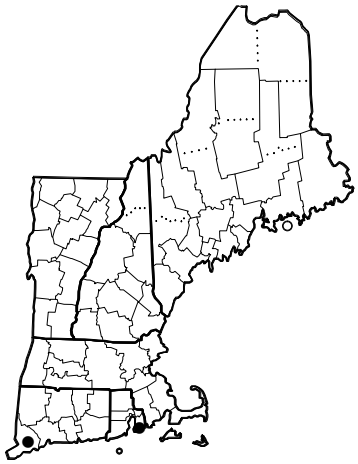


Salix bebbiana

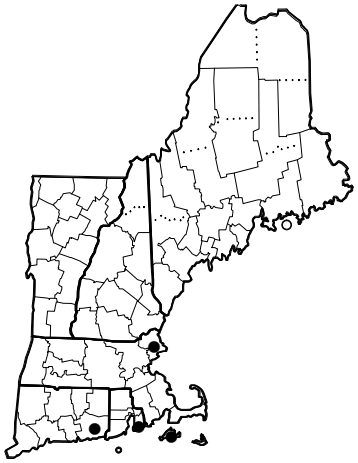
Figure 37. Distribution maps.



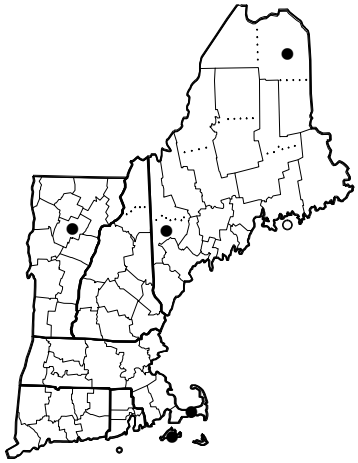
Salix candida



SALIX CAPREA

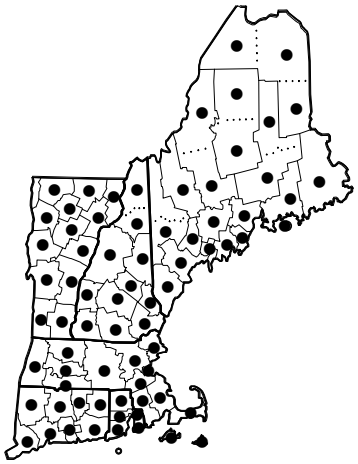


SALIX CINEREA

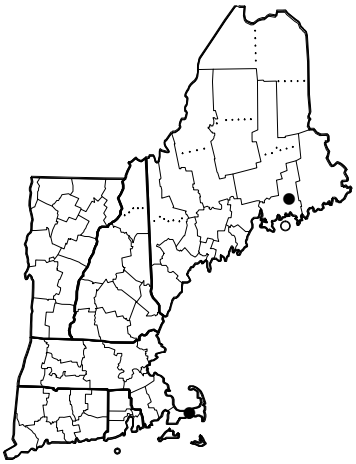


Salix cordata

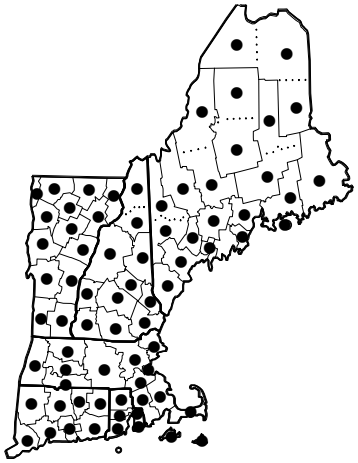
Figure 38. Distribution maps.



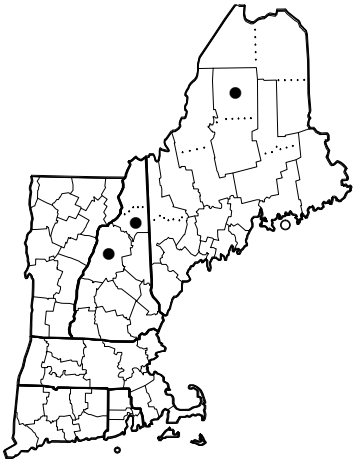
Salix discolor



SALIX ELAEAGNOS

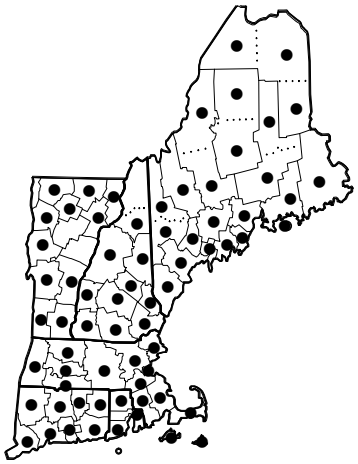


Salix eriocephala

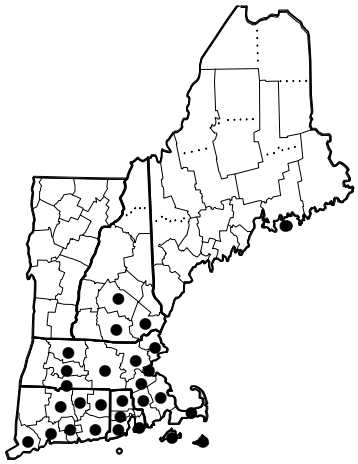


Salix herbacea

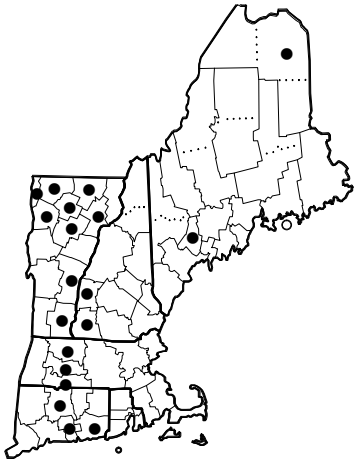
Figure 39. Distribution maps.



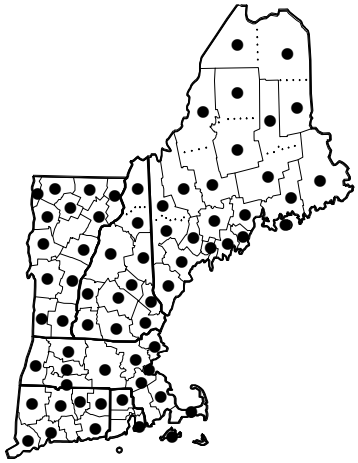
Salix humilis
var. *humilis*



Salix humilis
var. *tristis*

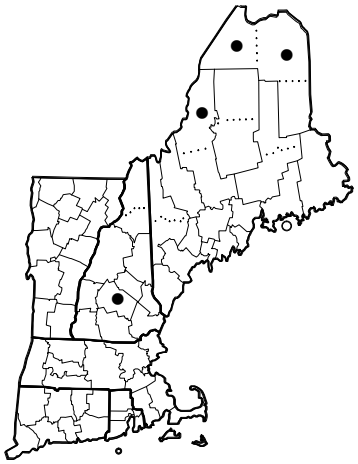


Salix interior

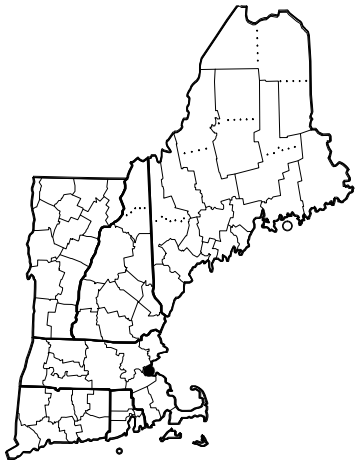


Salix lucida

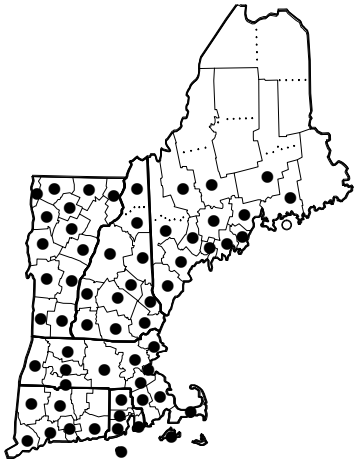
Figure 40. Distribution maps.



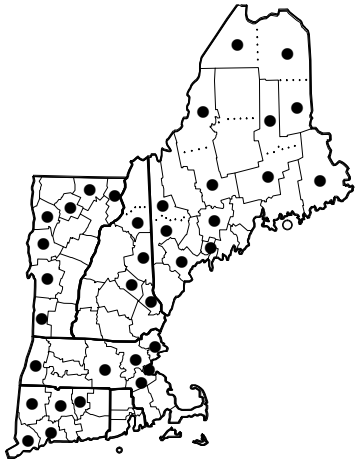
Salix myricoides



SALIX MYRSINIFOLIA

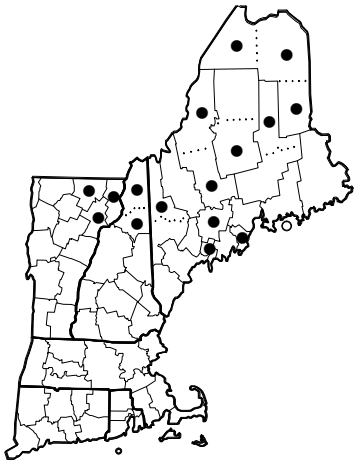


Salix nigra

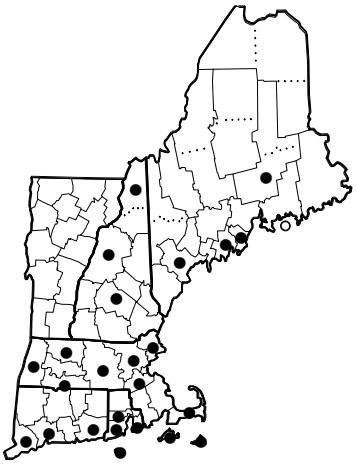


Salix pedicellaris

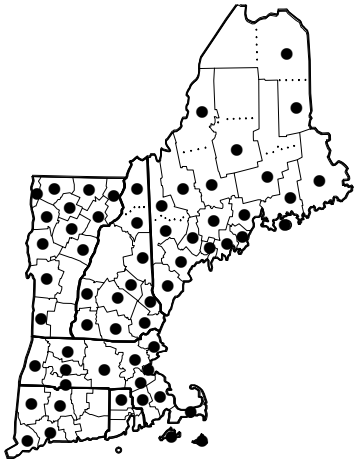
Figure 41. Distribution maps.



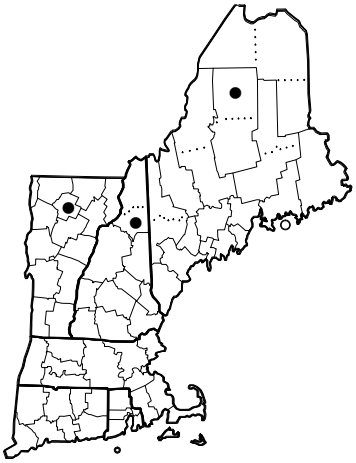
Salix pellita



SALIX PENTANDRA

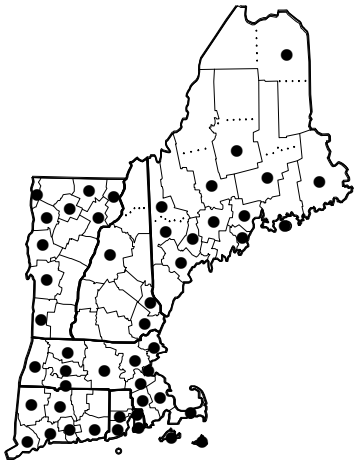


Salix petiolaris

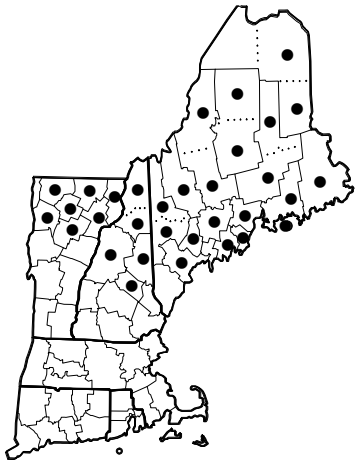


Salix planifolia

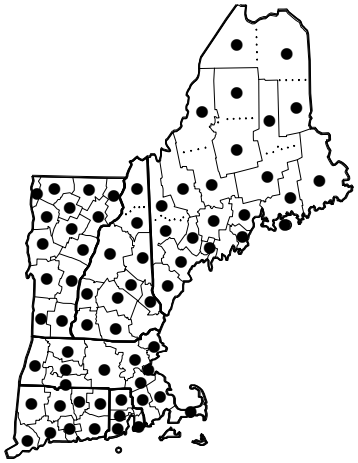
Figure 42. Distribution maps.



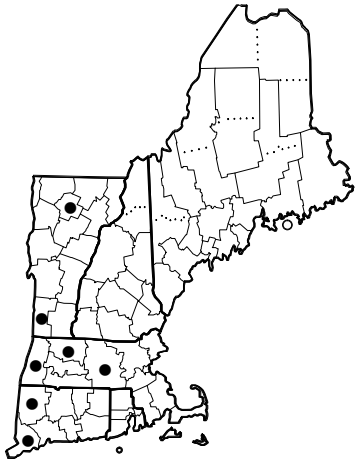
SALIX PURPUREA



Salix pyrifolia

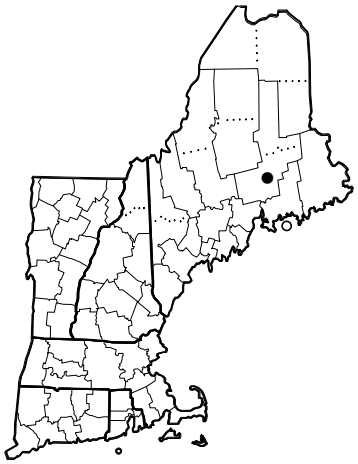


Salix sericea

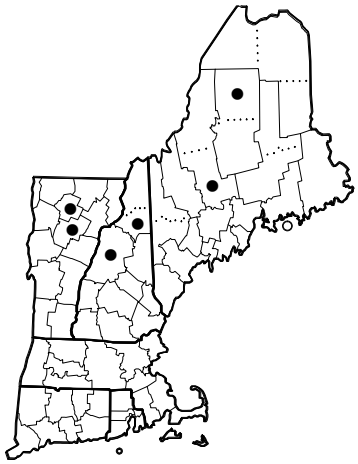


Salix serissima

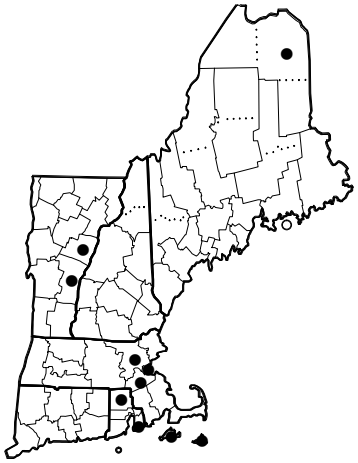
Figure 43. Distribution maps.



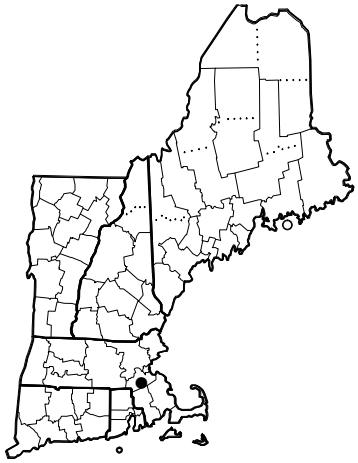
SALIX TRIANDRA



Salix uva-ursi

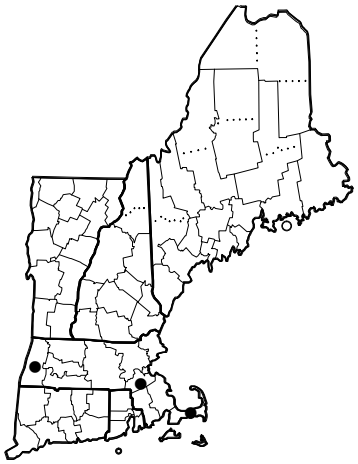


SALIX VIMINALIS

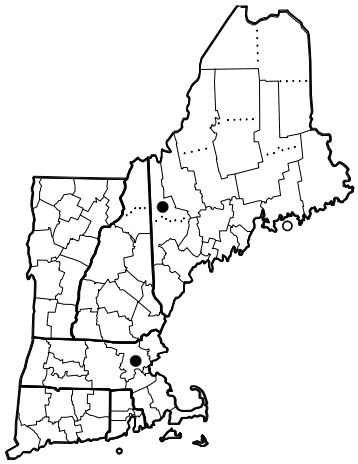


SALIX ALBA
× *S. petiolaris*

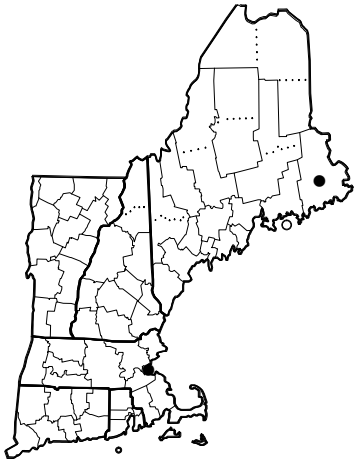
Figure 44. Distribution maps.



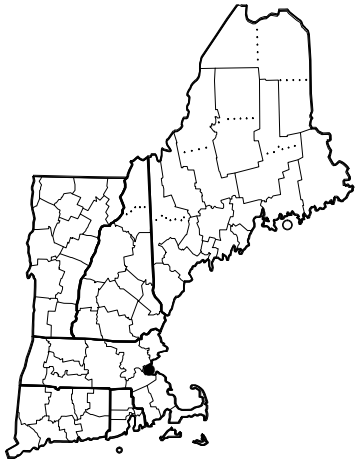
Salix bebbiana
× *S. eriocephala*



Salix bebbiana
× *S. humilis* var. *humilis*

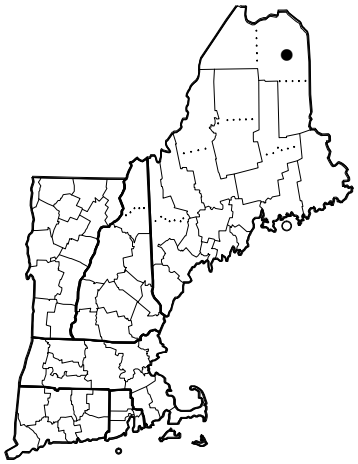


Salix bebbiana
× *S. petiolaris*

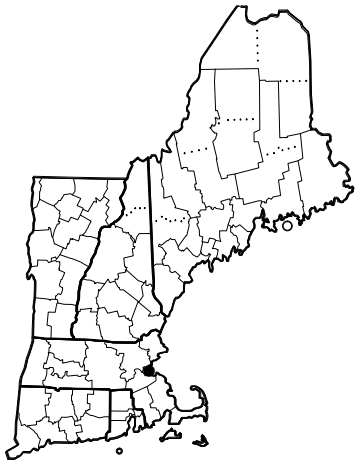


Salix × *besschelii*

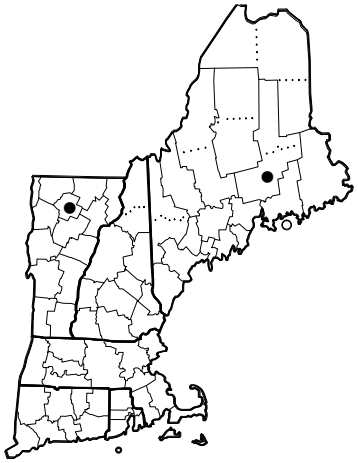
Figure 45. Distribution maps.



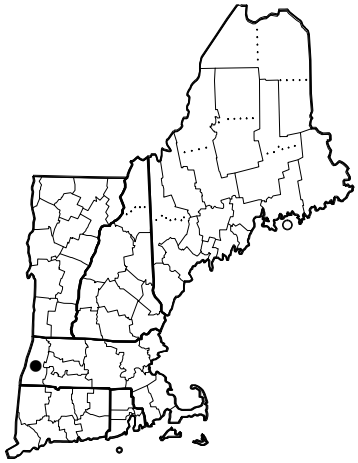
Salix candida
× *S. pellita*



SALIX CINEREA
× *S. eriocephala*

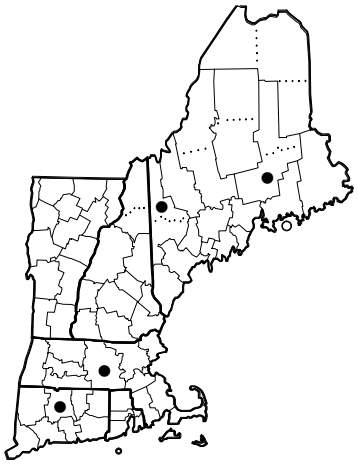


Salix cordata
× *S. sericea*

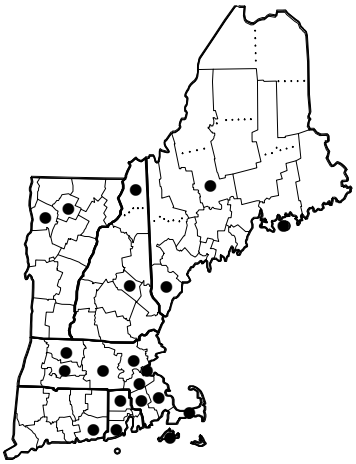


Salix × *cryptodonta*

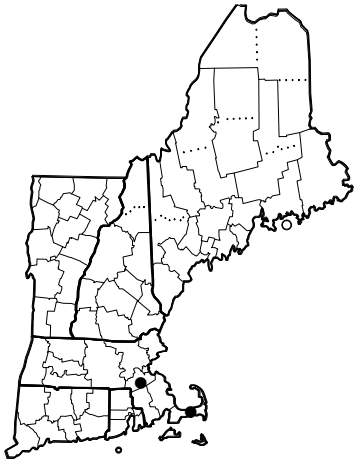
Figure 46. Distribution maps.



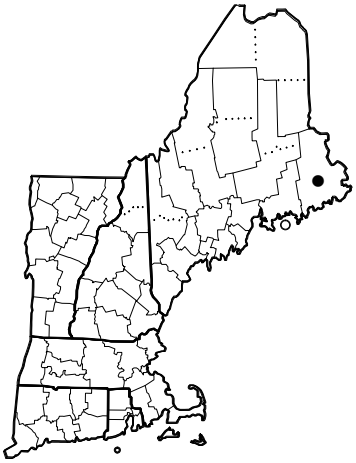
Salix discolor
× *S. eriocephala*



Salix discolor
× *S. humilis* var. *humilis*

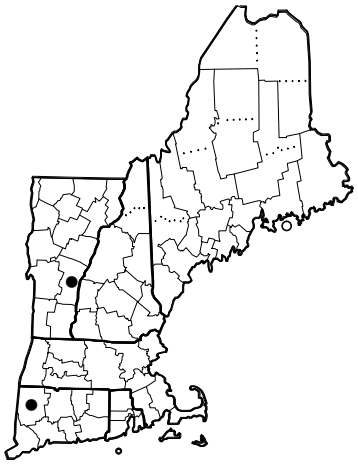


Salix discolor
× *S. petiolaris*

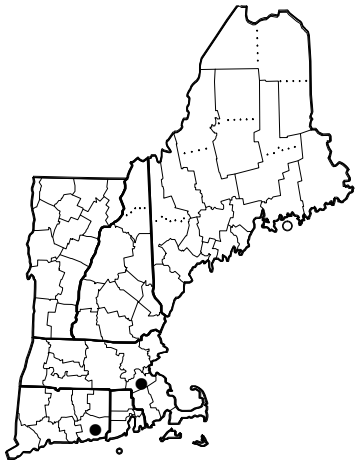


Salix discolor
× *S. pyrifolia*

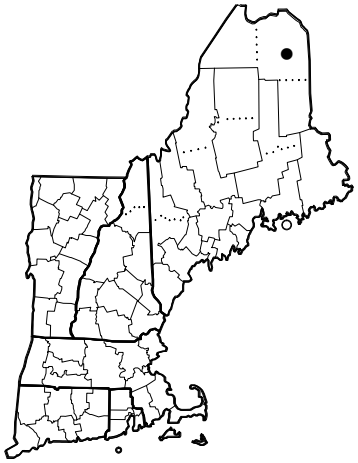
Figure 47. Distribution maps.



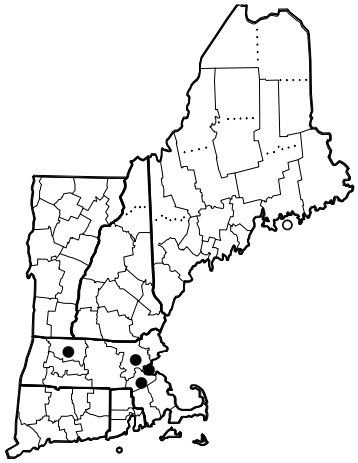
SALIX × *EHRHARTIANA*



Salix eriocephala
× *S. lucida*

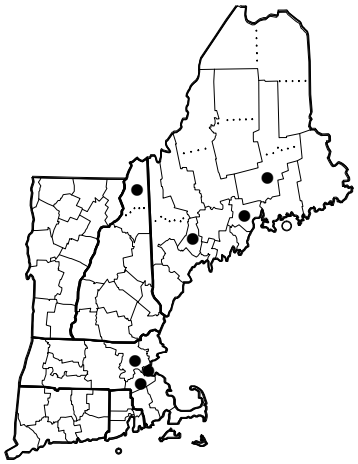


Salix eriocephala
× *S. myricoides*

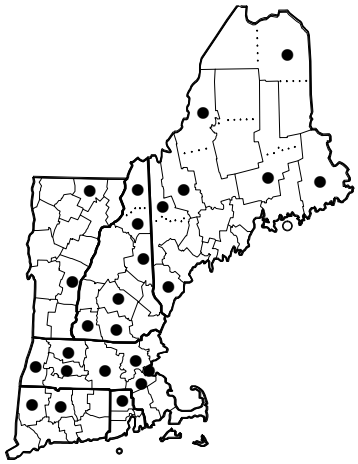


Salix eriocephala
× *S. pedicellaris*

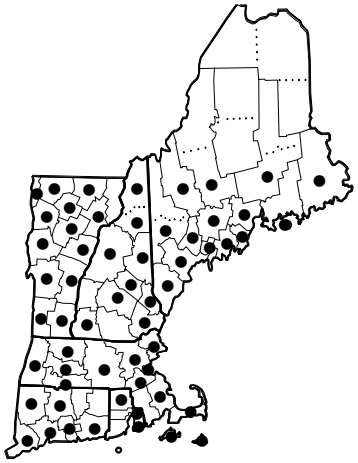
Figure 48. Distribution maps.



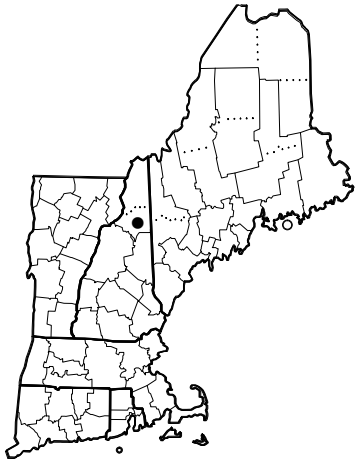
Salix eriocephala
× *S. petiolaris*



Salix eriocephala
× *S. sericea*

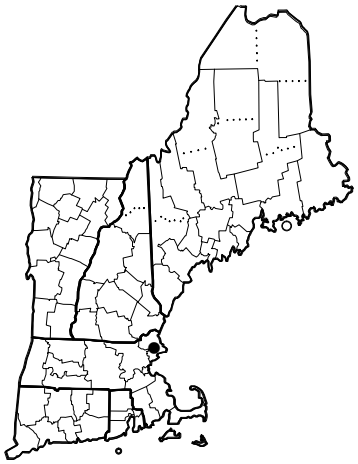


SALIX × *FRAGILIS*

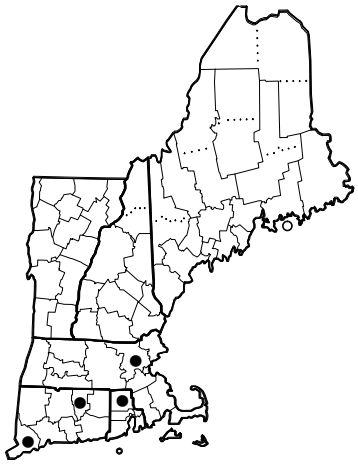


Salix × *grayii*

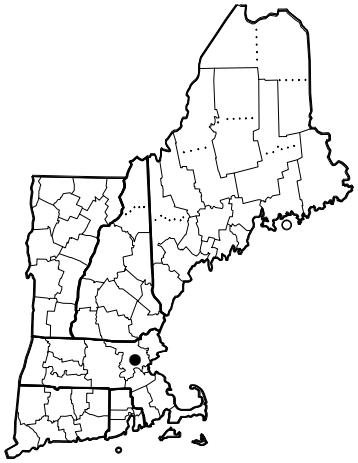
Figure 49. Distribution maps.



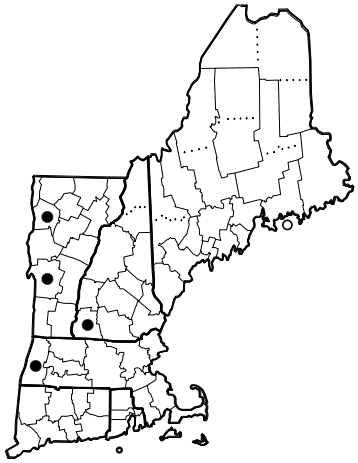
Salix humilis var. *humilis* × *S. petiolaris*



Salix humilis var. *humilis* *x S. sericea*

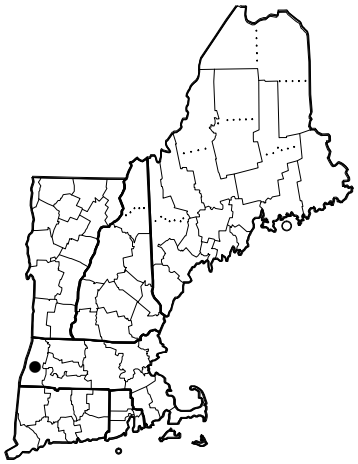


Salix humilis var. *tristis* × *S. petiolaris*

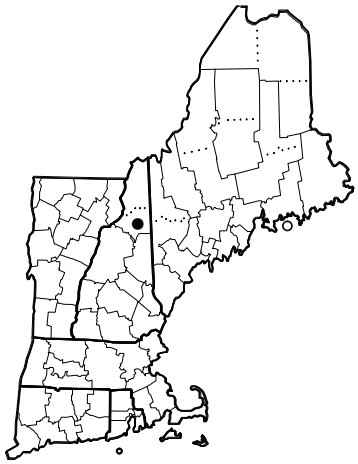


Salix × *jesupii*

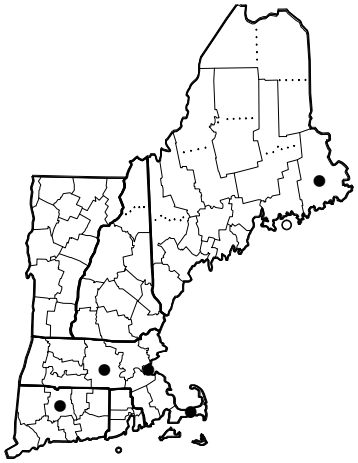
Figure 50. Distribution maps.



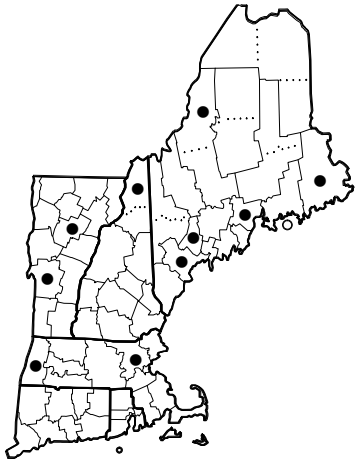
Salix lucida
× *S. serissima*



Salix × *peasei*

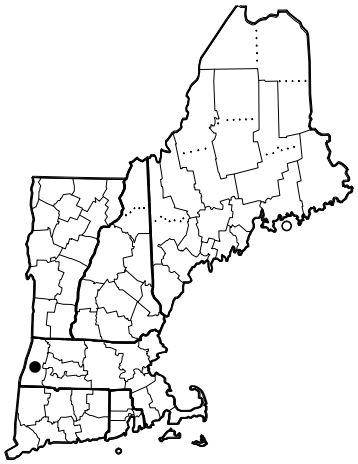


SALIX × *PENDULINA*

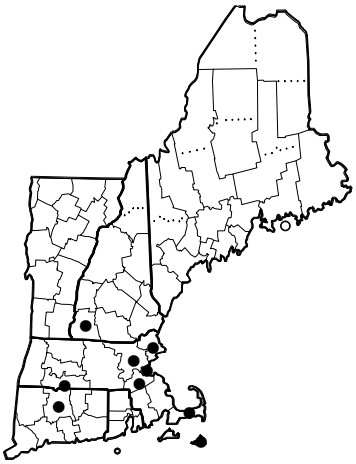


Salix petiolaris
× *S. sericea*

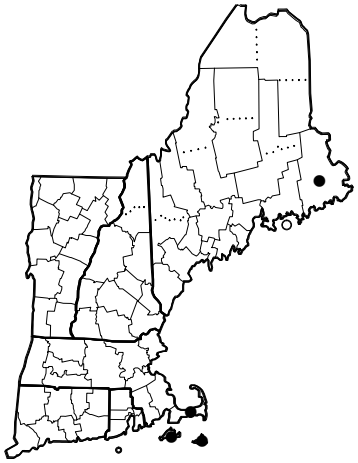
Figure 51. Distribution maps.



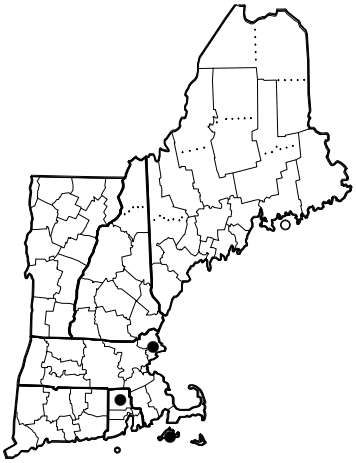
Salix × *rubella*



SALIX × *SEPULCRALIS*

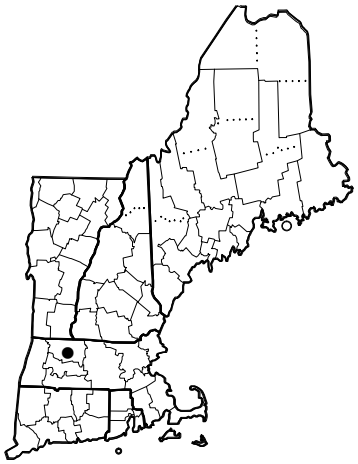


SALIX × *SMITHIANA*



TROPAEOLUM MAJUS

Figure 52. Distribution maps.



TROPAEOLUM MINUS

Figure 53. Distribution map.