Atlantic Canada Conservation Data Centre
Centre de données sur la conservation du Canada atlantique

Illustrated Flora of Prince Edward Island

Supplemental Technical Keys

24 March 2022

This file is intended to be a supplement to the Illustrated Flora of PEI at:
http://accdc.com/peiflora/s1.htm

Reliable identification of some groups requires assessment of more features than can be included in the limited space of an illustrated key. Here we include all keys at the family level and below, with many of them expanded to include further details.

Pink Lady's-Slipper (*Cypripedium acaule*)

TABLE OF CONTENTS

ACORACEAE

Acorus L.

This genus is represented by one species in PEI:

Acorus americanus (Raf.) Raf.

ALISMATACEAE

1a. Inflorescence a panicle; pistils arranged in a single ring on a flat receptacle

Alisma triviale Pursh

1b. Inflorescence usually racemes; pistils arranged in a dense sphere

Sagittaria

Alisma L.

This genus is represented by one species in PEI:

Alisma triviale Pursh

Sagittaria L.

1a. Leaves usually with basal lobes; filaments glabrous

2a. Achene beak to 2 mm long, extending laterally from top of body; fruiting heads to 2 cm thick; bracts to 1 cm

S. latifolia Willd.

2b. Achene beak to 0.5 mm long, erect on top of body; fruiting less than 1.5 cm thick; bracts to 4 cm long; often with ribbon-like leaves when deeply submerged

[*S. cuneata* E. Sheld.]

1b. Leaves usually without basal lobes; filaments minutely pubescent

3a. Lowest whorl of carpellate flowers borne on pedicels 1-3 cm long; flowering stem straight, without a distinct bend; leaf blades (when formed) narrow-lanceolate to broad-lanceolate

S. graminea Michx.

3b. Lowest whorl of carpellate flowers sessile or on short pedicels up to 0.5 cm long; flowering stem often with a conspicuous bend at the lowest whorl of flowers; leaf blades (when formed) lanceolate to oblong-ovate or elliptic-ovate

S. rigida Pursh

AMARANTHACEAE

1a. Stems appearing leafless, leafy and jointed; flowers opposite, embedded in stem

Salicornia L.

1b. Stems leafy, not joined; leaves mostly alternate; flowers various

2a. Leaf tips with a sharp spine over 0.5 mm long; flowers +/- solitary, axillary; tepals with transverse keel or wing sometimes longer than body of tepal

Salsola L.

2b. Leaf tips not spine-tipped, at most with a mucro up to 0.5 mm long; flowers various

3a. Leaves sessile, entire, linear to linear-oblong

4a. Leaves fleshy, cylindrical to plano-convex; plants of saline habitats

Suaeda Forssk. ex J.F.Gmel.

4b. Leaves hardly fleshy, +/- flattened, linear to linear-lanceolate; plants of non-saline habitat

Bassia scoparia (L.) A.J.Scott

3b. Leaves broader, entire, toothed or lobed, petioled

5a. Flowers unisexual; tepals and bracts acute, scarious or absent with most or all fruit enveloped by a pair of bracteoles

6a. Bracts and tepals all acute, scarious

Amaranthus L.

6b. Bracts beneath pistillate flowers broad and usually tuberculate and toothed with margins partly fused, tepals herbaceous

Atriplex L.

5b. Flowers mostly bisexual; fruit largely enveloped by persistent calyx; bracts herbaceous or firm and hardened, not scarious

Chenopodium s.l. (including *Oxybasis*)

Amaranthus L.

1a. Flowers mainly in small axillary clusters; whitish stem diffusely branched; upper leaves usually less than 3 cm long

A. albus L.

1b. Flowers mainly in large, dense, elongate, leafy-bracted terminal panicles; stem seldom much branched, often reddish at base; upper leaves 10 cm or longer

A. retroflexus L.

Atriplex L.

1a. Plants whitish or greyish green, densely scaly

A. laciniata L.

1b. Plants green, glabrous to sparsely mealy

2a. Lower leaves linear, without a pair of basal lobes, margin entire or with a few irregular teeth in the apical half

A. littoralis L.

2b. Lower leaves linear to ovate-lanceolate, with at least one basal lobe, usually a pair, margins otherwise entire or variously toothed throughout

3a. Bracteoles +/- thickened with spongy tissue, especially at the base

4a. Lower leaves linear, ovate-lanceolate, triangular or triangular-hastate, usually thickened and +/- scurfy

A. dioica Raf.

4b. Lower leaves all or mostly triangular and thin textured

5a. Some or all bracteoles short stipitate, the margins irregularly denticulate to laciniate, lateral angles of faces usually developed into 1-3 teeth

A. glabriuscula Edmondston var. *franktonii* (Tascher.) S.L.Welsh

5b. Bracteoles all sessile, margin entire or slightly toothed, lateral angles shortly pointed but not definitely toothed

6a. Inflorescence with leafy bracts to the tip, glomerules loose, irregularly spaced; bracteoles thick spongy, margin united to middle; seeds 2.5+ mm wide, usually not distinctly dimorphic, dark brown to black, irregularly biconvex; radicle median, +/- antrorse

A. glabriuscula var. *glabriuscula*

6b. Inflorescence with leafy bracts only at base, glomerules tight, contiguous or irregularly spaced; bracteoles thin to slightly thickened and spongy, margin united only at base; seeds mostly less

than 2.5 mm wide, usually distinctly dimorphic, mostly small and glossy black, but also some larger, and dull brown, flattened and disc-shaped; radicle subbasal, obliquely antrorse to spreading

A. protrata Boucher ex DC.

3b. Bracteoles not thickened

7a. Fruiting bracteoles ovate to elliptic or orbiculate-cordate

A. dioica Raf.

7b. Fruiting bracteoles never orbiculate-cordate, frequently toothed, usually with lateral angles

8a. Radicle of brown seeds basal and spreading; plants of coastal salt marshes

A. glabriuscula var. *acadiensis* (Tascher.) S.L.Welsh

8b. Radicle of brown seeds subbasal to median and antrorse; widespread ruderal weed

A. patula L.

Bassia All.

This genus is represented by one species in PEI:

B. scoparia (L.) A.J.Scott

Chenopodium L. and ***Oxybasis*** Kar. & Kir.

1a. Leaves +/- densely farinose beneath

2a. Some fruits vertical; principal leaf blades mostly 1-2.5 cm long with regularly sinuate and toothed margins; pericarp free from seed

Oxybasis glauca (L.) S.Fuentes-B., Uotila & Borsch ssp. *glauca*

2b. All fruit horizontal; principal leaf blades often longer, and / or entire to irregularly toothed; pericarp closely adhered to seed

3a. Seed and pericarp conspicuously reticulate-roughened

Chenopodium berlandieri Moq. var. *macrocalycium* (Aellen) Cronquist

3b. Seed and pericarp +/- smooth surfaced

4a. Leaf margins tapering to an acute apex; leaves ovate, rhombic, or lanceolate; inflorescence branched spicate or cymose

C. album L.

4b. Leaf margins more or less parallel below the obtuse apex, leaves lanceolate to narrowly elliptic; inflorescence normally moniliform, not profusely branching

C. strictum Roth

1b. Well-developed leaves not farinose

5a. Fruit all vertical or both vertical and horizontal

6a. Plants perennial, of ruderal non saline habitats; perianth segments 5; leaves all triangular-hastate, entire or shallowly sinuate

C. bonus-henricus L.

6b. Plants annual, of saline soils; perianth segments usually 3; basal leaves rhombic-ovate or obovate, +/- coarsely toothed, the upper lanceolate and subentire

O. rubra (L.) S.Fuentes-B., Uotila & Borsch var. *rubra*

5b. Fruit all horizontal

C. album L.

Salicornia L.

1a. Fertile segments ± cylindric; anthers all exserted, dehiscing after exsertion

S. depressa Standl.

1b. Fertile segments widest distally; anthers commonly not exserted, mostly dehiscing within flower

S. maritima S.L.Wolff & Jefferies

Salsola L.

1a. Principal leaves flattened on one side, to about 3 cm long; bracteal leaves to about 1.5 cm long, harshly spinous at tip, dilated at base

S. kali L. ssp. *kali*

1b. Principal leaves filiform, to about 7 cm long; bracteal leaves to about 8 mm long, weakly spinous at tip

S. tragus L.

Suaeda Forssk. ex J.F.Gmel.

Closely related to *S. calceoliformis* is *S. rolandii* Bassett & Crompton, a poorly understood endemic scattered rarely along the Atlantic coast between New Jersey and Nova Scotia (FNA 1993+). The recent discovery of multiple new locations for *S. rolandii* in Kent Co., New Brunswick (Mazerolle unpubl., 2020) suggest the species may be overlooked in PEI.

1a. Perianth segments thin to abaxially rounded, without appendages

S. maritima (L.) Dumort.

1b. Perianth segments abaxially rounded, one or more segments with abaxial appendages

S. calceoliformis (Hook.) Moq.

AMARYLLIDACEAE

1a. Leaves terete; inflorescence with 30-50 flowers in subspherical umbels

Allium schoenoprasum L.

1b. Leaves flat; inflorescence with 1 flower

Narcissus poeticus L.

Allium L.

This genus is represented by one species in PEI. Wild Chives (*Allium schoenoprasum*) has both native and non-native populations in the Maritimes. Native plants, often called var. *sibiricum* (L.) Hartman, grow on rocky river shores, while cultivated garden plants, var. *schoenoprasum*, persist in abandoned gardens or escape to meadows and fields. Island Nature Trust staff discovered two occurrences of the species near Cavendish. Based on their location and habitat, these are most likely introduced plants persisting after cultivation.

Allium schoenoprasum L.

Narcissus L.

This genus is represented by one species in PEI. Other Daffodil species (*Narcissus*) are common in cultivation and may escape as well. Poet's Narcissus (*N. poeticus*) may be distinguished by the red ring around its yellow corona (the tubular floral appendage).

Narcissus poeticus L.

ANACARDIACEAE

1a. Leaflets 3, ovate to rhombic or elliptic; fruit smooth, white-ish; straggling or low-climbing shrubs

Toxicodendron radicans (L.) Kuntze var. *rydbergii* (Small ex Rydb.) Erskine

1b. Leaflets many, lanceolate to narrowly obling; fruit red-hispid; tall shrub or small tree

Rhus typhina L.

Toxicodendron Mill.

This genus is represented by one species in PEI:

Toxicodendron radicans (L.) Kuntze var. *rydbergii* (Small ex Rydb.) Erskine

Rhus L.

This genus is represented by one species in PEI:

Rhus typhina L.

APIACEAE

1a. Leaves simple

2a. Inflorescence relatively open with pedicellate flowers; leaf blades rounded, not sharply-toothed

Hydrocotyle americana L.

2b. Inflorescence composed of dense, head-like clusters of +/- sessile flowers, each flower subtended by a bractlet; most leaf blades spinulose-toothed

Eryngium planum L.

1b. Leaves compound

3a. Leaves palmately divided; plants with bisexual flowers and unisexual male flowers in separate umbellets or intermixed

Sanicula marilandica L.

3b. Leaves otherwise; plants mostly with male and female flowers in one inflorescence

4a. Larger leaves with ultimate segments narrow-linear to filiform, up to 1.0 mm wide; umbels with 7-14 primary branches

Carum carvi L.

4b. Larger leaves with ultimate segments linear to orbicular, >1.0 mm wide

5a. Leaves with 3 leaflets that are simple or lobed but not again divided

Heracleum L.

5b. Leaves with 5+ ultimate segments

6a. Leaves with clearly defined leaflets, the ultimate segments often >2 cm wide

7a. Principal leaves once-compound (twice-compound in submerged leaves of *Sium suave*)

8a. Aquatic, fibrous-rooted plants; umbels and umbellets with bracts and bractlets, respectively; flowers white

Sium suave Walter

8b. Taprooted weeds of fields and anthropogenic habitat; flowers yellow

Pastinaca sativa L.

7b. Principal leaves two to three times compound

9a. Petals yellow

10a. Perennial native plants; leaf divisions and leaflets ternately arranged; central flower of each umbellet sessile

Zizia aurea (L.) W.D.J.Koch

10b. Introduced taprooted biennials; leaf divisions and leaflets pinnately arranged; all flowers pedicelled

Pastinaca sativa L.

9b. Petals white

11a. Upper leaf sheaths conspicuously dilated, 1 cm + wide

Angelica L.

11b. Upper leaf sheaths not dilated, < 1 cm wide

12a. Veins of the leaves directed to the sinuses; base of the stem thickened; some of the roots tuberous-thickened; wetland plants

Cicuta maculata L.

12b. Veins of the leaves directed to the teeth; base of the stem not thickened; roots without tubers; plants of more dry habitats

13a. Ovary bristly; plants of rich woods

Osmorhiza Raf.

13b. Ovary glabrous; plants of coastal shores or disturbed areas

14a. Sepals present; styles shorter than the stylopodia, ascending; umbellets with bractlets; plants of coastal shores

Ligusticum scoticum L.

14b. Sepals absent; styles much longer than the stylopodia, deflexed; umbellets lacking bractlets; plants of fields and disturbed areas

Aegopodium podagraria L.

6b. Leaves dissected, without clearly defined leaflets, the ultimate segments often <1 cm wide

15a. Bracts of the umbel pinnatifid; central flower of the inflorescence purple or pink

Daucus carota L.

15b. Bracts of the umbel entire or absent; central flower of the inflorescence white

16a. Bractlets narrow-ovate, with conspicuously ciliate or fimbriate margins

Anthriscus sylvestris (L.) Hoffm.

16b. Bractlets absent or linear to lanceolate, their margins entire or minutely fringed with fine hairs

17a. Axils of upper leaves with bulblets

Cicuta bulbifera L.

17b. Axils of upper leaves without bulblets

Conioselinum chinense (L.) Britton, Sterns & Poggenb.

Aegopodium L.

This genus is represented by one species in PEI:

Aegopodium podagraria L.

Angelica L.

1a. Involucels to 1 mm wide, persistent, often reddish margined; fruit only slightly flattened with thick corky dorsal ribs scarcely differing from lateral ribs; plants strictly coastal

A. lucida L.

1b. Involucels inconspicuous, less than 0.5 mm wide, deciduous; fruit strongly flattened with broadly winged lateral ribs and low dorsal ribs; plants not strictly coastal

2a. Inflorescence flat-topped; uppermost leaf sheaths +/- tubular, veins inconspicuous; pedicels finely scabrous; fruit cross-section showing 1-3 oil tubes in each interbal between ribs, seed closely attached to outer coat

A. sylvestris L.

2b. Inflorescence +/- spherical; uppermost leaf sheaths inflated, veins conspicuous; pedicels heavily scabrous; fruit cross-section showing 25-30 oil tubes surrounding the loose seed

A. atropurpurea L.

Anthriscus Pers.

This genus is represented by one species in PEI:

Anthriscus sylvestris (L.) Hoffm.

Carum L.

This genus is represented by one species in PEI:

Carum carvi L.

Cicuta L.

1a. Veins of the leaves directed to the sinuses; base of the stem thickened; some of the roots tuberous-thickened; wetland plants; plants not producing bulblets

Cicuta maculata L.

1b. Veins of the leaves directed to the teeth; base of the stem not thickened; roots without tubers; plants of more dry habitats; axils of upper leaves with bulblets

Cicuta bulbifera L.

Conioselinum Hoffm.

This genus is represented by one species in PEI:

Conioselinum chinense (L.) Britton, Sterns & Poggenb.

Daucus L.

This genus is represented by one species in PEI:

Daucus carota L.

Eryngium L.

This genus is represented by one species in PEI:

Eryngium planum L.

Heracleum L.

1a. Rays of the uppermost umbels very numerous and conspicuous (50-150); plants often to 4 m tall

Heracleum mantegazzianum Sommier & Levier

1b. Rays fewer, mostly 15-30; plants usually < 3 m tall

Heracleum maximum W.Bartram

Ligusticum scoticum L.

Hydrocotyle americana L.

Osmorhiza Raf.

Osmorhiza berteroi DC. is not recorded by Erskine (1960) but listed for PEI in North American Flora files at the New York Botanical Garden (Kartesz and Meacham 1999). We consider it unconfirmed but possible.

1a. Styles at most 1.5 mm long; flowers usually 4-8 per umbellet

Osmorhiza claytonii (Michx.) C.B.Clarke

1b. Styles at least 2 mm long; flowers usually 9-18 per umbellet

Osmorhiza longistylis (Torr.) DC.

Pastinaca L.

This genus is represented by one species in PEI:

Pastinaca sativa L.

Sanicula L.

This genus is represented by one species in PEI:

Sanicula marilandica L.

Sium L.

This genus is represented by one species in PEI:

Sium suave Walter

Zizia W.D.J.Koch

This genus is represented by one species in PEI:

Zizia aurea (L.) W.D.J.Koch

APOCYNACEAE

1a. Corolla lobes erect to spreading; flowers in small terminal (sometimes axillary) cymes; mature fruit 3-5 mm in diameter

Apocynum androsaemifolium L.

1b. Corolla lobes strongly reflexed at maturity; flowers in umbels; mature fruit 6-35 mm in diameter

Asclepias L.

Apocynum L.

This genus is represented by one species in PEI:

Apocynum androsaemifolium L.

Asclepias L.

1a. Fruiting pedicels erect; pods lance-fusiform, attenuate; corolla pink to rose-purple

A. incarnata L.

1b. Fruiting pedicels deflexed; pods thick-lanceolate; corolla purple to +/- green

A. syriaca L.

AQUIFOLIACEAE

Ilex L.

1a. Leaves membranaceous, finely mucronate, +/- entire, usually darkening when dried; petals and stamens free; flowers usually solitary

I. mucronata (L.) M.Powell, Savol. & S.Andrews

1b. Leaves coriaceous, acute but not finely mucronate, regularly finely toothed, not darkening when dried; petals slightly united at base; stamens fused to corolla tube; flowers in small clusters

I. verticillata (L.) A.Gray

ARACEAE

Including the tiny aquatic species of the Lemnoideae subfamily (formerly Lemnaceae), Prince Edward Island's smallest vascular plants.

1a. Plants tiny floating or submerged aquatics less than about 4 mm wide and 15 mm long

2a. Plants with 2 or more roots, dark green above, purple below; ribs often more than 5

Spirodela polyrhiza (L.) Schleid.

2b. Plants with 1 root, green on both surfaces or reddish beneath; ribs 5 or less

Lemna

1b. Plants much larger, over 15 cm tall

3a. Leaves compound

Arisaema triphyllum (L.) Schott

3b. Leaves simple

Calla palustris L.

Arisaema Mart.

This genus is represented by one species in PEI:

Arisaema triphyllum (L.) Schott

Calla L.

This genus is represented by one species in PEI:

Calla palustris L.

Lemna L.

1a. Plants to 5 mm long, rounded, soon becoming free-floating

Lemna turionifera Landolt

1b. Plants to 1 cm long including narrow attachment stalks, oblong to broadly lanceolate and usually submerged

Lemna trisulca L.

Spirodela Schleid.

This genus is represented by one species in PEI:

Spirodela polyrhiza (L.) Schleid.

ARALIACEAE

1a. Plants completely herbaceous from a deeply buried tuber; stem less than 1.5 dm tall; umbel solitary, terminal; leaves palmately compound with 3-5 leaflets

Panax trifolius L.

1b. Plants somewhat woody at base, not tuber-bearing; stem usually over 3 dm tall; umbels 3 or more; leaves alternate or basal, twice or thrice compound, the segments pinnate

Aralia L.

Aralia L.

1a. Inflorescence a raceme-like panicle of umbels; leaflets cordate-ovate; stem to 2 m high, much branched

A. racemosa L.

1b. Inflorescence a corymb of umbels; leaflets oblong-ovate; stem less than 1.5 m high

2a. Stem prickly at base, leafy throughout; terminal leaflet long-stalked

A. hispida Vent.

2b. Stem smooth, bearing a single, long-petioled, ternate-pinnate leaf and a shorter naked scape with 3-7 umbels

A. nudicaulis L.

Panax L.

This genus is represented by one species in PEI:

Panax trifolius L.

ASPARAGACEAE

1a. Leaves alternate and scale-like, < 4 mm long

Asparagus

1b. Leaf blades expanded, elliptic to ovate, > 4 mm long

2a. Leaves entirely basal; tepals connate

Convallaria

2b. Leaves on stem; tepals separate

Maianthemum

Asparagus L.

This genus is represented by one species in PEI:

Asparagus officinalis L.

Convallaria L.

This genus is represented by one species in PEI:

Convallaria majalis L.

Maianthemum F.H. Wigg

Wild Lily-of-the-valley (*M. canadense*) is unique among Maritimes *Maianthemum* species for its four-tepaled flowers. The remainder of the genus, which has flowers with six tepals, was formerly segregated in the genus *Smilacina* Desf. (as in Erskine 1960).

1a. Inflorescence a panicle; flowers with inconspicuous tepals

M. racemosum

1b. Inflorescence a raceme; flowers with conspicuous tepals

2a. Stem leaves more than 6, pubescent abaxially; most-often growing in dry sandy habitats

M. stellatum

2b. Stem leaves 1-4, glabrous; growing in bogs or forests

3a. Tepals 4; leaf bases more or less cordate

M. canadense

3b. Tepals 6; leaf bases tapered

M. trifolium

ASPHODELACEAE

This family contains one genus on Prince Edward Island. *Hemerocallis* is sometimes placed in Hemerocallidaceae (as in Haines 2011). However, APG IV (2016) joined the family with Asphodelaceae, the latter of which is the conserved family name.

Hemerocallis L.

1a. Flowers orange, not fragrant; plants to 1.5 m tall; capsules rarely producing seeds

H. fulva (L.) L.

1b. Flowers yellow, fragrant; plants to 1.0 m tall; capsules maturing and producing seeds

H. lilioasphodelus L.

ASTERACEAE

1a. Capitula composed entirely of bisexual ray flowers; plants usually with a milky latex

ASTERACEAE GROUP 1

1b. Capitula composed entirely of disk flowers or both ray and disk flowers; plants commonly without a milky latex

2a. Capitula without marginal, zygomorphic flowers that bear a ray, all the flowers tubular and actinomorphic, with or without apical teeth or lobes

3a. Pappus composed of capillary bristles (at least in large part), each bristle smooth, barbellate, or plumose

ASTERACEAE GROUP 2

3b. Pappus composed entirely of scales, or awns, a short crown, or entirely absent

ASTERACEAE GROUP 3

2b. Capitula with zygomorphic ray flowers near the periphery, the rays sometimes minute and inconspicuous in drying

4a. Rays of various colors, but not yellow or orange

ASTERACEAE GROUP 4

4b. Rays largely or entirely yellow or orange

ASTERACEAE GROUP 5

ASTERACEAE GROUP 1

1a. Pappus absent; plants annual; rays yellow

2a. Involucral bracts membranaceous to herbaceous, not prominently keeled; peduncles not swollen; stems with foliaceous leaves

Lapsana communis L.

2b. Involucral bracts becoming enlarged with an indurate, keeled midrib after anthesis; peduncles conspicuously swollen; stem with minute, bracteal leaves

Arnoseris minima (L.) Schweigg. & Körte

1b. Pappus present; plants annual, biennial, or perennial; ray colour various

3a. Pappus composed entirely of scales, the scales numerous; rays blue (rarely pink or white); involucre 9-15 mm tall

Cichorium intybus L.

3b. Pappus composed entirely of slender bristles

4a. Pappus bristles smooth or barbellate, but not pinnately branched

5a. Cypsela body terete or several-angled

6a. Cypsela body muricate, at least in the apical portion, tipped by a long, slender beak

Taraxacum F.H. Wigg

6b. Cypsela without sharp projections, with or without an apical beak

7a. Flowers white, yellow-white, or green-white; capitula with 5-13 flowers

Nabalus Cass.

7b. Flowers yellow, orange, or red-orange; capitula with 8-100 flowers

8a. Plants taprooted annuals or biennials; pappus bristles white, relatively soft; involucre composed of 2 series of principal bracts, the outer much shorter than the inner

Crepis tectorum L.

8b. Plants fibrous-rooted perennials, from short or long rhizomes or a caudex; pappus bristles sordid white to light brown, relatively stiff; involucre variable, either composed of 2 series of principal bracts (i.e., a long inner series and a short, outer series) or with 3 or more series of principal bracts

9a. Leaves of erect flowering stems all or mostly in a basal rosette, or densely crowded very near the base of the stem (leafy stolons may also be present)

Pilosella Hill

9b. Leaves of erect flowering stem all or mostly cauline (not basal)

Hieracium L.

5b. Cypsela body evidently compressed

10a. Involucres cup-shaped or bell-shaped, at least two-thirds as broad as long at anthesis; achenes scarcely if at all beaked

Sonchus L.

10b. Involucres (at least at anthesis) cylindrical to urn-shaped, at least twice as long as broad; achenes long-beaked, short-beaked, or beakless

11a. Florets 5 per head; longer phyllaries 5 or fewer

Mycelis muralis (L.) Dumort.

11b. Florets and phyllaries more numerous

Lactuca L.

4b. Pappus bristles plumose (i.e., pinnately branched)

12a. Involucre composed of 1 series of involucral bracts of equal length; leaf blades long and slender, grass-like; cypsela body 10-25 mm long excluding the beak

Tragopogon pratensis L.

12b. Involucre calyculate or with bracts of differing lengths; leaf blades relatively wider, not grass-like; cypsela body 2-7.5 mm long excluding the beak

Scorzoneroides autumnalis Moench

ASTERACEAE GROUP 2

1a. Leaf blades spiny-margined; involucral bracts (at least some of them) with a simple spine tip (the spine tip sometimes short in *Cirsium muticum*); receptacle densely bristly setose between the disk flowers

Cirsium Mill.

1b. Leaf blades without spines; involucral bracts not spine-tipped or the bracts with palmately or pinnately branched spines; receptacle lacking bristle-like setae (except *Centaurea*)

2a. Most or all of the involucral bracts tipped with an erose or a fimbriate- to pectinate-fringed appendage, the appendage sometimes spinose; cypselas attached laterally or obliquely to the receptacle

Centaurea L.

2b. Involucral bracts with entire or ciliate margins; cypselas attached basally to the receptacle

3a. Plants pubescent with white or gray tomentum or sericeous tomentum, at least on the abaxial leaf surface (often also on the stem; some species becoming glabrate late in growing season)

4a. Plants mostly stoloniferous with leafy rosettes; cauline leaves much reduced, +/- remote; pappus bristles (at least in pistillate or bisexual flowers) united in a ring at the base

Antennaria howellii Greene

4b. Plants annual or rhizomatous, with neither stolons nor basal rosettes; cauline leaves numerous, much overlapping; pappus bristles often separate

5a. Phyllaries (except at base) pure pearly white, appearing distinctly longitudinally striate (from tiny creases); leaves smooth and glabrous above or with loose white tomentum (rarely with a few tiny gland-tipped hairs hidden in the tomentum); plant rhizomatous, without sweetish odour

Anaphalis margaritacea (L.) R. Br.

5b. Phyllaries off-white to brownish, not appearing striate from tiny creases; leaves at least in common species with short-gland-tipped hairs or at least roughened above; plants tap-rooted (or rhizomatous in *Omalotheca sylvatica*) and the common species (fresh or dry) with sweetish odour, especially when crushed

6a. Inflorescence elongate (spicate or racemose); pappus bristles united in a ring at the base; plants rhizomatous

Omalotheca sylvatica (L.) Sch. Bip. & F.W. Schultz

6b. Inflorescence corymbiform (or heads crowded at ends of branches, or sometimes spicate in *G. uliginosum* with involucres only 2-3 mm long); pappus bristles separate; plants tap-rooted

7a. Involucre +/- 2-2.7 (-3.0) mm long; plants bushy-branched; heads in clusters overtopped by subtending leaves

Gnaphalium uliginosum L.

7b. Involucre 4.5-6.5 (-7.0) mm long; plants rarely branched (except at the top or in the inflorescence); heads not overtopped by subtending leaves

Pseudognaphalium Kirp.

3b. Plants glabrous or pubescent, but not conspicuously tomentose

8a. Leaves opposite or whorled (sometimes alternate on upper stem)

9a. Leaves in whorls of 3-7; corollas and often also the involucral bracts, pink to purple; involucres usually cylindric in flower, the margins parallel or slightly upwardly flared

Eutrochium maculatum (L.) E.E. Lamont

9b. Leaves opposite; corollas white (very rarely pink to purple); involucral bracts variously colored, usually with green and white, but not pink to purple; involucres usually with a distinct upward flare in flower, obviously narrower near base compared with apex

Eupatorium perfoliatum L.

8b. Leaves alternate throughout the stem

10a. All flowers of the capitula bisexual

Senecio L.

10b. At least the marginal flowers of the capitula unisexual and carpellate

11a. Involucre 10-15 mm tall, in 1 series of long, nearly equal length bracts, sometimes calyculate, turbinate-cylindric, conspicuously swollen at the base before anthesis; leaf blades sharply serrate and sometimes also irregularly lobed; cypsela body 2-5.5 mm long

Erechtites hieraciifolius (L.) Raf. ex DC.

11b. Involucre 5-11 mm tall, in 3 or 4 series of nearly equal length bracts, without a basal swelling; leaf blades entire; cypsela body up to 2 (-2.2) mm long

Symphyotrichum Nees

ASTERACEAE GROUP 3

1a. Receptacle bristly setose, hairy, or chaffy, at least near the margin of the capitulum; corollas anthocyanic, cyanic, yellow to orange, green-yellow, green-white, or white (or lacking on some flowers)

2a. Pappus of some form present, at least on the inner flowers

3a. Most or all of the leaves opposite; pappus of 2-6 awns, these usually retrorsely barbellate (rarely antrorsely barbellate or smooth or absent); receptacle with flattened scales

Bidens L.

3b. Leaves alternate; pappus of bristles or scales; receptacle densely bristly

4a. Involucral bracts with an entire, attenuate, hooked tip; leaf blades 15-70 cm wide, usually simple, rounded to cordate at the base

Arctium L.

4b. Involucral bracts tipped by an erose or a fimbriate to pectinate-fringed appendage, not hooked; leaf blades up to 6 cm wide, cuneate at the base or pinnately lobed or both

Centaurea L.

2b. Pappus absent

5a. Receptacle densely bristly setose or long-hairy or naked

6a. Most or all the involucral bracts tipped by an erose or a fimbriate- to pectinate-fringed appendage; involucre 10-25 mm tall; cypselas attached laterally to the receptacle

Centaurea L.

6b. Involucral bracts with entire margins; involucre 1-7.5 mm tall; cypselas attached basally to the receptacle

Artemisia L.

5b. Receptacle with scale-like chaff

7a. Staminate and carpellate flowers in separate capitula, the staminate capitula usually the uppermost and possessing an undivided style; involucre armed with tubercles, spines, or prickles; carpellate flowers lacking a corolla

8a. Staminate involucre of distinct bracts; carpellate involucre a conspicuous, prickly bur, 8-40 mm tall

Xanthium strumarium L.

8b. Staminate involucre of connate bracts; carpellate involucre with 1 or more series of tubercles or spines, 3-10 mm tall

Ambrosia L.

7b. Flowers bisexual or unisexual and then the staminate and carpellate flowers in the same capitulum; involucre unarmed; all the flowers with a corolla (except in *Cyclachaena xanthiifolia*, in which the carpellate flowers sometimes lack a corolla)

9a. Involucre with 2 series of dimorphic bracts - the outer series larger, herbaceous to foliaceous, the inner series smaller, membranaceous, and usually striate; pappus of 2-6 awns, these usually retrosely barbellate (rarely antrorsely barbellate or smooth or absent)

Bidens L.

9b. Involucre with 1 series of monomorphic, herbaceous or subherbaceous bracts; pappus none

Cyclachaena xanthiifolia (Nutt.) Fresen.

1b. Receptacle without bristles or chaff (*Cotula coronopifolia* with persistent floral stipes, not chaff); corollas yellow (or lacking in the carpellate flowers of *Ambrosia trifida*)

10a. Leaves opposite

Ambrosia L.

10b. Leaves alternate

11a. Capitulescence a solitary capitulum at the tips of branches or in the axils of leaves; outermost series of flowers lacking a corolla; low, procumbent or trailing herbs

Cotula coronopifolia L.

11b. Capitulescence with multiple capitula, all the flowers with a corolla; none of the flowers stipitate; erect or ascending herbs or shrubs

12a. Capitulescence resembling a spike, raceme, or panicle; pappus none

Artemisia L.

12b. Capitulescence resembling a corymb or cyme; pappus of scales or a short crown

13a. Receptacle flat or low-convex; disk corollas 5-lobed; plants 40-150 cm tall

Tanacetum L.

13b. Receptacle high-convex and pointed; disk corollas 4-lobed; plants 5-40 cm tall

Matricaria discoidea DC.

ASTERACEAE GROUP 4

1a. Pappus composed of capillary bristles (also with an additional series of minute, slender scales in some *Erigeron*)

2a. Plants subdioecious, each capitulum composed almost entirely of unisexual flowers; stems scaly bracteate; well-developed leaves all basal, the blades palmately lobed

Petasites frigidus (L.) Fr.

2b. Plants polygamous, each capitulum with the ray flowers unisexual and carpellate and the disk flowers bisexual; stems with leaves; leaves various, but neither all basal nor with palmately lobed blades

3a. Rays up to 2 mm long, shorter than to scarcely exceeding the pappus, often inconspicuous in drying

4a. Involucral bracts glabrous and eciliate; +/- glabrous saltmarsh plants

Symphyotrichum Nees

4b. Involucral bracts pubescent or ciliate or both; plants often with pubescent stems and/or leaf blades, at least with marginal cilia on the leaf blades, not occurring in saltmarshes

5a. Involucre with 3 or 4 series of foliaceous bracts of +/- equal length; style appendages acute to acuminate

Symphyotrichum Nees

5b. Involucre with green but not at all foliaceous bracts, the bracts of similar or dissimilar length; style appendage acute to, more commonly, obtuse

Erigeron L.

3b. Rays 2-35 mm long, exceeding the pappus, evident even in drying

6a. Surface of ovary with minute stalked glands; capitula nodding in bud; leaves reduced in size toward the base, the lowest scale-like

Oclemena Greene

6b. Surface of ovary without glands; capitula erect in bud; leaves larger toward the stem base

7a. Involucral bracts of +/- equal length (sometimes with some very small bracts near the base of the involucre), green throughout or in large part, but not foliaceous; style appendage acute to, more commonly, obtuse

Erigeron L.

7b. Involucral bracts of dissimilar lengths, usually pale at the base with an apically dilated green midzone, less commonly foliaceous or anthocyanic (green throughout in *Doellingeria*); style appendages acute to acuminate

8a. Pappus bristles of 2 distinctly uneven lengths - a very short outer series and 1 or 2 series of elongate bristles of nearly even length; involucral bracts neither foliaceous nor with a distinct, green apical zone

Doellingeria umbellata (Mill.) Nees

8b. Pappus bristles all elongate, in 2 or 3 series of nearly even length; involucral bracts with a distinct green apical zone or entirely foliaceous in a few species (anthocyanic pigments sometimes also present)

9a. Rays 2-3 mm long; capitulescence very slender, resembling a thyrse, sometimes with 1 or more elongate, slender, ascending branches resembling the main axis; disk flowers persistently pale yellow

Solidago L.

9b. Rays 3-30 mm long; capitulescence resembling a panicle or corymb or infrequently composed of 1 or few capitula; disk flowers yellow, becoming purple, red, or red-brown in age

10a. Outer and middle involucral bracts less than 2.5 times as long as wide, rounded to obtuse at the apex, densely ciliate along the margins, with a thumbnail to rhombic shaped chlorophyllous zone at the tip; capitulescence corymb-like; pappus bristles sometimes thickened at the apex; ovary terete

Eurybia (Cass.) Cass.

10b. Involucral bracts more than 3 times as long as wide, obtuse to acuminate at the apex, eciliate or sparingly ciliate along the margins, with a rhombic to basally tapering chlorophyllous zone at the tip or entirely foliaceous; capitulescence commonly panicle-like when well formed; pappus bristles slender at the apex; ovary compressed in most species

Symphyotrichum Nees

1b. Pappus composed entirely of scales, awns, or a short crown, or absent

11a. Leaves opposite (the upper may be alternate)

Galinsoga quadriradiata Ruiz & Pav.

11b. Leaves alternate throughout the stem or all basal

12a. Receptacle chaffy, at least toward the middle

13a. Rays 5-14 mm long, numbering 10-16 per capitulum; disk 5-10 mm wide; disk flowers yellow; capitulescence not resembling a corymb, the capitula located at the tips of branches

Anthemis L.

13b. Rays 2-5 mm long, mostly numbering 4-10 per capitulum (up to 15 in cultivated forms of *A. ptarmica*); disk 2-8 mm wide; disk flowers white capitulescence resembling a corymb

Achillea L.

12b. Receptacle without chaff

14a. Leaf blades twice pinnatifid, with linear to filiform ultimate segments; receptacle convex, rounded, or pointed

15a. Receptacle conic, acute at the apex; cypsela with an oblique attachment scar near base, the body with 3-5 raised, but not wing-like, ribs, lacking apical resin glands; plants pleasantly aromatic

Matricaria discoidea DC.

15b. Receptacle dome-shaped, rounded at the apex; cypsela with basal attachment scar, the body with 3, prominently thickened and almost wing-like ribs, with apical resin glands; plants nearly inodourous

Tripleurospermum inodorum (L.) Sch. Bip.

14b. Leaf blades toothed, subpalmately lobed, or 1- to 2-times pinnatifid into oblong-elliptic to ovate primary segments; receptacle flat or low-convex

16a. Pappus present, a short crown; capitula 6-20 mm across in life, arranged in corymb-like clusters; disk 4-9 mm wide

Tanacetum L.

16b. Pappus absent (rarely some ray flowers with wall tissue prolonged to appear as a short crown); capitula 20-60 mm across in life, solitary at the tips of branches or arranged in corymb-like clusters; disk 10-25 mm wide

Leucanthemum vulgare Lam.

ASTERACEAE GROUP 5

1a. Pappus composed partly or entirely of capillary bristles (short scales may also be present; ray flowers sometimes lacking pappus)

2a. Anthers sagittate-tailed at the base; involucres with 3-7 series of involucral bracts

Inula helenium L.

2b. Anthers cuneate to sagittate at the base, but not tailed; involucres with 1 or 2 series of involucral bracts or with 3-5 series in *Euthamia* and *Solidago*

3a. Stems with only small, bract-like leaves (i.e., scapose), appearing and flowering before the cordate-suborbicular blades of the basal leaves are produced; disk flowers sterile

Tussilago farfara L.

3b. Stems with leaves, these present during flowering; disk flowers fertile

4a. Involucre composed of a single series of long bracts, sometimes also calyculate (i.e., with a short, outer series of bracts)

5a. Plants perennial, with rhizomes and fibrous roots; leaves basally disposed (i.e., prominent clusters of basal leaves present, the stem leaves rapidly reduced in size upwards)

Packera Á. Löve & D. Löve

5b. Plants annual or biennial (rarely short-lived perennial), mostly with evident taproots; leaves chiefly cauline (i.e., prominent clusters of basal leaves absent, the stem leaves gradually, if at all, reduced upwards)

6a. Rays 4-8 mm long; leaf blades relatively more divided, usually 2-3 times pinnatifid; cypsela bodies from near margin of capitulum glabrous, the inner ones pubescent

Jacobaea vulgaris Gaertn.

6b. Rays absent or up to 2 mm long; leaf blades relatively less divided, usually toothed to pinnatifid; usually all the cypsela bodies of the capitulum similar, either all pubescent or all glabrous in glandular-hairy *Senecio viscosus*

Senecio L.

4b. Involucre with (2-) 3-5 series of bracts of distinctly unequal lengths

7a. Capitulescence not at all flat-topped, resembling a panicle or thyrse or consisting of axillary clusters of capitula

Solidago L.

7b. Capitulescence or its divisions flat-topped, resembling a corymb

Euthamia graminifolia (L.) Nutt.

1b. Pappus composed entirely of scales, or awns, or a crown, or completely absent

8a. Receptacle naked

Tanacetum L.

8b. Receptacle bristly or chaffy, at least toward the margin of the capitulum

9a. Leaves regularly alternate throughout the stem

Rudbeckia L.

9b. Leaves opposite or whorled, except sometimes the upper, which are alternate

10a. Ray flowers carpellate and fertile, becoming chartaceous in fruit and persistent on the triangular cypsela

Heliopsis helianthoides (L.) Sweet

10b. Ray flowers neutral and lacking carpels, deciduous at or before maturity of the compressed or quadrangular cypsela

11a. Involcural bracts biseriate or triseriate, +/- monomorphic; chaff of the receptacle partially enfolding the disk flowers; cypsela bodies compressed at right angles to the involucral bracts

Helianthus L.

11b. Involucral bracts biseriate, dimorphic; chaff flat or nearly so, not or only slightly enfolding the disk flowers; cypsela bodies compressed parallel to the involucral bracts

Bidens L.

Achillea L.

Erskine (1960) believed *Achillea millefolium* s.l. to be primarily or solely introduced on PEI, but that view is not shared by Hinds (1986) or Kartesz. Hinds states that most NB material is the native var. occidentalis (=*A. borealis*) and that the similar alien var. *millefolium* is rare in the maritimes. Kartesz lists only var. *occidentalis* for PEI, citing unspecified personal communication.

1a. Leaves pinnately dissected; heads numerous, the disk 2-4 mm wide

A. borealis Bong.

1b. Leaves shallowly serrate to subentire; heads several, the disk 4-8 mm wide

A. ptarmica L.

Ambrosia L.

1a. Plants annual, 0.5-5 m high; leaves opposite throughout, the blades entire to palmately lobed with 3 (-5) lobes

A. trifida L.

1b. Plants annual or perennial, 0.2-1 (-2.5) m high; leaves usually opposite below and alternate above, once- or twice-pinnatifid

2a. Plants usually perennial from a creeping rootstock; leaf blades usually once-pinnatifid, relatively thick; carpellate involucre with 4 tubercles near the apex, these sometimes short and inconspicuous

A. psilostachya DC.

2b. Plants annual; leaf blades once-, or more commonly, twice-pinnatifid, relatively thin; carpellate involucre with 4-7 sharp spines near or above the middle

A. artemisiifolia L.

Anaphalis DC.

This genus is represented by one species in PEI:

Anaphalis margaritacea (L.) R. Br.

Antennaria Gaertn.

This genus contains one species in PEI:

Antennaria howellii Greene

This species is a polypoid complex, consisting of apomictic varieties derived from multiple sexual diploids (Bayer 2006). It is essentially always represented by female clones, with male plants being very uncommon. *Antennaria neglecta* Greene, a diploid progenitor of the *A. howellii* complex has been reported from the Maritimes. Identification is difficult, but the former would commonly have male plants.

1a. Middle and upper stem leaves tipped by a flat or involute-margined, scarious appendage; new rosette leaves bright green and promptly glabrous on the adaxial surface

A. h. ssp. *canadensis* (Greene) Bayer

1b. Middle and upper stem leaves blunt- to aristate-tipped, only the leaves of the capitulescence with a scarious appendage; new rosette leaves white or gray-green and tomentose on the adaxial surface

2a. Stolons and basal offshoots short, leafy, terminated by rosettes; rosette leaves tending to have defined petioles

A. h. ssp. *neodioica* (Greene) Bayer

2b. Stolons elongate, cord-like, with few, small leaves, only tardily developing terminal rosettes; rosette leaves tending to have ill-defined petioles

A. h. ssp. *petaloidea* (Fernald) Bayer

Anthemis L.

1a. Ray florets without stigmas; leaves +/- glabrous, unpleasantly scented

A. cotula L.

1b. Ray florets with stigmas; leaves +/- tomentose, without an unpleasant scent

A. arvensis L.

Arctium L.

1a. Heads +/- sessile to long-peduncled in racemiform clusters; petioles usually hollow, only slightly angled; leaves acute at apex

A. minus Bernh.

1b. Heads usually long-peduncled in flat-topped or convex clusters; petioles strongly angled; leaves rounded at apex

2a. Phyllaries glabrous, equaling or surpassing the corollas; involucre 2.5-4.0 cm thick; petioles +/- solid

A. lappa L.

2b. Phyllaries cobwebby, mostly shorter than corollas; involucre 2-3 cm thick; petioles +/- hollow

A. tomentosum Mill.

Arnoseris Gaertn.

This genus is represented by one species in PEI:

Arnoseris minima (L.) Schweigg. & Körte

Artemisia L.

1a. Leaves +/- glabrous (sometimes sparsely silky when young)

2a. Inflorescence +/- cylindrical, dense; leaves extending out from inflorescence

A. biennis Willd.

2b. Inflorescence bushy branched, loose; leaves surpassed by branches of inflorescence

A. annua L.

1b. Leaves conspicuously hairy

3a. Leaves +/- lanceolate or lance-elliptic, entire or with a few coarse teeth or entire forward-directed teeth, white-tomentose beneath

A. ludoviciana Nutt.

3b. Leaves deeply lobed to dissected and fern-like

4a. Receptacle long-hairy

A. absinthium L.

4b. Receptacle naked

5a. Leaves white-tomentose above, their lobes blunt; involucre 6-7 mm high; inflorescence narrow and dense; stems matted from creeping rhizomes

A. stelleriana Bess.

5b. Leaves +/- glabrous and green above, white-tomentose beneath, their lobes often acute; involucres 3.5-4.0 mm high; inflorescence a leafy panicle with ascending spike-like branches

A. vulgaris L.

Bidens L.

1a. Leaves deeply lobed or divided

2a. Leaves at most only broadly lobed at base; achenes sharply 4-angled, 3-4 awned, retrorsely barbed; heads discoid; outer phyllaries 2-6

B. connata Muhl. ex Willd.

2b. Leaves definitely compound; achenes usually 2-awned; heads usually with ray flowers; outer phyllaries 5-8

B. frondosa L.

1b. Leaves neither lobed nor divided

3a. Leaves sessile; calyculus bractlets (3-) 8-12 (-25+) mm, or (6-) 10-12 (-20+) mm, usually spreading to reflexed

B. cernua L.

3b. Leaves petiolate or sessile; calyculus bractlets (6-) 10-30 (-75+) mm, usually erect, sometimes spreading

4a. Involucres campanulate to hemispheric or broader; disc florets (5-) 20-60 (-150+); cypsela faces usually tuberculate (not notably striate)

B. connata Muhl. ex Willd.

4b. Involucres usually campanulate to cylindric, sometimes +/- hemispheric; disc florets (6-) 10-25 (-60); cypsela faces usually +/- striate

B. heterodoxa (Fernald) Fernald & H. St. John

Centaurea L.

1a. Middle phyllaries with an abruptly expanded appendage at the apex

2a. Phyllaries light brown to dark brown at the apex, the middle and outer entire to irregularly lacerate at the apex, the inner dilated and bifid at the apex

C. jacea L.

2b. Phyllaries black (at least in part) at the apex, at least the middle and outer regularly comb-like at the apex, rarely any of them conspicuously bifid at the apex

C. nigra L.

1b. All phyllaries rounded or tapering to lacerate-toothed apex with no expanded appendage

C. cyanus L.

Cichorium L.

This genus is represented by one species in PEI:

Cichorium intybus L.

Cirsium Mill.

1a. Capitula small, numerous, mostly unisexual; involucres 1-2 cm high; other phyllaries with weak prickles; corollas pink-purple to white

C. arvense (L.) Scop.

1b. Capitula larger, 1-few; all flowers perfect, purple (rarely white); involucres 2-4 cm high

2a. Leaf bases long-decurrent producing +/- spiny-winged stems; all phyllaries spine-tipped; stem rarely to 2 m tall

C. vulgare (Savi) Ten.

2b. Leaf bases sessile, not decurrent on the stem; phyllaries acute to acuminate, at most weakly short spine-tipped; stem often over 2 m high

C. muticum Michx.

Cotula L.

This genus is represented by one species in PEI:

Cotula coronopifolia L.

Crepis L.

This genus is represented by one species in PEI:

Crepis tectorum L.

Cyclachaena Fresen.

This genus is represented by one species in PEI:

Cyclachaena xanthiifolia (Nutt.) Fresen.

Doellingeria Nees

This genus is represented by one species in PEI:

Doellingeria umbellata (Mill.) Nees

Erechtites Raf.

This genus is represented by one species in PEI:

Erechtites hieraciifolius (L.) Raf. ex DC.

Erigeron L.

1a. Cauline leaves broadly rounded at base, sessile and usually +/- clasping; heads +/- 1.5-3.5 cm broad

E. philadelphicus L.

1b. Cauline leaves tapered to a non-clasping base; heads (if radiate) mostly +/- (1-) 1.5-2.2 cm broad

2a. Rays 0.5-1 (-2) mm long; involucre 2-5 mm wide (sometimes wider in pressed specimens); disk 1-3 (-4) mm wide in fresh material

E. canadensis L.

2b. Rays 4-10 mm long (very rarely wanting); involucre 5-20 mm wide; disk (3-) 5-20 mm wide in fresh material

3a. Middle region of stem moderately to densely pubescent with only short (0.5 mm or less) mostly appressed-antrorse hairs; principal cauline leaves linear to oblanceolate, +/- 2.5-10 (-15) mm wide, entire

E. strigosus Muhl. Ex Willd.

3b. Middle region of stem glabrate to pubescent with all or many of the hairs long (0.5-1.2 mm) and spreading; principal cauline leaves usually elliptic to ovate, +/- 10-35 (-40) mm wide, with a few large teeth

E. annuus (L.) Pers.

Erigeron strigosus Muhl. Ex Willd.

1a. Involucral bracts pubescent with flattened hairs 0.5-1.2 mm long; mid-stem pubescent with appressed to spreading hairs 0.5-1 mm long; basal leaf blades usually dentate

E. s. var. *septentrionalis* (Fernald & Wiegand) Fernald

1b. Involucral bracts pubescent with hairs that are not conspicuously flattened and are 0.1-0.5 mm long; mid-stem pubescent with appressed to ascending hairs 0.1-0.4 (-0.8) mm long; basal leaf blades usually entire to subentire

E. s. var. *strigosus*

Eupatorium L.

This genus is represented by one species in PEI:

Eupatorium perfoliatum L.

Eurybia (Cass.) Cass.

1a. Basal leaf blades both cordate and borne on petioles

E. macrophylla (L.) Cass.

1b. Basal leaf blades sessile, not cordate

E. radula (Sol. ex Aiton) G.L. Nesom

Euthamia (Nutt.) Cass.

This genus is represented by one species in PEI:

Euthamia graminifolia (L.) Nutt.

Eutrochium Raf.

This genus is represented by one species in PEI:

Eutrochium maculatum (L.) E.E. Lamont

1a. Distalmost whorls of leaves subtending heads equaling or surpassing arrays of heads

E. m. var. *foliosum* (Fernald) E.E. Lamont

1b. Distalmost whorls of leaves subtending heads not equaling arrays of heads

E. m. var. *maculatum*

Galinsoga Ruiz & Pav.

This genus is represented by one species in PEI:

Galinsoga quadriradiata Ruiz & Pav.

Gnaphalium L.

This genus is represented by one species in PEI:

Gnaphalium uliginosum L.

Helianthus L.

1a. Receptacle +/- flat; involucral bracts ovate, abruptly contracted above the middle to an acuminate tip; lower leaves often cordate

H. annuus L.

1b. Receptacle +/- convex or low-conic; involucral bracts not abruptly contracted; leaves usually not cordate

2a. Involucral bracts conspicuously imbricate in several series, +/- ovate to lance-ovate, appressed, or shaply acute to obtuse, ciliate and mostly smooth on back; disk florets reddish to purplish, or yellow

H. ×*laetiflorus* Pers.

2b. Involucral bracts narrower, not conspicuously imbricate; disk florets yellow

3a. Leaf blades (4-) 5-12 (-15) cm wide, with a petiole (15-) 20-80 mm long; roots forming tubers later in growing season; cypsela body 5-7 mm long

H. tuberosus L.

3b. Leaf blades 1-4 (-8) cm wide, with a petiole up to 20 mm long, with pinnate venation near base; roots fibrous or fleshy, merely thickened; cypsela body 3-4 mm long

H. maximiliani Schrad.

Heliopsis Pers.

This genus is represented by one species in PEI:

Heliopsis helianthoides (L.) Sweet

Hieracium L.

1a. Reproductive stems with 0-5 (-10) leaves, these often reduced and bract-like; basal leaves present at anthesis, forming a conspicuous rosette

2a. Basal leaf blades truncate to cordate at the base; reproductive stems with 0-2 leaves

H. murorum L.

2b. Basal leaf blades tapering to the base; reproductive stems with 2-10 leaves

H. lachenalii Suter

1b. Reproductive stems with (4-) 6-50 leaves; basal leaves mostly absent or withered at anthesis, not forming a conspicuous rosette

3a. Peduncles with abundant stipitate glands; leaf blades entire or remotely denticulate

H. scabrum Michx.

3b. Peduncles with very few or no stipitate glands; at least the lower leaf blades usually dentate

4a. Hairs of the lower stem and leaf surfaces simple, firm, and bulbous-based, short compound hairs usually absent from the leaf surfaces

H. sabaudum L.

4b. Hairs of the lower stem and leaf surfaces simple or compound, but not bulbous-based, that of the leaves sometimes compound

5a. Midveins of leaves and stem with scattered long hairs, lower surface with star-shaped hairs; lower leaves to 18 cm long and separated by about 1/2 their length

H. laevigatum Willd.

5b. Midveins of leaves and stem mostly without long hairs sometimes with star-shaped hairs; lower leaves to about 13 cm long and separated by about 1/3 their length

H. umbellatum L.

Inula L.

This genus is represented by one species in PEI:

Inula helenium L.

Jacobaea Mill.

This genus is represented by one species in PEI:

Jacobaea vulgaris Gaertn.

Lactuca L.

1a. Pappus light brown; flowers bluish to white; achene tapering to beakless or shortly stout-beaked apex

L. biennis (Moench) Fernald

1b. Pappus white; flowers yellow (sometimes drying bluish)

2a. Cypsela body gray or yellow-gray to light brown, with (3-) 5-9 prominent nerves on each face; leaf blades often prickly setose on the abaxial midrib

L. serriola L.

2b. Cypsela body brown to dark brown, with 1 prominent nerve on each face, sometimes with an additional pair of faint nerves; leaf blades not prickly setose

3a. Involucre 10-15 mm tall in fruit; cypsela body 4.5-6 mm long including the beak; pappus 5-7 mm long

L. canadensis L.

3b. Involucre 15-22 mm tall in fruit; cypsela body 7-10 mm long including the beak; pappus 8-12 mm long

L. hirsuta Muhl. ex Nutt.

Lapsana L.

This genus is represented by one species in PEI:

Lapsana communis L.

Leucanthemum Mill.

This genus is represented by one species in PEI:

Leucanthemum vulgare Lam.

Matricaria L.

This genus is represented by one species in PEI:

Matricaria discoidea DC.

Mycelis Cass.

This genus is represented by one species in PEI:

Mycelis muralis (L.) Dumort.

Nabalus Cass.

1a. Longer phyllaries 4-6, usually 5; heads 5-6 flowered; cauline leaves often unlobed

N. altissimus (L.) Hook.

1b. Longer phyllaries 7-10; heads 7-8 (-15) flowered; cauline leaves usually lobed or pinnatifid

N. trifoliolatus Cass.

Oclemena Greene

1a. Rays white or tinged with pink; leaves herbaceous, prominently toothed, with flat margins, the blades 15-60 mm wide, those of the stem below the capitulescence mostly numbering 10-22

O. acuminata (Michx.) Greene

1b. Rays pink to purple; leaves firm, entire or nearly so, often with revolute margins, the blades 2-12 mm wide, those of the stem below the capitulescence numbering 40-75

O. nemoralis (Aiton) Greene

Omalotheca Cass.

This genus is represented by one species in PEI:

Omalotheca sylvatica (L.) Sch. Bip. & F.W. Schultz

Packera Á. Löve & D. Löve

1a. Basal leaf blades tapering to petiole, usually cuneate at the base; plants of gravels and outcrops

P. paupercula (Michx.) Á. Löve & D. Löve

1b. Blade of basal leaves abruptly contracted to the petiole, usually truncate to cordate at the base; plants of mesic to hydric soils of fields, low forests, and wetlands

2a. Blade of basal leaves usually 1.75-3.5 times as long as wide, sharply and finely toothed, rounded to subcordate at the base, acute to obtuse at the apex

P. schweinitziana (Nutt.) W.A. Weber & Á. Löve

2b. Blade of basal leaves usually 0.75-1.5 (-1.75) times as long as wide, crenate, strongly cordate at the base, rounded at the apex

P. aurea (L.) Á. Löve & D. Löve

Petasites Mill.

This genus is represented by one species in PEI:

Petasites frigidus (L.) Fr.

Pilosella Hill

1a. Reproductive stems bearing a solitary head or an inflorescence with 2-4 (-6) heads on elongate peduncles (5-) 15-150 mm long; leaf blades 2-4 (-6) times as long as wide; plants 3-25 (-40) cm tall

2a. Inflorescence with 1 or 2 (-3) heads; involucres 7.5-9 (-10) mm tall; leaf blades densely pubescent with stellate hairs on the abaxial surface, the hairs usually contiguous and concealing the surface

P. officinarum F.W. Schultz & Sch. Bip.

2b. Inflorescence with (1-) 2-4 (-6) heads; involucres (9-) 10-13 mm tall; leaf blades moderately pubescent with stellate hairs on the abaxial surface, the hairs not so numerous as to be contiguous

P. flagellaris (Willd.) P.D. Sell & C. West

1b. Reproductive stems bearing (3-) 5-30 (-50) heads, these usually in compact, corymb-like inflorescences on short peduncles 1-15 (-28) mm long; leaf blades 3-8 times as long as wide; plants (10-) 20-100 cm tall

3a. Ray flowers orange-red (drying dark red); involucral bracts 1.5-3 mm wide

P. aurantiaca (L.) F.W. Schultz & Sch. Bip.

3b. Ray flowers yellow; involucral bracts 0.5-1.25 mm wide

4a. Plants not stoloniferous; basal offshoots, if present, not rooting

P. piloselloides (Vill.) Soják

4b. Plants stoloniferous

5a. Leaves glaucous, +/- glabrous above

P. ×*floribunda* (Wimmer & Grabowski) Fries

5b. Leaves green, setose on both surfaces

P. caespitosa (Dumort.) P.D. Sell & C. West

Pilosella piloselloides (Vill.) Soják

1a. Slender ascending branches arising from among basal leaves; leaves with fine stellate hairs abaxially

P. p. ssp. *praealta* (Gochnat) S. Bräutigam & Greuter

1b. Branches rarely produced; leaves +/- glabrous to sparingly setose beneath

P. p. ssp. *piloselloides*

Pseudognaphalium Kirp.

1a. Leaves with bases decurrent on the stem as thin wings and leaf tip tapering to a subulate point; phyllaries shiny, with thin scarious margins, acute; heads to 0.8 cm broad; stem glandular-pubescent; plant not especially fragrant

P. macounii (Greene) Kartesz

1b. Leaves sessile, upper surface of at least the lower leaves smooth, shiny; phyllaries dull, opaque, +/- corrugated, obtuse to acute at apex; heads to 1.5 cm broad; stem tomentose, usually lacking glandular hairs; plant fragrant

P. obtusifolium (L.) Hilliard & B.L. Burtt

Rudbeckia L.

Rudbeckia triloba L. has been reported on iNaturalist, seemingly outside cultivation but questionably established as a member of the wild flora (inaturalist.ca/observations/33566256). The determination is likely correct, but the image does not conclusively eliminate *R. hirta*.

1a. Disk dark purple-brown; leaves simple; pappus none

R. hirta L.

1b. Disk yellow or greyish; leaves trilobed to pinnatifid; pappus a short +/- toothed crown

R. laciniata L.

Scorzoneroides Moench

This genus is represented by one species in PEI:

Scorzoneroides autumnalis Moench

Senecio L.

1a. Rays none; minute bracteoles at base of phyllaries dark-tipped

S. vulgaris L.

1b. Rays minute; bracteoles green

2a. Plant conspicuously glandular-hispid; bracteoles 1/2 length of phyllaries; achenes +/- glabrous

S. viscosus L.

2b. Plant subglabrous, scarcely glandular; bracteoles minute; achenes covered with fine grey hairs

S. sylvaticus L.

Solidago L.

Erskine (1960) considered a MacSwain and Bain report of *Solidago hispida* Muhl. ex Willd. from St. Peter's as a probable misidentification of *S. nemoralis*. Day and Catling (1991) included the record, apparently with no new information. The species is undoubtedly rare if present but its occurrence on the island is questionable. It is most similar to *S. bicolor*, from which it is distinguished by its yellow ray flowers and its larger involucres (4-7 mm).

1a. Inflorescence nodding at the summit and/or with branches that have secund heads

2a. Leaves basally disposed (i.e., leaves progressively reduced upward, those of the apical portion of the stem smaller, often of different shape, and less petiolate than those of the basal portion); plants usually with basal tufts of leaves

3a. Stems and often the leaves closely and minutely pubescent

S. nemoralis Aiton

3b. Stems and leaves glabrous or with long, scattered hairs or scabrous

4a. Leaf blades fleshy, entire; capitula with 7-17 ray flowers; plants of coastal shores, salt marshes, and inland in salt springs and along heavily salted roadways

S. sempervirens L.

4b. Leaf blades not fleshy, serrate to subentire; capitula with 1-12 ray flowers; plants not of coastal shores

5a. Lower leaves conspicuously sheathing, the petiole covering 50-75% of the circumference of the stem; capitulescence taller than wide; capitula with 1-8 ray flowers and 4-8 disk flowers; plants primarily of organic soil wetlands

S. uliginosa Nutt.

5b. Lower leaves not conspicuously sheathing, the petiole covering less than 50% of the circumference of the stem; capitulescence as wide as or wider than tall; capitula with 7-12 ray flowers and 9-14 disk flowers; plants of open or lightly shaded, mineral soils

S. juncea Aiton

2b. Leaves chiefly cauline (i.e., leaves of the apical portion of the stem of nearly similar shape and not dramatically reduced in size relative to the leaves of the basal portion of the stem); plants lacking tufts of basal leaves

6a. Leaf blades pinnately veined (i.e., with much-branched lateral veins that are not aligned parallel to the midrib)

S. rugosa Mill.

6b. Leaf blades triple-veined (i.e., with 3 conspicuous, parallel veins—a midrib and 2 evident and prolonged, lateral veins)

7a. Stem glabrous and glaucous below the capitulescence; involucral bracts obtuse to acute at the apex, green

S. gigantea Aiton

7b. Stem pubescent in at least the apical half, not glaucous; involucral bracts acuminate at the apex, yellow-green

8a. Leaves approaching the inflorescence reduced, the inflorescences not appearing leafy; inflorescence branches strongly spreading to perpendicular to stem

9a. Leaf blades abaxially subglabrous or pubescent only on the midrib and major veins, usually sharply serrate and relatively thin; involucre 2-3 mm tall; disk corollas 2.3-2.7 mm long

S. canadensis L.

9b. Leaf blades abaxially pubescent on and between major veins, usually subentire to remotely serrate and relatively firm; involucre (2.7-) 3-4 (-5) mm tall; disk corollas 3-3.4 mm long

S. altissima L.

8b. Leaves not much reduced into the inflorescences, the inflorescences appearing leafy; inflorescence branches strongly ascending (take care to note natural inflorescence shape, not those altered by galls or other damage)

S. brendae Semple

1b. Inflorescence neither nodding at the summit nor with secund heads, either terminal and resembling a thryse or panicle, or consisting of clusters of capitula in the axils of well-developed leaves

10a. Leaves chiefly cauline (i.e., leaves of the apical portion of the stem of nearly similar shape and not dramatically reduced in size relative to the leaves of the basal portion of the stem); plants lacking tufts of basal leaves

S. flexicaulis L.

10b. Leaves basally disposed (i.e., leaves progressively reduced upward, those of the apical portion of the stem smaller, often of different shape, and less petiolate than those of the basal portion); plants usually with basal tufts of leaves

11a. Involucre 8-11 mm tall, composed of acuminate- to attenuate-tipped involucral bracts; cypsela body 4-5 mm long; lower leaf blades with an acuminate apex

S. macrophylla Banks ex Pursh

11b. Involucre 3-9 mm tall, composed of round- to acuminate-tipped involucral bracts; cypsela body shorter than 4 mm long; lower leaf blades usually with an obtuse to acute apex

12a. Stem and often the leaves pubescent with minute, viscidulous hairs; involucral bracts narrow, acuminate at the apex, up to 0.5 (-0.75) mm wide at the midpoint

S. puberula Nutt.

12b. Stem and leaves glabrous or pilose, but not copiously pubescent with minute hairs; involucral bracts wider, rounded to acute at the apex, (0.75-) 1-2 mm wide at the midpoint

13a. Ray flowers yellow; leaves conspicuously sheathing, the petioles covering 50-75% of the circumference of the stem; plants primarily of organic soil wetlands

S. uliginosa Nutt.

13b. Ray flowers white; leaves not conspicuously sheathing, the petiole covering less than 50% of the circumference of the stem; plants not of organic soil wetlands

S. bicolor L.

Sonchus L.

1a. Plants perennial, with deep-seated, creeping rhizomes; capitula 3-5 cm wide in flower; involucre 14-22 mm tall in fruit

S. arvensis L.

1b. Plants annual, with taproots; capitula 1.5-2.5 cm wide in flower; involucre 9-13 mm tall in fruit

2a. Cypsela body with 3 (-5) ribs on each face, otherwise smooth; leaf blades relatively firm, with stiff prickles and rounded basal auricles; peduncles glandular-pubescent

S. asper (L.) Hill

2b. Cypsela body with 5-7 ribs on each face and transversely rugulose; leaf blades relatively soft, with softer prickles and triangular to narrow-triangular basal auricles; peduncles glabrous or infrequently with a few glandular hairs

S. oleraceus L.

Sonchus arvensis L.

1a. Peduncles and involucres pubescent with yellow, glandular-hairs; longer involucral bracts 14-17 mm long

S. a. ssp. *arvensis*

1b. Peduncles and involucres glabrous (though sometimes with sessile yellow glands on the involucre); longer involucral bracts 10-15 mm long

S. a. ssp. *uliginosus* (M. Bieb.) Nyman

Symphyotrichum Nees

Brouillet et al. (2010+) list var. *lateriflorum,* var. *hirsuticaule* (Lindl. ex DC) G.L.Nesom and var. *tenuipes* (Wiegand) G.L.Nesom for PEI, citing Semple & Cook (2006), however they do not treat taxa within *S. lateriflorum*. Instead, citing abundant genetic and phenotypic variation, they highlight "a thorough study is needed before a coherent taxonomy can be achieved." Day & Catling (1991) list *Aster* ×*tardiflorus* L. among their Appendix II - Hybrids that are rare on Prince Edward Island. Given the big differences in taxonomic interpretations of this taxon (a variety of *S. novi-belgii* vs. a hybrid of *S. cordifolium* and *S. puniceum*), we consider the record unconfirmed until its identity is clarified.

1a. Annuals from a short taproot; rays very short and inconspicuous, scarcely or not exceeding the mature pappus, or the rays absent

2a. Involucral bracts with a chartaceous base and chlorophyllous tip, of several conspicuously different lengths; ray flower corolla longer than the style

S. subulatum (Michx.) G.L. Nesom

2b. Involucral bracts, especially the outer, herbaceous, of nearly equal length; ray flower corolla shorter than the style, the style protruding from the corolla

3a. Leaves bristly margined, 13-20 times as long as wide; plants often over 25 cm; disturbed roadsides or saline areas

S. ciliatum (Ledeb.) G.L. Nesom

3b. Leaves smooth margined, 5-10 times as long as wide; plants generally under 25 cm; Gulf of St. Lawrence endemic

S. laurentianum (Fernald) G.L. Nesom

1b. Perennials from a rhizome, caudex, or crown; rays elongate and conspicuous

4a. Basal leaves both cordate and borne on a petiole

S. cordifolium (L.) G.L. Nesom

4b. Basal leaves not both cordate and borne on a petiole

5a. Leaf blades auriculate- or cordate-clasping

6a. Involucral bracts stipitate-glandular

S. novae-angliae (L.) G.L. Nesom

6b. Involucral bracts eglandular

7a. Involucral bracts mostly obtuse to acute at the apex, often of different lengths; stem glabrous

S. novi-belgii (L.) G.L. Nesom

7b. Involucral bracts long-acuminate to attenuate at the apex, of nearly equal length; at least the lower portion of the stem usually hispid pubescent with stiff, spreading hairs

S. puniceum (L.) Á. Löve & D. Löve

5b. Leaf blades narrowed to the base

8a. Many of the involucral bracts with a subulate, involute, chlorophyllous tip

S. pilosum (Willd.) G.L. Nesom

8b. Plants variable in habit, habitat, and leaf morphology, not of saltmarshes except *S. novi-belgii*; involucral bracts with a conspicuous chlorophyllous zone in the apical portion or entirely foliaceous

9a. Lobes of the disk corolla comprising (45-) 50-75% of the limb, flaring to recurving

S. lateriflorum (L.) Á. Löve & D. Löve

9b. Lobes of the disk corolla comprising 15-45% of the limb, erect to ascending

10a. Lobes of disk corolla comprising 15-30% of the limb; ray flowers commonly light blue to purple

11a. Leaf blades linear to oblong-linear, often with revolute margins, 2-5 (-9) mm wide; base of stem thinner than 2.5 mm; rhizome thinner than 2 mm; plants mostly of high-pH fens and swamps

S. boreale (Torr. & A. Gray) Á. Löve & D. Löve

11b. Leaf blades lanceolate, elliptic, or oblanceolate, with plane margins, 5-25 mm wide; base of stem thicker than 2.5 mm; rhizome thicker than 2 mm; plants widespread

S. novi-belgii (L.) G.L. Nesom

10b. Lobes of disk corolla comprising 30-45% of the limb; ray flowers commonly white

S. lanceolatum (Willd.) G.L. Nesom

Tanacetum L.

1a. Ray florets white; leaves bipinnately divided, the divisions ovate, entire, crenate or subpinnately divided; ultimate segments rounded

T. parthenium (L.) Sch. Bip.

1b. Ray florets none; disk florets yellow to orange; leaves 1-2 pinnately dissected, the leaflets lanceolate, pinnately lobed; ultimate segments acute

T. vulgare L.

Taraxacum F.H. Wigg.

1a. Inner phyllaries not hooded near tip; achenes olivaceous to brown or stramineous, the body to 4 mm long; pappus white; rays canary-yellow

T. officinale F.H. Wigg.

1b. Inner phyllaries +/- hooded near tip; achenes reddish, the body to 3.5 mm long; pappus off white or creamy; rays deep sulphur-yellow

T. erythrospermum Andrz.

Tragopogon L.

This genus is represented by one species in PEI:

Tragopogon pratensis L.

Tripleurospermum Sch.Bip.

This genus is represented by one species in PEI:

Tripleurospermum inodorum (L.) Sch.Bip.

Tussilago L.

This genus is represented by one species in PEI:

Tussilago farfara L.

Xanthium L.

This genus is represented by one species in PEI:

Xanthium strumarium L.

ATHYRIACEAE

1a. Fronds highly divided, at least bipinnate with acute to rounded pinnule tips; base of rachis with dark brown to black scales

Athyrium filix-femina (L.) Roth

1b. Fronds less divided, once pinnate-pinnatifid with rounded pinnule tips; base of rachis with light brown scales

Deparia acrostichoides (Sw.) M.Kato

Athyrium L.

This genus is represented by one species in PEI:

Athyrium filix-femina var. *angustum* (Willd.) G.Lawson

Deparia L.

This genus is represented by one species in PEI:

Deparia acrostichoides

BALSAMINACEAE

Impatiens L.

1a. Leaves +/- opposite or whorled; flowers pinkish purple to 4 cm long; stem to 2 m high

I. glandulifera Royle

1b. Leaves alternate; flowers pale yellow to orange; stems to about 1.5 m high

2a. Leaves finely sharp-toothed; flowers lemon-yellow in numerous erect racemes; spur not curved

I. parviflora DC.

2b. Leaves coarsely blunt-toothed; flowers orange; spur curved

I. capensis Meerb.

BERBERIDACEAE

Berberis L.

1a. Leaves entire; nodal spines usually simple; berries dryish

B. thunbergii DC.

1b. Leaves finely bristle-toothed; nodal spines in threes; berries juicy

B. vulgaris L.

BETULACEAE

1a. Involucre an inflated, bladder-like bract, the female inflorescence resembling Hops (*Humulus*); mature stems with gray-brown bark that exfoliates in vertical strips

Ostrya virginiana (Mill.) K.Koch

1b. Involucre a husk or a flat scale, the female inflorescence resembling a cluster of fruits, an ament, or a cone; mature stems with variously coloured bark, not exfoliating in vertical strips

2a. Fruit a nut 10-15 mm long, enclosed in a husk-like involucre 15-70 mm long; male flowers without perianth

Corylus cornuta Marshall

2b. Fruit a samara 1.2-4.5 mm long, subtended by, but not enclosed in, flat scales 2.5-13 mm long; male flowers with a minute calyx

3a. Pistillate aments clustered, the old ones remaining on the plant all year, the scales at maturity persistent, woody, +/- at right angles to rachis

Alnus Mill.

3b. Pistillate aments solitary, the scales deciduous (or easily dislodged) at maturity, firm or only slightly woody, usually +/- strongly ascending

Betula L.

Alnus Mill.

1a. Leaves finely and regularly serrate but not basically dentate or lobed; winter buds sessile or on stalks up to 1 mm

A. alnobetula (Ehrh.) K.Koch

1b. Leaves both finely serrate and more coarsely dentate or obscurely lobed; winter buds on stalks 2-4 mm long

A. incana (L.) Moench

Betula L.

Erskine (1960) lists *Betula* ×*caerulea-grandis* Blanch. from Greenwich, noting it is probably of hybrid origin between *B. papyrifera* and *B. populifolia*. The hybrid name however applies to *B. cordifolia* × *B. populifolia*, and it is unclear which taxon it was. Sean Blaney collected *Betula* ×*raymundii* Lepage (=*B. populifolia* × *B. pumila* var. *pumila*) in Portage River, Prince County in 2016 (*Blaney 9028*, DAO).

1a. Leaf blades crenate to crenate-dentate with rounded or bluntly pointed teeth, obovate to orbicular, rounded to obtuse at the apex

B. pumila L.

1b. Leaf blades obscurely to evidently doubly serrate with pointed teeth, ovate, rhombic, or triangular to narrow-ovate or oblong-ovate, acute to long-acuminate at the apex

2a. Leaf blades ovate to narrow-ovate or oblong-ovate, the larger with 12-18 pairs of lateral veins; fresh branchlets with wintergreen odour

B. alleghaniensis Britton

2b. Leaf blades ovate or narrow-ovate to rhombic or triangular, the larger with 2-12 pairs of lateral veins; fresh branchlets without wintergreen odour

3a. Body of leaf blade triangular or rhombic-triangular to rhombic-ovate, acuminate to long-acuminate at apex, glabrous to sparsely pubescent along and in the axils of major veins; central lobe of carpellate scales much shorter than the lateral lobes

4a. Branches spreading to ascending; staminate aments mostly solitary (sometimes paired); carpellate aments 10-25 (-30) × 6-8 mm; common native species

B. populifolia Marshall

4b. Branches on mature trees usually pendulous; staminate aments mostly in pairs (sometimes solitary or in trios); carpellate aments (19-) 23-40 × (7-) 8-11 mm; rare introduced species

B. pendula Roth

3b. Leaf blades ovate to narrow-ovate or rhombic-ovate, obtuse to acute or short-acuminate at the apex, usually sparsely to moderately pubescent along and in the axils of major veins; central lobe of carpellate scales as long as or longer than the lateral lobes

5a. Leaf blades 1.5-5.5 (-6) cm long, obscurely double serrate; mature carpellate aments 10-30 mm long; rare introduced species

B. pubescens Ehrh.

5b. Leaf blades 5-10 (-14) cm long (sometimes shorter in high-elevation individuals), double serrate; mature carpellate aments 25-55 mm long

6a. Leaf blades cuneate to truncate at the base, with 7-9 pairs of lateral veins; scales of carpellate aments 3.9-6.2 mm long, with divergent, lateral lobes; bark of mature trees usually white

B. papyrifera Marshall

6b. Leaf blades cordate at the base, with (8-) 9-12 pairs of lateral veins (with fewer pairs in dwarfed, high-elevation individuals); scales of carpellate aments 5.6-8.7 mm long, with upturned, lateral lobes; bark of mature trees pink-white to brown-white

B. cordifolia Regel

Corylus L.

This genus is represented by one species in PEI:

Corylus cornuta Marshall

Ostrya Scop.

This genus is represented by one species in PEI:

Ostrya virginiana (Mill.) K.Koch

BLECHNACEAE

This family contains one genus on Prince Edward Island. Formerly placed in the genus *Woodwardia* Sm., phylogenetic work determined that the Virginia Chain Fern should instead be placed in the genus *Anchistea* (Gasper et al. 2016).

Anchistea C. Presl

Anchistea is a monotypic genus.

A. virginica (L.) C.Presl.

BORAGINACEAE

1a. Fruit with hooked prickles; inflorescence bracteate to summit; calyx lobes conspicuous, to about 4 mm long; fruiting pedicels erect

Lappula squarrosa (Retz.) Dumort.

1b. Fruit not hooked, or if so then combination of characters otherwise

2a. Corolla with elongate, acute lobes, tube inconspicuous, shorter than calyx; anthers with prominent appendages, erect and forming column around style

Borago officinalis L.

2b. Corolla with shorter, mostly obtuse or rounded lobes, tube well-developed, slightly shorter to longer than calyx; anthers without appendages

3a. Corolla irregular (tube +/- curved, lobes unequal)

4a. Corolla about 10 mm wide; stamens conspicuously exserted; corolla tube throat open; receptacle not pitted

Echium vulgare L.

4b. Corolla about 5 mm broad; stamens included; corolla tube throat closed by bristly-hirsute scales; receptacle pitted

Anchusa arvensis (L.) M.Bieb.

3b. Corolla regular

5a. Corolla tubular or campanulate with +/- erect lobes

Symphytum L.

5b. Corolla +/- broadly funnelform to salverform

Myosotis L.

Anchusa L.

This genus is represented by one species in PEI:

Anchusa arvensis (L.) M.Bieb.

Borago L.

This genus is represented by one species in PEI:

Borago officinalis L.

Echium L.

This genus is represented by one species in PEI:

Echium vulgare L.

Lappula Moench

This genus is represented by one species in PEI:

Lappula squarrosa (Retz.) Dumort.

Myosotis L.

1a. Calyx in fruit longer than pedicels; corolla about 1.5 mm broad; inflorescence often over ¾ total height of plant

M. stricta Link ex Roem. & Schult.

1b. Calyx in fruit shorter than pedicels; corolla usually over 2 mm broad; inflorescence rarely over ½ height of plant

2a. Stem and calyx strigose, hairs neither glandular nor hooked; perennials of mostly wet habitats

3a. Calyx lobes about as long as tube; corolla 4-6 mm broad; style shorter than calyx tube

M. laxa Lehm.

3b. Calyx lobes much shorter than tube; corolla 5-10 mm broad; style equal to or longer than calyx tube

M. scorpioides L.

2b. Stem and calyx with divergent hoked hairs; annuals or biennials of mostly dry habitats

4a. Calyx lobes much longer than tube; corolla spreading horizontally, 4-8 mm wide

M. sylvatica Ehrh. ex Hoffm.

4b. Calyx lobes slightly longer than tube; corolla spreading-ascending, 2-3 mm wide

M. arvensis (L.) Hill

Symphytum L.

Gadella (1984) revises an Erskine collection (#1223, at MT; Springvale, near Milton, 7 July 1952, initially reported as *S. asperum*) to *S*. × *uplandicum* Nyman.

1a. Leaves long-decurrent; upper stem +/- winged, prickles not especially decurved (curving downward)

S. officinale L.

1b. Leaves sessile or short-decurrent; stem not winged, prickles decurved

S. asperum Lepechin

BRASSICACEAE

1a. Fruit a silicle, wide, less than 4 times as long as wide

2a. Fruit strongly flattened

3a. Fruit flattened parallel to septum, the septum as wide as fruit

Draba L.

3b. Fruit flattened at right angles to septum, the septum much narrow than fruit

4a. Fruit triangular-obcordate

Capsella bursa-pastoris (L.) Medik.

4b. Fruit not as above

5a. Seeds several in each capsule; fruit deeply notched

Thlaspi arvense L.

5b. Seeds 1-2 per capsule; fruit shallowly notched, or if deeply notched, with prominent style

6a. If present, petals equal, 0-2.2 (-3.0) mm long; style 0.5-1 mm long (to 1.5 mm if fruits not notched at apex)

Lepidium L.

6b. Petals distinctly unequal (2 large, 2 small), the larger +/- 5–9 mm long; style at least 1 mm long

Iberis umbellata L.

2b. Fruit not flattened, or if flattened less than 6 mm wide

7a. Fruit transversely divided into two cells; plants of marine, sandy habitat

Cakile edentula (Bigelow) Hook.

7b. Fruit longitudinally divided; habitat not as above

8a. Cauline leaves entire

9a. Capsule smooth, dehiscent, several-seeded

Camelina microcarpa Andrz. ex DC.

9b. Capsule reticulate and pitted, indehiscent, 1-2 seeded

Neslia paniculata (L.) Desv.

8b. Cauline leaves toothed or lobed

10a. Petals white

Armoracia rusticana G. Gaertn., B. Mey. & Scherb.

10b. Petals yellow

Rorippa palustris (L.) Bess.

1b. Fruit a silique, narrow, more than 4 times as long as wide

11a. Principal leaves deltoid-cordate, coarsely toothed, smelling of garlic when crushed; petals white

Alliaria petiolata (M. Bieb.) Cavara & Grande

11b. Leaves otherwise; petals variously coloured

12a. Median stem leaves lobed, deeply divided or coarsely toothed

13a. Main stem leaves bipinnate or bipinnatifid, the ultimate segments oblong or linear

14a. Plant +/- pubescent with forked or stellate hairs; leaves 1-3 pinnate with very numerous small segments

Descurainia sophia (L.) Webb ex Prantl

14b. Plant glabrous or with simple hairs

Rorippa sylvestris (L.) Bess.

13b. Main stem leaves once-pinnate

15a. Leaves ternate or palmately divided or lobed

Cardamine L.

15b. Leaves pinnately lobed

16a. Seeds in 2 rows in each locule

17a. Leaves divided into 3-11 +/- entire leaflets; petals white; capsule often sickle-shaped; plants aquatic

Nasturtium microphyllum Boenn. ex Rchb.

17b. Leaves coarsely few-toothed or pinnatifid; plants terrestrial

Diplotaxis muralis (L.) DC.

16b. Seeds in 1 row in each locule

18a. Beak of capsule 6-16 mm long

19a. Capsule indehiscent, constricted at intervals; petals conspicuously veined, yellow, pink, or purple

Raphanus L.

19b. Capsule dehiscent, not constricted at intervals; petals not conspicuously veined, yellow fading to white

20a. Valves of fruit each with 3 parallel veins of about equal strength; beak flattened, 2-edged; cauline leaves not clasping the stem

Sinapis L.

20b. Valves of fruit with a prominent midnerve, other ribs obscure, not parallel; beak slender, terete or angular, not 2-edged; cauline leaves clasping in some species

Brassica L.

18b. Beak of capsule 0.5-3.0 (-4.0) mm long

21a. Lower flowers in axils of leaf-like bracts; stem retrorsely pubescent with simple hairs

Erucastrum gallicum (Willd.) O.E. Schulz

21b. Lower flowers without bracts

22a. Petals white

Cardamine L.

22b. Petals yellow

23a. Cauline leaves clasping; stem ribbed or angled; each capsule valve 1-ribbed

Barbarea Ait. f.

23b. Cauline leaves not clasping; stem not ribbed or angled; each capsule valve 1-3 ribbed

Sisymbrium L.

12b. Median stem leaves not lobed, divided, or coarsely toothed

24a. Beak of capsule 6-16 mm long

Brassica L.

24b. Beak of capsule 0.5-3.0 (-5.0) mm long

25a. Median cauline leaves remotely and sharply denticulate; flowers scented, purple, white or pink

Hesperis matronalis L.

25b. Median cauline leaves entire or low sinuate-toothed

26a. Stem leaves auriculate-clasping, glaucous; plants glabrous

Conringia orientalis (L.) C. Presl

26b. Stem leaves not auriculate-clasping; pubescence 2-4 pronged

Erysimum cheiranthoides L.

Alliaria Heist. ex Fabr.

This genus is represented by one species in PEI:

Alliaria petiolata (M. Bieb.) Cavara & Grande

Armoracia G. Gaertn., B. Mey. & Scherb.

This genus is represented by one species in PEI:

Armoracia rusticana G. Gaertn., B. Mey. & Scherb.

Barbarea Ait. f.

1a. Stylar beaks narrow, longer than 1.5 mm; auricles of distal leaves glabrous; petals over 5 mm long

B. vulgaris W.T. Aiton

1b. Stylar beaks stout, less than 1.5 mm long; auricles of distal leaves at least sparsely ciliate; petals less than 4.5 mm long

B. stricta Andrz.

Brassica L.

1a. Upper stem leaves either shortly petiolate or sessile and then narrowed to the base

2a. Siliques terete or subterete, 15–40 mm long, tipped by an indehiscent beak 5–10 mm long; fruiting pedicels ascending, mostly 10–15 mm long; plants usually glabrous

B. juncea (L.) Czern.

2b. Siliques quadrangular, 10–25 mm long, tipped by an indehiscent beak 1–3 mm long; fruiting pedicels erect to appressed, 2–5 mm long [Fig. 509]; plants usually hirsute-hispid in the lower portion

B. nigra (L.) W.D.J. Koch

1b. Flowers in compact spikes, usually on erect peduncles to 6 cm

3a. Petals (15–) 18–25 (–30) mm long; plants glabrous throughout; filaments all erect at base; sepals erect; indehiscent, apical beak of fruit (3–) 4–10 mm long, with (0–) 1 (–2) seeds

[*B. oleracea* L.]

3b. Petals 6–14 mm long; plants sometimes sparsely pubescent near the base; filaments of lateral stamens curved at base; sepals ascending (rarely suberect); indehiscent, apical beak of fruit 7–15 mm long, with 0 (–1) seeds

4a. Plants green; petals 6–10 (–11) mm long, pale yellow; apical beak of silique (8–) 10–15 mm long; seeds 1–1.8 mm long; open flowers of raceme at the same level as or overtopping the flower buds

B. rapa L.

4b. Plants glaucous; petals 10–14 mm long, deep yellow; apical beak of silique 7–10 (–11) mm long; seeds (1.2–) 1.5–2.5 (–3) mm long; open flowers of raceme usually lower than (rarely at the same level) the flower buds

B. napus L.

Cakile Mill.

This genus is represented by one species in PEI:

Cakile edentula (Bigelow) Hook.

Camelina Crantz

This genus is represented by one species in PEI:

Camelina microcarpa Andrz. ex DC.

Capsella Medik.

This genus is represented by one species in PEI:

Capsella bursa-pastoris (L.) Medik.

Cardamine L.

1a. Leaves palmately compound or deeply palmately divided

2a. Rhizome of essentially uniform diameter (except for the prominent teeth); peduncle and rachis glabrous; cauline leaves usually 2, opposite or nearly so

C. diphylla (Michx.) Alph. Wood

2b. Rhizome with constrictions; peduncle and rachis usually at least sparsely pubescent; cauline leaves usually 3–4, alternate

C. maxima (Nutt.) Alph. Wood

1b. Leaves all simple or pinnately lobed or divided

3a. Petals 8-14 mm long; leaflets of basal leaves nearly round; stems glabrous, unbranched

C. pratensis L.

3b. Petals +/- 2-3.5 (-4.5) mm long; leaflets of basal leaves usually distinctly longer than broad; stems glabrous or sometimes pubescent, usually +/- branched

4a. Petioles of cauline leaves pubescent; leaf blades and often stem up to the inflorescence also +/- hispidulous

C. pensylvanica Muhl. ex Willd.

4b. Petioles glabrous; leaves and stem usually glabrous (stem sometimes hispidulous, especially toward base)

5a. Stem glabrous nearly or quite to the base, straight and unbranched above; stamens usually 4

C. hirsuta L.

5b. Stems +/- hispidulous up to the inflorescence, usually flexuous and branched distally; stamens 6

C. occulta Hornem.

Conringia Heist. ex Fabr.

This genus is represented by one species in PEI:

Conringia orientalis (L.) C. Presl

Descurainia Webb & Berthel.

This genus is represented by one species in PEI:

Descurainia sophia (L.) Webb ex Prantl

Diplotaxis DC.

This genus is represented by one species in PEI:

Diplotaxis muralis (L.) DC.

Draba L.

1a. Petals bidid; plants annual

D. verna L.

1b. Petals rounded; plants biennial

D. incana L.

Erucastrum C.Presl

This genus is represented by one species in PEI:

Erucastrum gallicum (Willd.) O.E. Schulz

Erysimum L.

This genus is represented by one species in PEI:

Erysimum cheiranthoides L.

Hesperis L.

This genus is represented by one species in PEI:

Hesperis matronalis L.

Iberis L.

This genus is represented by one species in PEI:

Iberis umbellata L.

Lepidium L.

1a. Silicles with a wrinkled texture due to raised veins or reticulum; racemes borne laterally from the axils of leaves

L. didymum L.

1b. Silicles with a smooth surface; racemes chiefly terminal and at the tips of branches

2a. At least upper cauline leaves sessile and auriculate, sagittate, or clasping at base

L. campestre (L.) Ait. f.

2b. Cauline leaves petiolate or subsessile, never auriculate, sagittate, or clasping at base

3a. Fruit (4–) 5–7 mm long, 3–5.5 mm wide; upper cauline leaves deeply lobed or pinnatifid

L. sativum L.

3b. Fruit 1.5–3.2 (–4) mm long, 1.5–3 mm wide; upper cauline leaves entire or dentate

4a. Fruit obovate, widest above middle; petals absent or often rudimentary; rachis of raceme puberulent with cylindrical or clavate hairs

L. densiflorum Schrad.

4b. Fruit orbicular, widest at middle; petals present or rarely rudimentary; rachis of raceme puberulent with curved hairs, rarely glabrous

L. virginicum L.

Nasturtium G.

Taxonomy of *Rorippa nasturtium-aquaticum* and *R. microphylla* is complicated. Kartesz and Meacham (1999) do not accept any Atlantic Canada records of the former, referring all Atlantic Canada records to *R. microphylla* (=*Nasturium microphyllum*). Kartesz reports *R.* ×*sterilis* (=*N*. ×*sterilis*) for PEI (personal communication to Sean Blaney 2000). It is considered unconfirmed for PEI.

This genus is represented by one species in PEI:

Nasturtium microphyllum Boenn. ex Rchb.

Neslia Desv.

This genus is represented by one species in PEI:

Neslia paniculata (L.) Desv.

Raphanus L.

1a. Mature capsule scarcely constricted between the 2-3 seeds; petals pink-purple to white

R. sativus L.

1b. Mature capsule strongly constricted between the 4-10 seeds; petals usually yellow, turning whitish

R. raphanistrum L.

Rorippa Scop.

Erskine (1960) reports *Rorippa islandica* ssp. *fernaldiana* (=*R. palustris* ssp. *palustris*) and *R. islandica* var. *islandica* (which, in the strict sense, does not occur in Canada). There are no confirmed records for *R. palustris* ssp. *hispida* for PEI. Little is known of its conservation status and distribution, though it is present in both New Brunswick and Nova Scotia.

1a. Petals 3-4 mm long; capsules linear cylindric, 1.0-2.5 cm long; rhizomatous perennials

R. sylvestris (L.) Bess.

1b. Petals 1.7-2.0 mm long; capsules ellipsoid to +é- globose, 4-10 mm long; taprooted annuals or biennials

R. palustris (L.) Bess.

Sinapis L.

1a. Capsule bristly, beak as long as or longer than body; leaves all pinnatifid

S. alba L.

1b. Capsule glabrous (rarely slightly bristly), beak 1/3 to nearly as long as body; leaves rhombic to oblong, merely toothed

S. arvensis L.

Sisymbrium L.

1a. Capsules appressed to main axis of inflorescence

S. officinale (L.) Scop.

1b. Capsules spreading

S. altissimum L.

Thlaspi L.

This genus is represented by one species in PEI:

Thlaspi arvense L.

BUTOMACAE

Butomaceae is a monotypic family, although some divide the following species into further taxa.

Butomus L.

This genus is represented by one species in PEI:

Butomus umbellatus L.

CABOMBACAE

Brasenia Schreb.

This genus is represented by one species in PEI:

Brasenia schreberi J.F.Gmel.

CAMPANULACEAE

1a. Corolla regular; anthers separate

Campanula L.

1b. Corolla irregular, bilabiate; anthers united

Lobelia L.

Campanula L.

1a. Stem leaves linear to linear-lanceolate or spatulate, +/- glabrous

C. intercedens Witasek

1b. Stem leaves broader, ovate to lanceolate or lance-oblong, hairy, especially beneath

C. rapunculoides L.

Lobelia L.

1a. Leaves fleshy, +/- linear, restricted to a submerged basal rosette; flowers pale blue or white

L. dortmanna L.

1b. Leaves distributed along the stem, neither submerged nor fleshy

2a. Capsule inflated, 4.7 mm thick when mature; corolla whitish, pinkish or pale violet; leaves ovate to obovate

L. inflata L.

2b. Capsule not especially inflated, 3-4 mm thick when mature; corolla white to pale blue; leaves lanceolate to obovate

L. spicata Lam.

CAPRIFOLIACEAE

1a. Plants semi-woody and trailing or herbaceous

2a. Stems trailing, semi-woody; leaves 1-2 cm long, oval to obovate; flowers funnelform, paired on upright branches

Linnaea borealis L. ssp. *longiflora* (Torr.) Piper & Beattie

2b. Stems erect, herbaceous; leaves much longer, pinnately dissected; flowers numerous in flat-topped cymes

Valeriana officinalis L.

1b. Plants woody shrubs

3a. Leaves pinnately compound

Sambucus L.

3b. Leaves simple

4a. Leaves variously toothed and lobed

5a. Corolla funnelform, yellow to reddish; fruit dry, capsular; low colonial shrub

Diervilla lonicera Mill.

5b. Corolla open, saucer-shaped, united only at base; fruit drupaceous; usually taller, cespitose shrubs

Viburnum L.

4b. Leaves +/- entire, wavy margined or shallowly lobed

6a. Flowers small, campanulate, hairy within, white or pinkish, clustered in leaf axils and in short terminal spikes; fruit white, 2-seeded

Symphoricarpos albus L.

6b. Flowers larger, corolla +/- deeply lobed, often bilabiate, axillary, peduncles bearing paired terminal flowers, their ovaries sometimes united

Lonicera L.

Diervilla Mill.

This genus is represented by one species in PEI:

Diervilla lonicera Mill.

Linnaea L.

This genus is represented by one species in PEI:

Linnaea borealis L. ssp. *longiflora* (Torr.) Piper & Beattie

Lonicera L.

Exotic honeysuckles of the *L. tatarica* group are occasionally escaped from cultivation on PEI. There appears to be only one specimen record identified as *L. tatarica*, an Island Nature Trust report from PEI National Park, probably verified by Sean Blaney, but perhaps not with absolutely certainty vs. *L.* × *bella* or *L. morrowii*. We accept the report given that it is the most frequent of these three similar exotic honeysuckles in NB & NS, and probably the most common overall in PEI. There are several records of the hybrid L. × *bella* and at least three specimens (*Mazerolle PE08-74.1*; *Sharkie et al. 604*; *Sharkie et al. 605*), however their identification vs. *L. morrowii* or other hybrid *Lonicera* taxa with hairy leaves is not yet confirmed. An iNaturalist record by Peter Webb from Saint Anthony, Prince Co., appears to have mixed flower characters indicative of this hybrid cross (https://inaturalist.ca/observations/27458274, det. Colin Chapman-Lam, 2021).

1a. Branchlets solid; pith white; native shrubs; flowers +/- pendent

2a. Leaves light green, widest below the middle, marginally ciliate, otherwise +/- glabrous; berries red

L. canadensis L.

2b. Leaves dark green, widest at or above middle, spreading-pilose at least beneath; berries blue

L. villosa (Michx.) Schult.

1b. Branchlets hollow; pith brown; introduced exotic shrubs; flowers +/- erect

3a. Leaves and branchlets glabrous; corolla pink (rarely white) not fading to yellow

L. tatarica L.

3b. Leaves and branchlets +/- pubescent; corolla white or pink, fading to yellow

4a. Leaves broadly oval or obovate; buds long-pointed, narrowly conical; corolla strongly bilabiate; filaments completely pubescent

L. xylosteum L.

4b. Leaves narrowly ovate to oblong or triangular-lanceolate; buds obtuse, ovate; corolla nearly regular; filaments pubescent only at base

5a. Leaves mostly pubescent only on midrib and veins beneath; corolla pink to white; peduncles glabrous or slightly pubescent

L. × *bella* Zabel

5b. Leaves densely pubescent beneath; corolla white; peduncles densely pubescent

[*L. morrowii* A.Gray]

Sambucus L.

1a. Flowers and fruit in flat-topped or domed cymes, mostly with more than 3 main branches near base; pith white; berries purple-black

S. canadensis L.

1b. Flowers and fruit in elongate, panicle-like cymes, usually with 3 main branches near base; pith brown; berries red

S. racemosa L.

Symphoricarpos L.

This genus is represented by one species in PEI:

Symphoricarpos albus L.

Valeriana L.

This genus is represented by one species in PEI:

Valeriana officinalis L.

Viburnum L.

1a. Leaves 3-lobed

V. opulus L.

1b. Leaves crenate, finely toothed or entire

2a. Leaves broadly rounded to cordate at base; lower surface stellate-pubescent

V. lantanoides Michx.

2b. Leaves +/- tapering to base, glabrous / brown-scaly beneath

V. nudum L. var. *cassinoides* (L.) Torr. & A.Gray

Viburnum opulus L.

1a. Petiole glands +/- stipitate, mostly convex-topped

V. o. var *americanum* Aiton

1b. Petiole with glands sessile, broader than long, concave-topped

V. o. var. *opulus*

CARYOPHYLLACEAE

1a. Sepals distinct or essentially so (appearing connate in *Scleranthus*, but the tube actually a hypanthium); ovary sessile; petals without a prominent, narrow, basal portion

2a. Leaves with scarious or hyaline stipules

3a. Leaves clustered at the nodes in 2 sets of 6-8, appearing whorled, with small stipules 0.5-1 (-1.5) mm long; flowers usually with 5 styles; capsules with usually 5 valves

Spergula arvensis L.

3b. Leaves opposite (with axillary fascicles in *S. rubra*), with stipules 1-5 mm long; flowers usually with 3 styles; capsules with usually 3 valves

Spergularia (Pers.) J.Presl & C.Presl

2b. Leaves without stipules

4a. Flowers with a cup-shaped hypanthium; fruit a 1-seeded utricle; perianth sepaloid, composed of only sepals that have a narrow, scarious border

Scleranthus annuus L. ssp. *annuus*

4b. Flowers hypogynous or essentially so; fruit a many-seeded capsule; perianth in part petaloid, composed of both sepals and petals (petals absent and, therefore, the perianth sepaloid in some *Sagina* and *Stellaria*)

5a. Perianth monochlamydeous, only the sepals present

6a. Flowers with 3 styles; capsule dehiscing by 6 valves; leaves linear-oblong to elliptic, 1.5-6 (-10) mm wide

Stellaria L.

6b. Flowers with 4 or 5 styles; capsule dehiscing by 4 or 5 valves; leaves linear-subulate, up to 1 mm wide

Sagina L.

5b. Perianth dichlamydeous, both the sepals and the petals present

7a. Petals deeply notched, sometimes so deeply as to appear as 2

8a. Styles 3; capsules dehiscing by 6 valves

Stellaria L.

8b. Styles 4 or 5; capsules dehiscing by 5 valves or by 8 or 10 apical teeth

Cerastium L.

7b. Petals entire, at most the apex retuse or erose

9a. Plants fleshy; seeds 3-5 mm long; petals and stamens inserted on a conspicuous, 10-lobed disk

Honckenya peploides (L.) Ehrh. ssp. *robusta* (Fernald) Hultén

9b. Plants not fleshy; not as above

10a. Styles 4 or 5; capsules dehiscing by 4 or 5 valves

Sagina L.

10b. Styles 3; capsules dehiscing by 3 or 6 valves

11a. Seeds 1-1.6 mm long; plants rhizomatous perennials, the stems not tufted

Moehringia lateriflora (L.) Fenzl

11b. Seeds 0.4-0.8 mm long; plants annuals or perennials, the stems tufted

Arenaria serpyllifolia L. var. *serpyllifolia*

1b. Sepals connate in the basal portion; ovary stipitate; petals with a prominent, narrow, basal portion

12a. Sepals fused roughly one-fourth to half their length (hence with prominent free tips), +/- densely pilose, (1.6-) 3.5-5.5 (-7) cm long

Agrostemma githago L. var. *githago*

12b. Sepals fused half their length or more, glabrous or pubescent, less than 3 cm long

13a. Calyx immediately subtended by closely appressed bracts (no naked pedicel evident between bracts and calyx)

Dianthus L.

13b. Calyx not subtended by bracts, or with at least a short pedicel visible above spreading bracts

14a. Styles 3-5 (or more), or flowers entirely staminate; calyx 10-30-nerved (or nerves obscure)

Silene L.

14b. Styles 2, the capsule opening by 4 teeth; flowers bisexual; calyx 5-nerved or very obscurely many-nerved

15a. Calyx at least 7 mm long; inflorescence crowded

Saponaria officinalis L.

15b. Calyx less than 5 mm long; inflorescence open

Gypsophila muralis L.

Agrostemma L.

This genus is represented by one species in PEI:

Agrostemma githago L. var*. githago*

Arenaria L.

This genus is represented by one species in PEI:

Arenaria serpyllifolia L. var. *serpyllifolia*

Cerastium L.

The conservation status of *Cerastium arvense* is complicated by the presence of both native and exotic taxa in our region. Erskine (1960) considered the species exotic without giving a subspecific identity. We thus tentatively refer PEI material to the introduced ssp. *arvense*.

1a. Leaves, stems, and sepals +/- densely white-tomentose, the surfaces largely concealed

Cerastium tomentosum L.

1b. Stems and leaf blades pubescent with villous hairs (rarely the stems subglabrous), the surfaces visible

2a. Petals 5-7 mm long, +/- equal in length to the sepals; axillary shoots usually lacking; eglandular or occasionally with stipitate glands confined to the inflorescence

Cerastium fontanum Baumg. *ssp. vulgare* (Hartm.) Greuter & Burdet

2b. Petals 7.5-15 mm long, roughly 2 times as long as the sepals; axillary clusters of leaves or short shoots produced on lower stem; plants stipitate-glandular in the inflorescence and often also on the upper portion of the stem

Cerastium arvense L. ssp. *arvense*

Dianthus L.

1a. Plants with closely crowded, sessile or short-pedicellate flowers borne in terminal cymes; bracts subtending flowers nearly equaling to exceeding the length of the calyx

Dianthus armeria L. *ssp. armeria*

1b. Plants with scattered, solitary flowers borne on slender pedicels 10-40 mm long; bracts subtending the flowers up to ½ as long as calyx

2a. Basal leaf blades oblanceolate, 15-30 mm long; at least the lower internodes of the stem puberulent; blade of petals 5-10 mm long, the apex toothed; calyx equaling the length of the fruit; bracts ca. 50% as long as the calyx

Dianthus deltoides L. *ssp. deltoides*

2b. Basal leaf blades linear, 20-80 mm long; stems glabrous; blade of petals 12-18 mm long, fringed-cleft to near the middle; calyx shorter than the length of the fruit; bracts 25-36% as long as the calyx

Dianthus plumarius L. *ssp. plumarius*

Gypsophila L.

This genus is represented by one species in PEI:

Gypsophila muralis L.

Honckenya Ehrh.

This genus is represented by one species in PEI:

Honckenya peploides (L.) Ehrh. ssp*. robusta* (Fernald) Hultén

Moehringia L.

This genus is represented by one species in PEI:

Moehringia lateriflora (L.) Fenzl

Sagina L.

1a. Petals 3-4.5 mm long, ca. 2 times as long as the sepals; upper leaf axils of stem usually bearing fascicles of minute, succulent leaves

Sagina nodosa (L.) Fenzl ssp. *borealis* G.E.Crow

1b. Petals inconspiciuous, much shorter than the sepals, or absent; upper stem lacking axillary fascicles of leaves

Sagina procumbens L.

Saponaria L.

This genus is represented by one species in PEI:

Saponaria officinalis L.

Silene L.

1a. Flowers red, crowded in a dense, flat-topped inflorescence

Silene chalcedonica E.H.L.Krause

1b. Flowers white to pale pink, in loose racemes, or open cymes, never crowded

2a. Calyx glabrous, when mature inflated around the capsule, usually with conspicuous anastomosing veins

Silene vulgaris (Moench) Garcke

2b. Calyx pubescent

3a. Lobes of calyx 2.5-6 (-7) mm long, if as long as 6-7 mm then at least 1 mm wide at middle; total calyx length (11-) 14-22 (-27) mm; plants dioecious, the flowers of pistillate plants with 5-6 (often more, rarely fewer) styles, the capsule opening by twice as many teeth, these at most spreading; upper internodes not clammy-viscid to the touch when fresh, with glands as frequent on tips of longest hairs as on shorter ones

Silene latifolia Poir.

3b. Lobes of calyx 6-11 mm long, not over 1 mm wide at middle; total calyx length 20-27 mm; plants with bisexual flowers; styles 3, the capsule opening by 6 teeth, these strongly recurved at maturity; upper internodes clammy-viscid in living plants, with +/- dense glands sessile or on short hairs, the longer hairs mostly not gland-tipped

Silene noctiflora L.

Scleranthus L.

This genus is represented by one species in PEI:

Scleranthus annuus L. ssp. *annuus*

Spergula L.

This genus is represented by one species in PEI:

Spergula arvensis L.

Spergularia (Pers.) J.Presl & C.Presl

1a. Plants with evident fascicles of leaves in the axils; seeds 0.4-0.6 mm long, without an equatorial wing; flowers with 6-10 stamens

Spergularia rubra (L.) J.Presl & C.Presl

1b. Plants without fascicles of leaves in the axils or these sparse and poorly developed; seeds 0.6-1.4 mm long, with or without an equatorial wing; flowers with (1-) 2-4 (-5) stamens

2a. Leaf blades obtuse to acute at the apex, but without a minute mucro; seeds 0.8-1.4 mm long, shiny, smooth or with irregular reticulate thickenings on the faces, usually with a +/- white, erose, equatorial wing 0.2-0.3 mm wide; stipules 1-2.8 mm long; pedicels and sepals usually glabrous

Spergularia canadensis (Pers.) G.Don var. *canadensis*

2b. Leaf blades minutely mucronate at the apex; seeds 0.6-0.8 mm long, dull, smooth or minutely glandular-papillose on the faces, usually unwinged; stipules 2-4 mm long; pedicels and sepals usually stipitate-glandular

Spergularia salina J.Presl & C.Presl

Stellaria L.

Kartesz (1994) includes *S. longifolia* Hill. on the basis of unspecified personal communication. It is not listed in Erskine (1960), and we consider the report unconfirmed.

1a. At least the lower leaves with evident petioles; stems pubescent in 1 or 2 lines

Stellaria media (L.) Vill.

1b. All the leaves sessile; stems glabrous or minutely scabrous

2a. Bracts subtending the pedicels herbaceous and green throughout; inflorescence either of flowers in the axils of normal foliage leaves or at branches in the stem, or a terminal cyme

3a. Flowers in cymes; leaf blades 7-60 × 2-8 mm, not succulent, usually without sterile tufts or branchlets

Stellaria borealis Bigelow ssp. *borealis*

3b. Flowers solitary or in axillary pairs; leaf blades at least slightly succulent

4a. Leaves strongly succulent, oval to elliptic, to 10 mm long; seeds smooth

Stellaria humifusa Rottb.

4b. Leaves slightly succulent, linear to lanceolate, to 15 mm long; seeds rugose

Stellaria crassifolia Ehrh.

2b. Bracts subtending the flowers either wholly scarious or with only a central green strip; inflorescence usually a terminal cyme

5a. Cymes produced in the axils of leaves; sepals 2.5-3.5 mm long; petals shorter than the sepals (or the petals absent); seeds 0.3-0.7 mm long

Stellaria alsine Grimm

5b. Cymes produced at the apex of the stem; sepals 2-7 mm long; petals nearly as long as or longer than the sepals; seeds 0.7-1.2 mm long

Stellaria graminea L.

CELASTRACEAE

Celastrus L.

This genus is represented by one species in PEI:

Celastrus orbiculatus Thunb.

Parnassia L.

This genus is represented by one species in PEI:

Parnassia parviflora DC.

CERATOPHYLLACEAE

Ceratophyllum L.

1a. Leaves forked 1-2 times; teeth with broad bases

C. demersum L.

1b. Leaves forked 2-4 times; teeth narrow at base

C. echinatum A.Gray

CISTACEAE

1a. Leaves needle- or scale-like, less than 0.5 mm broad; flowers bright yellow, conspicuous en masse; plants bushy, heather-like; leafy basal offshoots wanting

Hudsonia L.

1b. Leaves broader and longer, neither scale- nor needle-like; flowers inconspicuous in diffuse panicles; leafy basal offshoots present

Lechea L.

Hudsonia L.

Hybrids between our two species (= *H.* × *intermedia* (Peck) Erskine) were reported by Erskine (1960) from sand dunes at Bothwell, found in mixed populations with both putative parent species.

1a. Leaf blades narrow-ovate to triangular, closely appressed, densely tomentose, 1-3 mm long; ovary and fruit hairless; pedicels 0-1 mm long

H. tomentosa Nutt.

1b. Leaf blades linear-subulate, erect to spreading, sparsely pubescent, 3-4.5 mm long; ovary and fruit pubescent; pedicels 5-10 mm long

H. ericoides L.

Lechea L.

1a. Leaves appressed-pilose over entire undersurface; inner and outer sepals subequal

L. maritima Legg. ex Britton var. *subcylindrica* Fernald

1b. Leaves sparsely pubescent on midrib and margins beneath; outer sepals about one half as long as inner

L. intermedia Legg. ex Britton

CONVOLVULACEAE

Scoggan (1979) cites a specimen of *C. pentagona* Engelm. from Charlottetown at NSPM. We consider it unconfirmed at present.

1a. Plants parasitic, orange twining vines

Cuscuta gronovii Willd. var *gronovii*

1b. Plants not parasitic

2a. Calyx bractless at base; stigma filiform

Convolvulus arvensis L.

2b. Calyx closely subtended by 2 +/- cordate bracts; stigma oval or oblong

Calystegia sepium (L.) R.Br.

Calystegia L.

Calystegia sepium L.

Erskine (1960) relegates subspecies to synonymy under the binomial. The exotic *C. s*. ssp. *sepium* appears to be the more common taxon in the northeast, and the pink flowered form (forma *colorata*) that Erskine states PEI material belongs to also belongs here. The status of the native *C. s*. ssp. *americana* is unknown, but apparently was reported by Fernald.

1a. Plants pubescent on the distal stems, petioles peduncles and abaxial blade surface of new leaves; corolla pink

C. s. ssp. *americana* (Sims) Brummitt

1b. Plants glabrous or with a few hairs on the distal portion of the petiole; corolla white or rarely pale pink

C. s. ssp. *sepium*

Convolvulus L.

This genus is represented by one species in PEI:

Convolvulus arvensis L.

Cuscuta L.

This genus is represented by one species in PEI:

Cuscuta gronovii Willd. var *gronovii*

CORNACEAE

Cornus L.

Cornus × *slavinii* Rehder (= *C. rugosa* × *C. sericea*) was first documented for PE by Sean Blaney with David Mazerolle & Glen Kelly at a site near Pleasant View, Prince Co. in June 2008 (*Blaney et al. 6453*; ACAD, DAO, UNB).

1a. Plants essentially herbaceous, to about 2 dm high; tiny flowers subtended by an involucre of 4 white petaloid bracts; fruit red

C. canadensis L.

1b. Plants woody shrubs often over 2 m high; flowers not subtended by petaloid bracts; fruit white or blue

2a. Leaves and branches alternate; fruit deep blue

C. alternifolia L.f.

2b. Leaves and branches opposite; fruit white or blue

3a. Branches speckled with purple; leaves oval or rotund with 6-8 pairs of prominent lateral veins, softly white-downy beneath; fruit blue

C. rugosa Lam.

3b. Branches reddish; leaves lanceolate to ovate with 3-4 pairs of prominent lateral veins, minutely appressed-pubescent beneath; fruit whitish, rarely blue

C. sericea L.

CRASSULACEAE

1a. Leaves opposite; flowers solitary in leaf axils; small annual herbs of muddy shores

Crassula aquatica L.

1b. Leaves mostly alternate; flowers in terminal cymes; perennials

2a. Tall robust plants with flat coarsely toothed leaves

Hylotelephium telephium (L.) H.Ohba.

2b. Low matted plants with +/- cylindrical leaves

Sedum L.

Crassula L.

This genus is represented by one species in PEI:

Crassula aquatica L.

Hylotelephium H.Ohba

This genus is represented by one species in PEI:

Hylotelephium telephium (L.) H.Ohba

Sedum L.

1a. Leaf blades triangular-ovate

S. acre L.

1b. Leaf blades linear or linear-lanceolate to oblong

S. rupestre L.

CUPRESSACEAE

1a. Trees; cones with 4-6 brown, leathery scales

Thuja occidentalis

1b. Shrubs; cones glaucous-dark blue, berry-like

Juniperus

Juniperus L.

1a. Mature branches with needle-like leaves; berry-like cones borne in leaf axils, on straight peduncles

J. communis L.

1b. Mature branches with scale-like leaves, needle-like on young twigs; berry-like cones not growing in leaf axils, borne on curved peduncles

J. horizontalis Moench

Juniperus communis L.

Prince Edward Island plants are var. *depressa* Pursh. Erskine (1960) also reported variety *montana* Ait. (now considered synonymous with var. *saxatilis* Ait.). However, in North America this taxon is restricted to western mountains and Greenland. Adams (1993):

1a. Glaucous stomatal band on adaxial leaf surface 2 or more times as wide as each green marginal band; spreading to mat-like shrubs; leaves linear-lanceolate, to 2 mm wide, apex acute to obtuse and mucronate.

[*J. c*. var. *saxatilis*]

1b. Glaucous stomatal band on adaxial leaf surface about as wide as each green marginal band; prostrate, low shrubs with ascending branchlet tips (occasionally spreading shrubs, rarely small trees); leaves linear, to 1.6 mm wide, apex acute and mucronate to acuminate.

J. c. var. *depressa*

Thuja L.

This genus is represented by one species in PEI:

Thuja occidentalis L.

CYPERACEAE

1a. Flowers unisexual (either male or female); fruit enclosed in a sac (perigynia)

Carex

1b. Flowers bisexual (with both male and female parts); no perigynia

2a. Spikelets flattened, with scales 2-ranked

Dulichium arundinaceum (L.) Britton

2b. Spikelets many-angled to circular in cross-section, with scales spirally arranged

3a. Inflorescence with a single spikelet

4a. Sheaths with expanded leaf blades; floral scales lead-coloured

Eriophorum

4b. Sheaths with small blades (< 2 cm) or merely an apical tooth; floral scales not lead-coloured

5a. Achenes with an apical tubercle; involucral bracts reduced, resembling floral scales

Eleocharis

5b. Achenes without an apical tubercle; involucral bracts sometimes with blunt awns

Trichophorum

3b. Inflorescence with multiple spikelets

6a. Spikelets with solitary flowers subtended by more than one sterile scale

7a. Achenes without bristles, three-sided in cross-section

Cladium mariscoides (Muhl.) Torr.

7b. Achenes with bristles at base, lenticular in cross-section

Rhynchospora alba (L.) Vahl

6b. Spikelets usually with multiple flowers, without sterile scales

8a. Involucral bract erect, appearing as continuation of stem, the inflorescence seemingly bursting from the side of the stem

9a. Small plants, usually < 40 cm; coastal brackish marsh habitat

Blysmopsis rufa (Huds.) Oteng-Yeb.

9b. Large plants, usually > 1 m and/or of freshwater habitat

Schoenoplectus

8b. Involucral bract not as above, the inflorescence appearing terminal

10a. Achenes each with many (15+) long silky bristles, much longer than the achenes

Eriophorum

10b. Achenes each with few (≤ 8) or no bristles

11a. Spikelets 15-36 mm long, achenes 2.3-5.5 mm long; rhizomes with hard, corm-like thickenings

Bolboschoenus maritimus (L.) Palla

11b. Spikelets 2-10 mm long, achenes < 2 mm long; plants cespitose or rhizomes without thickenings

Scirpus

Blysmopsis Oteng-Yeb.

This genus is represented by one species in PEI:

Blysmopsis rufa (Huds.) Oteng-Yeb.

Bolboschoenus (Asch.) Palla

This genus is represented by one species in PEI:

Bolboschoenus maritimus (L.) Palla

Carex L.

Kartesz (2007) records *Carex siccata* (sect. *Ammomglochin*) for PEI on the basis of a report in Erskine (1960), but there is no such report in that book. The report may have been caused by confusion with *C. foenea* (= *C. aenea*), which is reported in Erskine (1960). The species is unlikely for PEI.

1a. Plants entirely staminate

Carex sect. *Deweyanae*

1b. At least some pistillate flowers present

2a. Achenes 2-sided, lenticular or plano-convex; stigmas 2

3a. Lateral spikes elongated, many times longer than wide

4a. Perigynia usually densely spaced in spikelets, green to slightly glaucous; lowermost bract nearly or essentially sheathless; mostly large robust plants over 50 cm tall

Carex sect. *Phacocystis*

4b. Perigynia loosely spaced, orange at maturity; lowermost bract with a sheath; slender plants, to 30 cm tall

Carex sect. *Bicolores*

3b. Lateral spikes sessile, not much longer than wide if at all, often clustered

5a. Culms arising singly from long rhizomes or prostrate old stems

6a. Spikes crowded and appearing solitary

Carex sect. *Chordorrhizae*

6b. Spikes truly solitary

Carex sect. *Physoglochin*

5b. Culms cespitose; spikes various

7a. At least some spikelets gynecandrous (female flowers above the male flowers)

8a. Perigynia with thin-winged margins, strongly flattened

Carex sect. *Ovales*

8b. Perigynia with at most a ridge along the margins, the achene tight against the margin below the beak

9a. Perigynia with sharply ridged margins

Carex sect. *Stellulatae*

9b. Perigynia with round to weakly-ridged margins

10a. Plants rhizomatous or stoloniferous; perigynia with at most a short beak, body roughly elliptic

Carex sect. *Glareosae*

10b. Plants cespitose; perigynia with prominent beak, body roughly ovate to lanceolate

Carex sect. *Deweyanae*

7b. At least some spikelets androgynous (male flowers above the female flowers)

11a. Spikelets many (10+), often crowded and with more than one spike coming from the lower nodes

12a. Culms thick, sharp angled, and easily compressed

Carex sect. *Vulpinae*

12b. Culms slender, firm and not easily compressed

13a. Membranous section of leaf sheath clearly puckered transversely; pistillate scales awned

Carex sect. *Multiflorae*

13b. Membranous section of leaf sheath not puckered; pistillate scales not awned

Carex sect. *Heleoglochin*

11b. Spikelets few (< 10), mostly simple and well-spaced along culm

14a. Perigynia essentially beakless, plump, elliptic, and with rounded margins

Carex sect. *Dispermae*

14b. Perigynia clearly beaked, plano-convex or lenticular, with ridged margins

Carex sect. *Phaestoglochin*

2b. Achenes 3-sided or nearly terete; stigmas 3

15a. Culms with a single spike

16a. Perigynia beakless, appressed to ascending; stems densely cepitose; plants mostly of shaded swamps

Carex sect. *Leptocephalae*

16b. Perigynia long beaked, at least the lower ones reflexed at maturity; stems solitary or loosely clumped with long rhizomes; plants of open bogs

Carex sect. *Leucoglochin*

15b. Culms with more than 1 spike

17a. Leaves pubescent

18a. Perigynia clearly beaked, hairy

Carex sect. *Carex*

18b. Perigynia beakless, hairless

Carex sect. *Porocystis*

17b. Leaves glabrous

19a. Perigynia pubescent or scabrous

20a. Female spikes mostly < 10 mm long; plants mostly of upland forest habitat

21a. Perigynia with distinct beak, the apex with 2 apical teeth

Carex sect. *Acrocystis*

21b. Perigynia with indistinct beak, the apex not toothed

Carex sect. *Digitatae*

20b. Female spikes usually > 10 mm long; plants of wetland habitats and seeps

22a. Peryginia with beak more than half the body length; perigynia scabrous; leaves wide, M-shaped in cross-section

Carex sect. *Anomalae*

22b. Peryginia with beak less than half the body length; perigynia short pubescent; leaves becoming filiform, involute at tips

Carex sect. *Paludosae*

19b. Perigynia glabrous

23a. Apices of perigynia gradually tapering to a definite beak, often with two apical teeth

24a. Perigynia spreading, the lowermost usually reflexed; spikes short-cylindric or crowded, not drooping

25a. Perigynia < 6.5 mm long

Carex sect. *Ceratocystis*

25. Perigynia > 10 mm long

Carex Sect. *Lupulinae*

24b. Perigynia ascending or reflexed; spikes elongate-cylindrical, drooping or not

26a. Spikes linear-cylindric, most drooping or curving on slender peduncles; perigynia < 1.6 mm wide and appressed to ascending

Carex sect. *Hymenochlaenae*

26b. Spikes relatively thick; perigynia usually much wider, if under 1.6 mm wide then perigynia widely spreading

27a. Perigynia inflated, usually < 1 mm long

Carex sect. *Vesicariae*

27b. Perigynia inflated or not, usually > 1 mm long

28a. Staminate spikes 3-5

Carex sect. *Paludosae*

28b. Staminate spikes 1

Carex sect. *Rostrales*

23b. Apices of perigynia broadly rounded, if with a poorly defined beak then strongly bent and with apical teeth absent or indistinct

29a. Bract of lowest pistillate spike essentially sheathless (at most 3 mm long)

30a. Terminal spikelet usually long-peduncled; roots with yellowish felt

Carex sect. *Limosae*

30b. Terminal spikelet usually sessile or short-peduncled; roots without yellowish felt

Carex sect. *Racemosae*

29.b Bract of lowest pistillate spike evident, at least 4 mm long

31a. Terminal spike with some perigynia

32a. Terminal spike androgynous; pistillate spikes short-cylindric, each with fewer than 10 perigynia

Carex sect. *Digitatae*

32b. Terminal spike gynecandrous; pistillate spikes long-cylindric, each with more than 10 perigynia

Carex sect. *Hymenochlaenae*

31b. Terminal spike entirely staminate

33a. Plants cespitose, rhizomes short or indistinct; plants of various habitats

34a. Perigynia with spongy base, pistillate scales not widely divergent

Carex sect. *Laxiflorae*

34b. Perigynia bases not spongy, apices of pistillate often diverging nearly 90° from inflorescence axis

Carex sect. *Granulares*

33b. Rhizomes elongate; plants of calcareous wetlands

Carex sect. *Paniceae*

CAREX sect. ACROCYSTIS

Reports of *Carex albicans* var. *albicans* are ambiguous due to synonymy and the variety remains unconfirmed. All PEI specimens of *C. umbellata* Schkuhr ex Willd. have been referred to *C. tonsa* var. *rugosperma* (Mack.) Crins by Paul Catling.

1a. Stems of various lengths, some or all female spikelets basal, nestled in leaf bases

2a. Remnants of old leaves persisting as tufts of stiff fibers; perigynia >3.2 mm long

Carex tonsa (Fernald) E.P. Bicknell

2b. Remnants of old leaves not, or only slightly, shredded into fibers; perigynia < 3.0 mm long

Carex deflexa Hornem.

1b. Stems all elongate

3a. Bodies of perigynia globose, +/- as long as thick; plants densely caespitose; widest leaves > 3 mm wide

Carex communis L.H. Bailey

3b. Bodies of perigynia longer than wide; plants loosely caespitose; widest leaves < 3.3 mm wide

4a. Proximal pistillate spikes not overlapping, usually separated by 7 mm or more; proximal cauline bracts equaling or exceeding inflorescences

Carex novae-angliae Schwein.

4b. Proximal pistillate spikes crowded or overlapping, usually separated by less than 7 mm; proximal nonbasal bracts shorter than inflorescences

5a. Pistillate scales shorter than perigynia, the perigynia conspicuous among scales

Carex deflexa Hornem.

5b. Pistillate scales about as long as perigynia, the perigynia nearly or completely concealed

Carex albicans Willd. ex Spreng. var. *emmonsii* (Dewey ex Torr.) Rettig

CAREX sect. ANOMALAE

This section is represented by one species in PEI:

Carex scabrata Schwein.

CAREX sect. *BICOLORES*

This section is represented by one species in PEI:

Carex aurea Nutt.

CAREX sect. *CAREX*

This section is represented by one species in PEI:

Carex hirta L.

CAREX sect. *CERATOCYSTIS*

1a. Larger perigynia < 3 mm long, spreading, the beak about a fourth to nearly half as long as the body

Carex viridula Michx.

1b. Larger perigynia > 3 mm long, at least the beaks becoming strongly reflexed on lower half of the spike, the beak nearly or fully half as long as the body

Carex flava L.

CAREX sect. *CHORDORRHIZAE*

This section is represented by one species in PEI:

Carex chordorrhiza L. f.

CAREX sect. *DEWEYANAE*

1a. Spikelets lance-cylindric; perigynia 0.8-1.2 mm wide, 4-5 times as long as wide; scales oblong; leaves to 2.5 mm wide; stems often densely caespitose

Carex bromoides Schkuhr ex Willd.

1b. Spikelets ovoid to ovoid-cylindric; perigynia > 1.3 mm wide 3-3.5 times a long as wide; scales ovate; leaves to 5 mm wide

Carex deweyana Schwein.

CAREX sect. *DIGITATAE*

This section is represented by one species in PEI:

Carex pedunculata Muhl. ex Willd.

CAREX sect. *DISPERMAE*

This section is represented by one species in PEI:

Carex disperma Dewey

CAREX sect. *GLAREOSAE*

Carex canescens ssp. *canescens* has been falsely reported for PEI (AC CDC 2020).

1a. Lowest bract bristle-like, several times longer than length of its subtended spikelet

2a. Leaves 0.3–0.8 mm wide, filiform-involute; plants of open peatland habitats

Carex billingsii Kirschb.

2b. Leaves 0.8–1.9 mm wide, flat or somewhat M-shaped in cross section; plants of shaded wetland habitats

Carex trisperma Dewey

1b. Lowest bract absent or at most 3 times longer than its subtended spikelet

3a. Inflorescence congested, usually even the lowest spikelets overlapping

Carex tenuiflora Wahlenb.

3b. Inflorescence interrupted, only the upper spikelets crowded

4a. Plants of salt- or brackish marsh habitats; stems smooth; terminal spikelet with prolonged male base

Carex mackenziei V.I. Krecz.

4b. Plants of freshwater habitats; stems scabrous above; terminal spikelet without prolonged base

5a. Perigynia < 10 per spikelet, loosely spreading, becoming brown in age; leaves and perigynia green when fresh

Carex brunnescens (Pers.) Poir.

5b. Perigynia > 10 per spikelet; appressed-ascending, greenish or dull brown in age; leaves and perigynia glaucous or gray-green at least when fresh

Carex canescens L. ssp. *disjuncta* (Fernald) Toivonen

CAREX sect. *GRANULARES*

This section is represented by one species in PEI:

Carex granularis Muhl. ex Willd.

CAREX sect. *HELEOGLOCHIN*

This section is represented by one species in PEI:

Carex diandra Schrank

CAREX sect. *HYMENOCHLAENAE*

1a. Terminal spike gynecandrous; perigynia essentially beakless

Carex gracillima Schwein.

1b. Terminal spike staminate; perigynia conspicuously beaked

2a. Perigynia 3-5 mm long, definitely 3-angled; achene sessile; basal leaves 5-10 mm wide; female scales mostly awned to cuspidate

Carex arctata Boott

2b. Perigynia 4.5-10.0 mm long, obscurely 3-angled; achene stipitate; basal leaves 3-4 mm wide; female scales fringed with fine hairs at tip, rarely cuspidate

Carex debilis Michx.

CAREX sect. *LAXIFLORAE*

This section is represented by one species in PEI:

Carex leptonervia (Fernald) Fernald

CAREX sect. *LEPTOCEPHALAE*

This section is represented by one species in PEI:

Carex leptalea Wahlenb.

CAREX sect. *LEUCOGLOCHIN*

This section is represented by one species in PEI:

Carex pauciflora Lightf.

CAREX sect. *LIMOSAE*

1a. Pistillate scales lanceolate, about twice as long as perigynia and half as wide and often dark purple-brown

Carex magellanica Lam. ssp. *irrigua* (Wahlenb.) Hiitonen

1b. Pistillate scales ovate, about as wide and as long as perigynia

2a. Stems scabrous, sharply triangular; pistillate scales usually brown to straw-coloured; perigynia to 4.5 mm long

Carex limosa L.

2b. Stems glabrous, obtusely triangular; pistillate scales usually purple-brown to blackish; perigynia up to 3.5 mm long

Carex rariflora L.

CAREX sect. *LUPULINAE*

This section is represented by one species in PEI:

Carex intumescens Rudge

CAREX sect. *MULTIFLORAE*

1a. Perigynia tapering or contracted into beaks 0.5–1 times as long as bodies; larger perigynia 1.1–1.9 mm wide with ovate bodies

Carex vulpinoidea Michx.

1b. Perigynia abruptly contracted into beaks mostly 0.25–0.5 times as long as bodies; larger perigynia 1.5–2.3 mm wide with broadly ovate to ± orbicular bodies

Carex annectens Michx.

CAREX sect. *OVALES*

Carex waponahkikensis M. Lovit & A. Haines, an endemic of New Brunswick and Maine has been reported for PEI based on specimen of *C. scoparia* var. *tessellata* Fernald & Wieg. Though this particular specimen was not reviewed by Lovit & Haines (2012), all other historic Canadian specimens examined

were misidentified, and it is doubtful that *C. waponahkikensis* is present on PEI. *Carex tenera* has been reported for PEI, but specimens were referred to *C. projecta* by Tony Reznicek in 2007. The species remains unconfirmed but should be searched for. PEI specimens for *Carex tribuloides* require confirmation.

1a. Inflorescence mostly over 4 cm long, usually nodding and flexuous; spikelets +/- well-spaced, at least the lowest not reaching the base of the next one above

2a. Sheaths at summit with knob-like auricles on ether side; inner band of sheath greatly prolonged; perigynia usually silvery, distinctly 5-7 ribbed on adaxial surface, 3.5-5.0 mm long; leaves glaucous and stiff; plants of coastal habitat

C. silicea Olney

2b. Sheaths without knob-like auricles; leaves not glaucous and stiff

3a. Female scales equalling or surpassing the tips of perigynia and essentially completely concealing their bodies

4a. Perigynia finely granular papillose and mostly green at maturity, 3-4 mm long, orbicular to short-elliptic, abruptly contracted to (0.5-) 0.7-1.0 mm beak; white ribs conspicuous on both faces 5 (7) on inner/upper face; spikelets (4-) 7-15, the upper ones crowded; achenes 1.0-1.2 mm wide

C. argyrantha Tuck. ex Dewey

4b. Perigynia smooth, brownish at maturity, at least at base, body ovate, usually tapering to beak, finely ribbed on outer/lower face, ribless or short-ribbed (-5 ribs) on inner/upper face, 4-5 mm long, 1.9-2.7 mm wide; spikelets 3-7 (-11) the upper ones +/- separated, markedly tapering at base; achene 1.3-1.7 mm wide

C. foenea Willd.

3b. Female scales shorter than perigynia, but sometimes longer than body of perigynia

5a. Perigynia 2.5-3.0 mm broad, 4-5 mm long; scales tipped by awl-like point; leaf blades 1.0-2.5 mm wide; plants of estuaries, salt marshes and sometimes margins of salted roads

C. hormathodes Fernald

5b. Perigynia less than 2 mm broad; leaf blades to 8 mm wide, contiguous with narrow wings along leaf sheath; plants of freshwater habitats

C. projecta Mack.

1b. Inflorescence to about 4 cm long, erect, not nodding; spikelets mostly overlapping except sometimes the lowest

6a. Mature perigynia 2.6-7.5 times as long as wide

7a. Perigynia relatively thick, obviously distended over achene, 0.6-1.1 mm broad, 3.2-4.5 mm long; inflorescence stiffly erect, spikes crowded

C. crawfordii Fernald

7b. Perigynia thin and scale-like, barely distended over achene, 1.2-2.6 mm broad, 4-7 mm long, with wing extending continuously to base; pistillate scales acuminate with a conspicuous subulate or awl-like tip; inflorescence crowded and erect to lax and nodding

C. scoparia Schkuhr ex Willd.

6b. Mature perigynia less than 2.6 times as long as wide

8a. Perigynia obovate, 3.0-4.2 mm long, (1.8-) 2.0-3.2 mm broad; spikelets ovoid, bases rounded, tips rounded to nearly acute; sheaths finely papillose

C. cumulata (L.H. Bailey) Mack.

8b. Perigynia ovate-lanceolate; sheaths green-ribbed nearly to summit, papillose or not

9a. Inflorescence nodding or arching; scales long-acuminate, perigynia to 5.5 mm long; plants of brackish marshes and meadows or salted highway margins

C. hormathodes Fernald

9b. Inflorescence stiffly erect, usually more compact; scales acute or blunt; plants of fresh habitats

10a. Scales nearly as long and as perigynia, sometimes as broad as perigynia

11a. Basal bract of inlorescence (-6 mm long) conspicuously dilated, leaf-like (-2 mm wide), usually with a prolonged awl-like tip; perigynia full and leathery, green towards tip, brown at base, completely covered by scales, 4-5 mm long, 2-3 mm wide with a firm narrow wing, ribless or short-ribbed on upper face; achene 1.8-2.1 mm wide; plants of dry soils

C. adusta Boott

11b. Basal bract not especially dilated or prolonged, scale-like; perigynia membranous, 1.3-2.1 mm wide, 3.4-4.7 (-5.2) mm long, sharply ribbed on both faces, the beak very slender, reddish tipped; achene 1 mm or less wide; scales ovate, reddish brown with broad hyaline margins, distinctly narrower than perigynium body; plants of wet meadows and pastures

C. ovalis Gooden.

10b. Scales mostly shorter and narrower than perigynia

12a. Perigynia thin and scale-like, barely distended over achene, wing thin and continuous to base, ribbed on both surfaces, 1.2-2.6 mm broad, 4-7 mm long

C. scoparia Schkuhr ex Willd.

12b. Perigynia conspicuously distended over achene

13a. Perigynia ribless or obscurely ribbed at base on inner/upper face, 1-2 mm broad, 2-4 mm long, 1.2-1.8 mm from beak tip to summit of achene; female scales brown, slightly exceeding the body of the perigynia; leaf blades 1.5-4.5 mm wide; perigynia beaks often standing out from body of the spikelet; achene about 0.6-0.8 mm wide

Carex bebbii (Olney ex L.H. Bailey) Olney ex Fernald

13b. Perigynia distinctly ribbed on upper/inner face, 1.7-2.0 mm wide, 3.5-5.0 mm long; scales reddish brown to deep brown nearly equalling beak of perigynia; leaves to 4 mm broad; sheaths often puckered or cross-corrugated with hyaline inner band u-shaped to scarcely prolonged at summit; sterile stems rare or wanting; spikelets crowded; perigynia beaks appressed; achene about 1 mm wide

Carex tincta (Fernald) Fernald

CAREX sect. *PALUDOSAE*

1a. Perigynia glabrous; leaves broad, M-shaped, 8.5–21 mm wide; ligules 13-40 mm long, much longer than wide

Carex lacustris Willd.

1b. Perigynia pubescent; leaves involute to triangular-channeled, 0.7–2 mm wide; ligules 1-2.5 mm long

Carex lasiocarpa Ehrh. ssp. *americana* (Fernald) D. Löve & J.-P. Bernard

CAREX sect. *PANICEAE*

This section is represented by one species in PEI:

Carex livida (Wahlenb.) Willd.

CAREX sect. *PHACOCYSTIS*

Carex lenticularis Michx. was reported for PEI in Standley et al. (2003) but is considered unconfirmed until specimen details are found. There is little typical habitat for the species in PEI (rocky or gravelly freshwater shores). Catling and Day (1991) revised all but one of Erskine's *C. salina* (under which Erskine included *C. recta*, here separated) specimens to another species (presumably *C. paleacea* or hybrids). The remaining specimen, from McWilliams Cove, was placed in *C. recta*.

1a. At least the lower pistillate scales with the apex prolonged into a conspicuous, usually scabrous, awn

2a. Lowest pistillate spike usually drooping on a peduncle (5–) 14–68 mm long; pistillate scales including awns (2.9–) 3.1–20 mm long, pale brown to copper-brown

3a. Plants long-rhizomatous; lowermost spike 8–20 mm thick; plants of salt- and brackish marshes

Carex paleacea Schreb. ex Wahlenb.

3b. Plants caespitose, with short rhizomes; lowermost spike 5–10 mm thick; plants of freshwater wetlands

4a. Membranous ventral surface of leaf sheaths rough hairy; bodies of most or all pistillate scales on lower part of spikelet truncate or tapered at summit

Carex gynandra Schwein.

4b. Membranous ventral surface of leaf sheaths smooth; bodies of most or all pistillate scales on lower part of spikelet shallowly lobed at each side of awn

Carex crinita Lam.

2b. Lowest carpellate spike ascending to arching on a peduncle 6–20 mm long; pistillate scales including awns 2.5–9 mm long, brown to red-brown or purple-brown

5a. Perigynia short-papillose, veinless or obscurely veined; carpellate scales bronze to brown, with a central pale band 33–50% as wide as the entire scale; achenes lustrous, with a fold across one face; perigynium beak without scabrules

Carex recta Boott

5b. Perigynia long-papillose, with 2–5 veins on each face; pistillate scales dark brown to purple-brown, with a paler central band 10–33% as wide as the entire scale; achenes dull, with or without folds or constrictions; perigynium beak sometimes with scabrules about the orifice

Carex vacillans Drejer

1b. Pistillate scales unawned at the apex, at most with a minute, smooth cusp

6a. Lowest pistillate bract extending beyond inflorescence

Carex aquatilis Wahlenb.

6b. Lowest pistillate bract as long as or shorter than inflorescence

7a. Proximal leaf sheaths not ladder-fibrillose; stems not densely tufted; pistillate scales black, with narrow green midrib

Carex nigra (L.) Reichard

7b. Proximal leaf sheaths ladder-fibrillose; plants caespitose; pistillate scales various

8a. Perigynia inflated, suborbicular to obovoid, broadly rounded at apices; pistillate scales acute to acuminate at the apex, at least lowermost surpassing the perigynia

Carex haydenii Dewey

8b. Perigynia flattened, ovate, tapering to poorly defined beak; pistillate scales acute at apex, shorter than to as long as perigynia

Carex stricta Lam.

CAREX sect. *PHAESTOGLOCHIN*

This section is represented by one species in PEI:

Carex radiata (Wahlenb.) Small

CAREX sect. *PHYSOGLOCHIN*

This section is represented by one species in PEI:

Carex gynocrates Wormsk. ex Drejer

CAREX sect. *POROCYSTIS*

This section is represented by one species in PEI:

Carex pallescens L.

CAREX sect. *RACEMOSAE*

Carex norvegica and *C. media* have been listed for PEI on the basis of a report in the North American Flora files at the New York Botanical Garden. This is almost certainly the saltmarsh *C. mackenziei*, which was also formerly called *C. norvegica*. This section is represented by one species in PEI:

Carex buxbaumii (Wahlenb.) Willd.

CAREX sect. *ROSTRALES*

This section is represented by one species in PEI:

Carex folliculata L.

CAREX sect. *STELLULATAE*

The only PEI specimen of *Carex atlantica* ssp*. capillacea* was revised to *C. wiegandii* by Catling et al. (1985).

1a. Widest leaves 2.8-5.0 mm wide

Carex wiegandii Mack.

1b. Widest leaves 0.8-2.7 mm wide

2a. Lower perigynia in the spikes 2–3 mm wide

Carex atlantica L.H. Bailey

2b. Lower perigynia 0.9–1.9 mm wide

3a. Lower perigynia mostly 2.9–3.6 mm long, roughly 1.8–3.6 times as long as wide; beaks 0.9–2 mm long, mostly 0.5–0.8 times as long as the body

Carex echinata Murray

3b. Lower perigynia mostly 1.9–3 mm long, roughly 1–2 times as long as wide; beaks 0.4–0.9 mm long, mostly 0.2–0.5 times as long as body

4a. Perigynia mostly veinless over achene on adaxial surface; perigynium beak conspicuously setulose-serrulate; perigynia often +/- convexly tapered from widest point to beak, forming a "shoulder"

Carex interior L.H. Bailey

4b. Perigynia 1–10-veined over achene on adaxial surface; perigynium beak more sparsely serrulate with definite spaces between the often single teeth; perigynia mostly +/- cuneate or even concavely tapered from widest point to beak

Carex atlantica L.H. Bailey

CAREX sect. VESICARIAE

1a. Awns of pistillate scales prominent and scabrous

2a. Perigynia inflated, thin, papery, ascending-spreading, +/- round in cross-section

3a. Perigynia 8-10 ribbed, conspicuously inflated, ovoid, shiny; leaves lax, to 7 mm broad, stem blunt-angled, smooth or slightly scabrous above

Carex lurida Wahlenb.

3b. Perigynia 15-20 ribbed, inconspicuously inflated, lanceolate; leaves firm, to 1.5 cm broad; stem sharply angled, +/- strongly scabrous above

Carex hystericina Muhl. ex Willd.

2b. Perigynia not inflated, hard-walled, at least the lowest reflexed, flattened-triangular in cross-section

4a. Perigynia 4.0-5.5 mm long with teeth straight or slightly divergent; teeth 0.5-1.0 mm long

Carex pseudocyperus L.

4b. Perigynia 5.5-7.0 mm long with teeth curved-divergent; teeth 1.2-2.2 mm long

Carex comosa Boott

1b. Awns of pistillate scales absent

5a. At least the lowest perigynia reflexed at maturity, 7-12 mm long

Carex retrorsa Shwein.

5b. Perigynia ascending or spreading, 4.5-7.5 mm long

6a. Stems slender, sharp and usually scabrous-angled below lowest female bract and between spikelets; leaves 3-5 mm broad, weakly or not septate and nodulose; stems clumped

Carex vesicaria L.

6b. Stems thick and spongy at base, blunt-angled, +/- smooth below the lowest female bract; leaves 1.5-10.5 mm broad, +/- strongly septate and nodulose; plants rhizomatous

7a. Leaves strongly papillose on upper surface, U-shaped in cross-section, glaucous, widest leaves 1.5-4.5 (-7.5) mm wide

Carex rostrata Stokes

7b. Leaves smooth on upper surface, flat or M-shaped in cross-section, not glaucous, widest leaves (4.5-) 5-12 (-15) mm wide

Carex utriculata Boott

CAREX sect. VULPINAE

This section is represented by one species in PEI:

Carex stipata Muhl. ex Willd.

Cladium P.Browne

This genus is represented by one species in PEI:

Cladium mariscoides (Muhl.) Torr.

Dulichium Pers.

This genus is represented by one species in PEI:

Dulichium arundinaceum (L.) Britton

Eleocharis R.Br.

1a. Plants rhizomatous, colonial or mat-forming; mostly perennials

2a. Achenes white or pearly, with prominent longitudinal ridges, to 1.5 mm long; often forming low, sterile mats on mud above water level

E. acicularis (L.) Roem. & Schult.

2b. Achenes not as above

3a. Small plants, usually less than 10 cm tall; achenes 3-sided

4a. Annual plants usually of salt-influenced habitat; tubercle conical, not highly differentiated from achene

E. parvula (Roem. & Schult.) Link ex Bluff, Nees & Schauer

4b. Perennial plants of freshwater wetlands; tubercles distinct from achene body and separated by a narrow constriction

E. nitida Fernald

3b. Plants usually much larger than 10 cm; achenes 2- or 3-sided

5a. Lowermost floral scale fertile, subtending a flower; achenes yellowish to brownish, to 2.5 mm long

E. quinqueflora (Hartmann) O. Schwarz

5b. Lowermost scales sterile, without flowers; achenes various

6a. Robust plants with stems to 4 mm wide; usually with 2 or 3 sterile scales, not encircling base of spikelet

E. palustris (L.) Roem. & Schult.

6b. Slender plants with culms usually less than 0.8 mm; sterile scales solitary, nearly encircling spikelet

7a. Plants of salt-influenced habitats; achenes 2-sided

E. uniglumis (Link) Schult.

7b. Plants of freshwater habitats; achenes 3-sided

8a. Culms 6-8 angled at the summit, 0.3-0.5 mm thick; achene with +/- apparent cross ridges

E. elliptica Kunth

8b. Culms 4-5 angled at the summit, 0.2-0.3 mm thick; achene surface with honeycomb reticulations

E. tenuis (Willd.) Schult.

1b. Plants distinctly caespitose, at most with short rhizomes and not mat-forming; annuals

9a. Achenes 3-sided, tubercle much longer than broad and not over 1/4 the width of the achene

E. intermedia Schult.

9b. Achenes 2-sided; tubercle about as wide or wider than long and over 1/3 the width of the achene

10a. Tubercle nearly as broad as achene; scales brown to reddish brown; spikelets oval, the apex somewhat rounded

E. obtusa (Willd.) Schult.

10b. Tubercle less than 2/3 the width of the achene; scales purplish brown; spikelets ovate, the apex more pointed

E. ovata (Roth) Roem. & Schult.

Eriophorum L.

1a. Spikelet single, without leafy involucral bracts

2a. Culms usually solitary; lowermost scales of spikelet 5-veined, reddish-brown at base, grey-brown above

E. russeolum Fr.

2b. Culms usually clumped; lowermost scales 1-veined, dark grey in the centre and hyaline on the margins

E. vaginatum L.

1b. Spikelets usually not solitary, with 1 or more leafy involucral bracts

3a. Involucral bract solitary, shorter than the inflorescence

4a. Scales black to lead-coloured; uppermost stem leaf shorter than its sheath

E. gracile W.D.J. Koch ex Roth

4b. Scales green- or reddish-brown; uppermost stem leaf longer than its sheath

E. tenellum Nutt.

3b. Involucral bracts multiple, at least some longer than inflorescence

5a. Inflorescence congested, spikelets not drooping; scales thick, red to brown and with an inconspicuous midnerve

E. virginicum L.

5b. Inflorescence usually at maturity with nodding spikelets; scales thin, lead-coloured with a conspicuous midnerve

6a. Midnerve of scales not extending to the apex; summit of leaf sheath darkened

E. angustifolium Honck.

6b. Scales with midnerve prominent to tip; summit of leaf sheath not conspicuously darkened

E. viridicarinatum (Engelm.) Fernald

Rhynchospora Vahl

This genus is represented by one species in PEI:

Rhynchospora alba (L.) Vahl

Schoenoplectus (Rchb.) Palla

1a. Spikelets solitary; annual

S. subterminalis (Torr.) Soják

1b. Spikelets usually many; large perennials

2a. Stems three-angled; spikelets congested, sessile

S. pungens (Vahl) Palla

2b. Stems terete; spikelets usually clearly pedicelled, sometimes somewhat congested

3a. Fresh stems dark green and firm; scales dull, pale to white brown, puberulent, with a weak mid-nerve and shiny red specks; mature spikelets ovate, to 20 mm long

S. acutus (Muhl. ex Bigelow) Á. Löve & D. Löve

3b. Fresh stems pale blue-green and easily compressed; scales somewhat shiny orange-brown, mostly hairless except along midrib and margins, with a prominent green mid-nerve and minimal red specks; mature spikelets ovoid-cylindric, to 20 mm long

S. tabernaemontani (C.C. Gmel.) Palla

Scirpus L.

1a. Floral bristles retrorsely barbed, straight and short, scarcely exceeding achene if at all; spikelets grouped into dense heads of usually 5+ spikelets

2a. Basal leaf sheaths strongly tinged red, plants with long rhizomes

S. microcarpus J. Presl & C. Presl

2b. Basal leaf sheaths green, plants in small clumps or solitary, without long rhizomes

3a. Bristles absent or 1-3 and rudimentary, much shorter than achene, barbed only at tip

S. georgianus R.M. Harper

3b. Bristles 4-6, slightly shorter or longer than achene, barbed most of their length

4a. Lower leaf sheaths strongly septate-nodulose; at least some bristles slightly exceeding achene

S. atrovirens Willd.

4b. Lower leaf sheaths weakly septate-nodulose; all bristles shorter than achene

S. hattorianus Makino

1b. Floral bristles smooth, contorted, much exceeding achenes at maturity, often giving a woolly appearance to the spikelets; spikelets in groups of 2-5 or solitary

5a. Scales orange-brown with strong green mid-nerve extending into a short awn; bristles hardly exserted, inconspiciuous

S. pendulus Muhl.

5b. Mid-nerve of scale not producing an awn; bristles clearly exserted at maturity, lending woolly appearance

6a. All or nearly all spikelets in clusters of 3-7

S. cyperinus (L.) Kunth

6b. Most spikelets pedicelled, i.e. inflorescence mostly without clusters of spikelets

7a. Plants of similar stature and habitat as *S. cyperinus*; scales and involucral bract base dark black-green

S. atrocinctus Fernald

7b. Robust plants of rivers and meadows of large wetlands; involucral bract and scales brownish

S. pedicellatus Fernald

Trichophorum Pers.

1a. Bristles about twice as long as achenes; stems smooth; plants cespitose, forming densely tufted clumps

T. cespitosum (L.) Hartm.

1b. Bristles several times longer than the achenes; stems scabrous above; plants with creeping rhizomes

T. alpinum (L.) Pers.

CYSTOPTERIDACEAE

1a. Fronds ternately compound; growing in a variety of habitats

Gymnocarpium dryopteris (L.) Newman

1b. Fronds pinnately divided; growing on rock

Cystopteris

Cystopteris Bernh.

Cystopteris fragilis has yet to be confirmed for PEI

1a. Pinnules of basal pinnae with a short stalk, usually cuneate-tapering to base; pinnule margins with rounded or crenate teeth

Cystopteris tenuis (Michx.) Desv.

1b. Pinnules of basal pinnae +/- sessile, broadly tapering to rounded at the base; pinnule margins with sharp serrate teeth

[*Cystopteris fragilis* (L.) Bernh.]

Gymnocarpium Newman

This genus is represented by one species in PEI:

Gymnocarpium dryopteris

DENNSTAEDTIACEAE

This family contains two species in two genera on Prince Edward Island:

1a. Fronds at least bipinnate-pinnatifid

Dennstaedtia punctilobula

1b. Fronds ternately compound

Pteridium aquilinum

Dennstaedtia Bernh.

This genus is represented by one species in PEI:

Dennstaedtia punctilobula (Michx.) T.Moore

Pteridium Gled. ex Scop.

This genus is represented by one species in PEI:

Pteridium aquilinum (L.) Kuhn var. *latiusculum* (Desv.) Underw. ex A.Heller

DROSERACEAE

Drosera L.

1a. Leaf blade rounded, slightly broader than long

D. rotundifolia L.

1b. Leaf blade spatulate, much longer than wide

D. intermedia Hayne

DRYOPTERIDACEAE

1a. Pinnae stocking-shaped, with a pronounced basal lobe; indusia peltate (shield-shaped), attached centrally

Polystichum

1b. Pinnae not as above; indusia kidney-shaped, attached in the sinus

Dryopteris

Dryopteris Adans.

Hybrids in this genus are frequent and can be identified by intermediate morphology and aborted spores. Three hybrids are confirmed for Prince Edward Island: *D.* ×*triploidea* Wherry (= *D. carthusiana* × *D. intermedia*), *D.* ×*uliginosa* (Kunze) C. Chr. (= *D. carthusiana* × *D. cristata*), and *D.* ×*boottii* Underw. (= *D. cristata* × *D. intermedia*).

1a. Fronds less divided, mostly pinnate-pinnatifid in middle

2a. Basal pinnae relatively long, with parallel sides; rachis distinctly short, less than 1/4 length of frond

D. filix-mas (L.) Schott ssp. *brittonii* Fraser-Jenk. & Widen.

2b. Basal pinnae relatively short, triangular tapering from base; rachis longer, usually at least 1/4 length of frond

D. cristata (L.) A.Gray

1b. Fronds more divided, at least bipinnate-pinnatifid

3a. Rachis and indusia glandular; basiscopic pinnules of basal pinnae shorter than adjacent pinnules

D. intermedia (Muhl. ex Willd.) A.Gray

3b. Rachis and indusia glabrous; basiscopic pinnules of basal pinnae longer than adjacent pinnules

4a. Basiscopic pinnules of basal pinnae 3-5 times longer than opposing acroscopic pinnule, originating near-opposite the second acroscopic pinnule

D. campyloptera (Kunze) Clarkson

4b. Basiscopic pinnules of basal pinnae 2-3 times longer than opposing acroscopic pinnule, originating near-opposite the first acroscopic pinnule

D. carthusiana (Vill.) H.P.Fuchs

Polystichum Roth

Hybrids between our two species (= *P.* ×*potteri* Barrington) are reported from New Brunswick and Nova Scotia, but not Prince Edward Island.

1a. Fronds once pinnate; fertile pinnae modified, strongly contracted

P. acrostichoides (Michx.) Schott

1b. Fronds bipinnate; fertile pinnae not modified

P. braunii (Spenn.) Fée

ELAEAGNACEAE

Elaeagnus L.

This genus is represented by one species in PEI:

Elaeagnus umbellata Thunb.

ELATINACEAE

Elatine L

This genus is represented by one species in PEI:

E. minima (Nutt.) Fisch. & C.A.Mey.

EQUISETACEAE

This family contains one extant genus.

Equisetum L.

The hybrid *E.* ×*litorale* Kühlew. ex Rupr. (= *E. arvense* × *E. fluviatile*) has been reported, but no substantiating specimens have been seen. Hybrid plants resemble large green *E. arvense* shoots, but with terminal cones and a central cavity about ½ - ¾ the width of the stem (Voss & Reznicek 2012). Reports of *E. hyemale*, *E. palustre*, and *E. pratense* are also unconfirmed; however their presence is possible, and the species are included in the key below.

1a. Stem easily flattened, with thin walls (very large central cavity)

E. fluviatile

1b. Stem with stiffer walls, less easily flattened (cavity smaller); or stems whitish to brown

2a. Stems green, unbranched

3a. Large, stout, upright plants; sheath with two dark rings

[*E. hyemale*]

3b. Relatively small, narrow-stemmed plants; sheath not as above

4a. Stems small, contorted, without central cavity

E. scirpoides

4b. Stems straight, with central cavity

E. variegatum

2b. Stems green and branched, or whitish to brown and without branches

5a. Branches regularly whorled, with even secondary branching

E. sylvaticum

5b. Stems branched or not, if branched then branches simple or with irregular secondary branching

6a. Stems dimorphic (white to brown stems in early spring and green stems in summer); branch sheaths with 3 teeth only

7a. Sheath teeth dark, often sticking together in pairs; first branch internode longer than adjacent main stem sheath

E. arvense

7b. Sheath teeth with broad hyaline margin; first branch internode shorter than or as long as adjacent main stem sheath

[*E. pratense*]

6b. Stems monomorphic; branch sheaths with more than 3 teeth

[*E. palustre*]

ERICACEAE

1a. Leaves reduced to scales without green colouration; plants parasitic, entirely white, pink, yellowish, or orange

2a. Flower solitary; plant white or pinkish, +/- glabrous

Monotropa uniflora L.

2b. Flowers several in a bracted raceme; plant yellowish, orange, or red, usually pubescent

3a. Petals partly united; plants +/- densely glandular-pubescent; inflorescence always erect

Pterospora andromedea Nutt.

3b. Petals free; plants usually with pubescence, eglandular; inflorescence nodding when young

Hypopitys monotropa Crantz

1b. Leaves typical and green

4a. Leaves short and needle-like, to 7 mm long

5a. Flowers several in terminal heads; fruit dry

Corema conradii (Torr.) Torr.

5b. Flowers solitary in leaf axils; fruit fleshy

Empetrum L.

4b. Leaves expanded and / or much longer than 7 mm

6a. Leaves in a basal rosette; plants herbaceous

7a. Flowers solitary; petals widely spreading

Moneses uniflora (L.) A.Gray

7b. Flowers racemose; petals slightly incurved

8a. Raceme one-sided; petals greenish-yellow; style long-exserted, straight

Orthilia secunda (L.) House

8b. Raceme in a spiral; petals white to green to pink; style short-straight to long-recurved

Pyrola L.

6b. Leaves opposite, alternate, or whorled; plants woody (including some subshrubs woody only at base or creeping woody plants)

9a. Leaves opposite or whorled

10a. Leaves coarsely few-toothed; plants subshrubs woody only at base; rhizomatous

Chimaphila umbellata (L.) W.P.C.Barton

10b. Leaves entire; true woody plants; clump forming shrubs

Kalmia L.

9b. Leaves all alternate

11a. Plants with erect stems usually over 1 dm high

12a. Ovary superior; fruit capsular

13a. Leaves rusty or white-tomentose beneath, margins inrolled; petals white, separate

Rhododendron groenlandicum (Oeder) Kron & Judd

13b. Leaves not as above; petals +/- united

14a. Leaves brown-scaly beneath, minutely denticulate; flowers white in elongate one-sided racemes

Chamaedaphne calyculata (L.) Moench

14b. Leaves not as above; flowers white or pinkish

15a. Flowers emerging before the leaves; corolla lobed nearly to base; leaves minutely white-pubescent and also with scattered rust-coloured hairs beneath, margins ciliate

Rhododendron canadense (L.) Torr.

15b. Flowers emerging after the leaves develop; corolla more shallowly lobed; leaves otherwise

Andromeda polifolia L.

12b. Ovary inferior; fruit fleshy

16a. Leaves resinous-dotted beneath; berries with 10 hard seeds

Gaylussacia Kunth

16b. Leaves not resinous-dotted; berries with numerous small seeds

Vaccinium L.

11b. Plants with low, weak +/- horizontal stems, usually less than 1 dm high

17a. Leaves rounded to cordate at base, evergreen; flowers pink or white, very fragrant; fruit inconspicuously fleshy

Epigaea repens L.

17b. Leaves tapering at base; fruit conspicuously fleshy

18a. Leaves and fruit wintergreen flavoured; ovary wholly or partly superior; calyx fleshy

Gaultheria L.

18b. Leaves and fruit not wintergreen flavoured; ovary inferior; calyx not fleshy

19a. Stem +/- prostrate, long trailing; leaves oblanceolate; corolla constricted above

Arctostaphylos uva-ursi (L.) Spreng.

19b. Stem +/- erect; leaves lanceolate; corolla not constricted above

Vaccinium L.

Andromeda L.

This genus is represented by one species in PEI:

Andromeda polifolia L.

Arctostaphylos Adans.

This genus is represented by one species in PEI:

Arctostaphylos uva-ursi (L.) Spreng.

Chamaedaphne Moench

This genus is represented by one species in PEI:

Chamaedaphne calyculata (L.) Moench

Chimaphila Pursh

This genus is represented by one species in PEI:

Chimaphila umbellata (L.) W.P.C.Barton

Corema D.Don

This genus is represented by one species in PEI:

Corema conradii (Torr.) Torr.

Empetrum L.

Erskine (1960) reported E. nigrum with no subspecies specified. Kartesz (1999) cites unspecified personal communication for the occurrence of ssp. nigrum on PEI and considers ssp. hermaphroditicum (Hagerup) Böcher questionably present based on Hulten & Fries (1986).

1a. Branches distally glabrous or sparsely tomentose, eglandular or glandular; fruit black

E. nigrum L. ssp. *nigrum*

1b. Branches distally white-tomentose, eglandular; fruit pink to purple

2a. Fruit translucent, pink to red; flowers unisexual; plants dioecious

E. eamesii Fernald & Wiegand

2b. Fruit opaque, purple or reddish purple; flowers usually bisexual; plants synoecious; when flowers unisexual, plants polygamous

E. atropurpureum Fernald & Wiegand

Epigaea L.

This genus is represented by one species in PEI:

Epigaea repens L.

Gaultheria L.

1a. Plants trailing; leaves less than 10 mm long; flowers 4-merous; fruit white

G. hispidula (L.) Muhl. ex Bigelow

1b. Plants erect; leaves 25-35 mm long; flowers 5-merous; fruit red

G. procumbens L.

Gaylussacia Kunth

1a. Plants +/- glabrous, except for sessile, shiny resin glands beneath; leaves elliptic, abruptly sharp-pointed, pale and dull above

G. baccata (Wangenh.) K. Koch

1b. Plants variously pubescent and stipitate-glandular; leaves oval, rounded and conspicuously apiculate at apex, glossy above

G. bigeloviana (Fernald) Sorrie & Weakley

Hypopitys L.

This genus is represented by one species in PEI:

Hypopitys monotropa Crantz

Kalmia L.

1a. Leaves flat, glabrous beneath; flowers at base of new growth

K. angustifolia L.

1b. Leaves inrolled and white-pubescent beneath; flowers at summit of new growth

K. polifolia L.

Moneses Salisb. ex Gray

This genus is represented by one species in PEI:

Moneses uniflora (L.) A.Gray

Monotropa L.

This genus is represented by one species in PEI:

Monotropa uniflora L.

Orthilia Raf.

This genus is represented by one species in PEI:

Orthilia secunda (L.) House

Pterospora Nutt.

This genus is represented by one species in PEI:

Pterospora andromedea Nutt.

Pyrola L.

1a. Style straight and short, 0.5-1.3 mm long; stigma broadly peltate, 5-lobed, without a subterminal collar

P. minor L.

1b. Style curved at tip, 4-7 mm long; stigma with subterminal collar

2a. Leaf blades dull; bracts below the inflorescence 0-3, narrowly lanceolate, not clasping stem; sepals about as long as wide

3a. Leaf blade oblong to elliptic, usually longer than petiole; corolla white or creamy

P. elliptica Nutt.

3b. Leaf blade nearly orbicular, usually shorter than the petiole; corolla greenish white

P. chlorantha Sw.

2b. Leaf blades shiny; bracts below the inflorescence 1-5, ovate-lanceolate, +/- clasping stem; sepals longer than wide

4a. Flowers whitish; leaves usually cuneate (to rounded) at base; anthers yellowish; bracts of inflorescence 3-ribbed near acute tip

P. americana Sweet

4b. Flowers pink or crimson; leaves cordate to rounded at base; anthers purplish red; bracts of inflorescence single-ribbed near acuminate tip

P. asarifolia Michx. ssp. *asarifolia*

Rhododendron L.

1a. Leaves rusty or white-tomentose beneath, margins inrolled; petals white, separate

Rhododendron groenlandicum (Oeder) Kron & Judd

1b. Leaves minutely white-pubescent and also with scattered rust-coloured hairs beneath, margins ciliate; petals pink, united at base

Rhododendron canadense (L.) Torr.

Vaccinium L.

1a. Corolla deeply 4-lobed, the lobes recurved; pedicels 1-4 cm long (cranberries)

2a. Pedicel bracts foliaceous, 2-4 mm long; fruit 10-20 mm thick, red; leaves blunt

V. macrocarpon Aiton

2b. Pedicel bracts scale-like, reddish, to about 1.5 mm long; fruit 6-10 mm thick, brownish red, dotted; leaves acute

V. oxycoccos L.

1b. Corolla shallowly 5-lobed or toothed; pedicels usually than 1 cm long

3a. Corolla campanulate, not constricted above; leaves leathery, evergreen; fruit red

V. vitis-idaea L.

3b. Corolla +/- constricted at or near summit; leaves deciduous; fruit blue or black

4a. Leaves toothed; flowers 5-merous

V. angustifolium Aiton

4b. Leaves entire; flowers 4- or 5-merous

5a. Leaves downy; flowers 5-merous

V. myrtilloides Aiton

5b. Leaves glabrous, leathery with conspicuous veins; flowers 4-merous

V. uliginosum L.

ERIOCAULACEAE

Eriocaulon L.

This genus is represented by one species in PEI:

Eriocaulon aquaticum (Hill) Druce

EUPHORBIACEAE

Euphorbia L.

1a. Plants erect; leaves more than 2 cm long, not oblique at base

2a. Primary branches of umbel 3; leaves ovate to obovate; seeds pitted on outside face, furrowed on inside

E. peplus L.

2b. Primary branches of umbel 4+; leaves ovate or linear; seeds smooth or reticulate

3a. Primary branches of umbel 5; leaves serrulate; capsules smooth; seeds conspicuously reticulate

E. helioscopia L.

3b. Primary branches of umbel usually >5; leaves entire; seeds smooth

4a. Main stem leaf blades all <3 mm broad; floral bracts 3-6 (-7) mm wide

E. cyparissias L.

4b. Main stem leaf blades >3 mm broad; larger floral bracts 8-16+ mm wide

E. virgata Desf.

1b. Plants prostrate or +/- ascending; leaves usually less than 1.5 cm long, oblique at base

4a. Leaves entire; involucral glands without petal-like appendages; seeds smooth

E. polygonifolia L.

4b. Leaves denticulate; involucral glands with white, petal-like appendages; seeds transversely ridged

5a. Capsules strigose; stems villous

E. maculata L.

5b. Capsules glabrous; stems glabrous

E. glyptosperma Engelm.

FABACEAE

1a. Leaves pinnately compound with more than 3 leaflets

2a. Plants woody

3a. Leaves without a terminal leaflet, sometimes twice-pinnate

Gleditsia triacanthos L.

3b. Leaves with a terminal leaflet, once pinnate

Robinia L.

2b. Plants herbaceous

4a. Leaves with an even number of leaflets, the terminal one at most represented by a bristle or tendril

5a. Stipules at least 10 mm broad and principal leaflets at least 1.2 cm wide

Lathyrus japonicus Willd.

5b. Stipules less than 7 mm broad; principal leaflets mostly less than 1 cm broad

6a. Main leaves usually with 4-6 leaflets, with 6 or fewer pairs of lateral veins; stem often narrowly winged

Lathyrus palustris L.

6b. Leaves with 10 or more leaflets; if not then leaflets with 10 or more pairs of lateral veins; stems wingless

Vicia L.

4b. Leaves odd-pinnate, the terminal leaflet developed

7a. Inflorescence a simple spike or raceme

8a. Plant a vine, stem twining; flowers maroon

Apios americana Medik.

8b. Stem erect or ascending, not twining; flowers white to cream

Astragalus cicer L.

7b. Inflorescence an umbel or involucrate head

9a. Flowers yellow; leaflets 5 (the lower pair resembling stipules)

Lotus corniculatus L.

9b. Flowers white and pink; leaflets numerous; fruit breaking transversely into 1-seeded indehiscent segments

Securigera varia (L.) Lassen

1b. Leaves palmately compound or with 3 or fewer leaflets

10a. Plants woody

Cytisus scoparius (L.) Link

10b. Plants herbaceous

11a. Leaves with 11 or more leaflets

Lupinus polyphyllus Lindl.

11b. Leaves with 2-3 leaflets

12a. Leaflets at least minutely toothed at the apex

13a. Stipules entire, 1-nerved, 8+ times as long as wide; inflorescence (1-) 4-20 cm tall during anthesis, usually 4-15 times as tall as wide

Melilotus Mill.

13b. Stipules entire or toothed, 2- or 3-nerved, the distinct portion commonly less than 8 times as long as wide; inflorescence 0.3-10 cm tall, rarely exceeding 3 times as tall as wide

14a. Stipules entire; fruit ovate-oblong, straight, enclosed in the persistent corolla

Trifolium L.

14b. Stipules usually somewhat toothed, at least toward base; fruit reniform or elongate, +/- curved, the corolla deciduous

Medicago L.

12b. Leaflets entire

15a. Terminal leaflet modified into a tendril

Lathyrus L.

15b. Terminal leaflet developed, similar to lateral leaflets

Thermopsis mollis (Michx.) M.A.Curtis

Apios Fabr.

This genus is represented by one species in PEI:

Apios americana Medik.

Astragalus L.

This genus is represented by one species in PEI:

Astragalus cicer L.

Cytisus Desf.

This genus is represented by one species in PEI:

Cytisus scoparius (L.) Link

Gleditsia L.

This genus is represented by one species in PEI:

Gleditsia triacanthos L.

Lathyrus L.

1a. Leaves with 4-16 leaflets

2a. Stipules +/- symmetrical, with 2 basal lobes; principal leaflets at least 1.2 cm wide

Lathyrus japonicus Willd.

2b. Stipules asymmetrical, with 1 basal lobe; principal leaflets mostly less than 1 cm broad

Lathyrus palustris L.

1b. Leaves with 2 leaflets

3a. Stems without prominent wings; corollas 10-15 mm long

Lathyrus pratensis L.

3b. Stems conspicuously winged; corollas 14-25 mm long

4a. Stipules 3-10 mm wide, lanceolate to ovate; leaflets ovate to lanceolate; corollas 18-25 mm long

Lathyrus latifolius L.

4b. Stipules 1-2 (-4) mm wide, narrow-lanceolate; leaflets oblong-lanceolate to narrow-lanceolate; corollas 13-20 mm long

Lathyrus sylvestris L.

Lotus L.

This genus is represented by one species in PEI:

Lotus corniculatus L.

Lupinus L.

This genus is represented by one species in PEI:

Lupinus polyphyllus Lindl.

Medicago L.

1a. Corolla 1.8-2.2 (-2.5) mm long, yellow; plant low and +/- prostrate or slightly ascending; fruit +/- reniform, 1-seeded, nearly black when mature

Medicago lupulina L.

1b. Corolla (7-) 8-10 (-11) mm long, blue-purple or (in rare subspecies) yellow, cream, or variegated; plant erect; fruit curved to spirally coiled, several-seeded, green when mature

Medicago sativa L.

Medicago sativa L.

Medicago sativa ssp. × *varia* (Martyn) Arcang. is the hybrid between the below subspecies, with unusual blue-green or variegated corollas and intermediate fruit shape.

1a. Corollas yellow, usually 5-8 mm long; legumes falcate-curved (rarely straight or partly coiled); stems prostrate to erect

Medicago sativa L. ssp. *falcata* (L.) Arcang.

1b. Corollas blue-purple to purple, usually 8-11 mm long; legumes coiled (1-) 2-3 times; stems erect to ascending

Medicago sativa ssp. *sativa*

Melilotus Mill.

1a. Flowers white

Melilotus albus Medik.

1b. Flowers yellow

Melilotus officinalis (L.) Lam.

Robinia L.

Robinia hispida L. is reported for PEI by MacSwain and Bain (1891), although Erskine (1960) did not see specimens and the report may be wrong.

1a. Branchlets smooth, becoming glabrous

Robinia pseudoacacia L.

1b. Branchlets viscid with conspicuous sessile or subsessile warty glands

Robinia viscosa Vent.

Securigera DC.

This genus is represented by one species in PEI:

Securigera varia (L.) Lassen

Thermopsis R.Br.

This genus is represented by one species in PEI:

Thermopsis mollis (Michx.) M.A.Curtis

Trifolium L.

1a. Flowers yellow, turning brown after anthesis

2a. Central leaflet sessile or on a petiolule of +/- similar length as the lateral leaflets; corollas 5-7 mm long; inflorescence 10-17 (-20) mm tall; stipules +/- as long as the petioles

Trifolium aureum Pollich

2b. Central leaflet borne on a petiolule conspicuously longer than those of the lateral leaflets; corollas 3.5-5 (-6) mm long; inflorescence 5-15 mm tall; stipules shorter than the petioles

3a. Petiolule of the central leaflet 1-3 mm long; inflorescence with usually 20-30 flowers; corollas (3.5-) 4-5 (-6) mm long; banner petal with 10 conspicuous veins

Trifolium campestre Schreb.

3b. Petiolule of the central leaflet up to 1 mm long; inflorescence with usually 5-15 flowers; corollas 3.5-4 mm long; banner petal inconspicuously veined

Trifolium dubium Sibth.

1b. Flowers white, pink, or purple

4a. Flowers pedicellate, the pedicels usually longer than 2 mm; petals white or white and pink

5a. Stems creeping along the ground, rooting at the nodes; petals usually concolored; stipules connate to the petiole in the basal portion, then with fused margins for a distance, forming a tube that surrounds the stem

Trifolium repens L.

5b. Stems ascending, not rooting at the nodes; petals bicolored; stipules connate to the petiole in the basal portion, then distinct, the tips completely separate and not forming a tube

Trifolium hybridum L.

4b. Flowers sessile or subsessile, the pedicels (when present) up to 0.5 mm long; petals white to pink to purple

6a. Corollas 3-4 mm long, definitely shorter than the calyx; leaflets narrow-oblanceolate to oblanceolate or narrow-oblong, 3-5.5 times as long as wide

Trifolium arvense L.

6b. Corollas (6-) 8-25 mm long, definitely longer than the calyx; inflorescences sessile or pedunculate

7a. Distinct portion of the stipule broad-triangular, shorter than the connate portion; leaflets ovate or obovate to elliptic, 1.2-2.5 times as long as wide, frequently with light mottles on the adaxial surface

Trifolium pratense L.

7b. Distinct portion of the stipule lanceolate, longer than the connate portion; leaflets elliptic to oblong, 2-3 times as long as wide, usually without light mottles

Trifolium medium L.

Vicia L.

1a. Inflorescences on peduncles longer than the leaflets, with usually more than 2 flowers

2a. Corollas (9-) 10-13 (-18) mm long, blue, white and blue, or rarely entirely white; flowers in racemes of 10-50; legume 15-40 mm long

Vicia cracca L.

2b. Corollas 2.5-7 (-8) mm long, white to light purple; flowers solitary or in racemes of 2-5 (-7); legume 6-13 mm long

3a. Legumes hirsute, with (1-) 2 (-3) seeds, obliquely tapering from the sutures and pointed at the tip; lobes of the calyx +/- equal length; leaves with (8-) 10-16 leaflets

Vicia hirsuta (L.) Gray

3b. Legumes glabrous, with usually 4 seeds, equally rounded from the sutures and blunt at the tip; lobes of the calyx distinctly unequal in length; leaves with 4-10 (-12) leaflets

Vicia tetrasperma (L.) Schreb.

1b. Inflorescences sessile or on peduncles shorter than the leaflets, 1-2-flowered

4a. Calyx actinomorphic or nearly so, the lower lobes scarcely longer than the upper lobes; peduncle and inflorescence axis undeveloped, the inflorescence with 1 or 2 (-3) flowers; legumes sessile; plants annual

Vicia sativa L.

4b. Calyx zygomorphic, the lower lobes distinctly longer than the upper lobes; inflorescence subsessile or shortly peduncled, the axis somewhat developed and up to 10 mm long, with 2-7 contiguous flowers; legumes on a stipe ca. 1.5 mm long; plants perennial from rhizomes

Vicia sepium L.

Vicia sativa L.

1a. Leaflets narrow-obovate to oblong, 4-10 mm wide, 2-5 (-7) times as long as wide; calyx 10-15 mm long; corolla pink-purple, 18-25 (-30) mm long; legume usually light brown to brown at maturity

Vicia sativa var. *sativa*

1b. Leaflets oblong-lanceolate to linear, 1.5-6 (-7) mm wide, 4-10 times as long as wide; calyx 7-11 (-12) mm long; corolla pink-purple to white, 10-18 mm long; legume black at maturity

Vicia sativa L. var. *angustifolia* (L.) Wahlenb.

FAGACEAE

1a. Mature fruit a 1-2 seeded, 3-sided nut enclosed in a soft, spiny husk; leaves sharply toothed

Fagus grandifolia Ehrh.

1b. Mature fruit (acorn), 1-seeded with a cuplike basal involucre formed of many coalesced scales; leaves lobed

Quercus L.

Fagus L.

This genus is represented by one species in PEI:

Fagus grandifolia Ehrh.

Quercus L.

1a. Leaf lobes with rounded apices

Q. robur L.

1b. Leaf lobes with pointed apices

Q. rubra L.

GERANIACEAE

1a. Leaves pinnately compound; fertile stamens 5

Erodium cicutarium (L.) L'Hér. ex Aiton ssp. *cicutarium*

1b. Leaves palmately dissected or compound; fertile stamens +/- 10

Geranium L.

Erodium L'Hér.

This genus is represented by one species in PEI:

Erodium cicutarium (L.) L'Hér. ex Aiton ssp. *cicutarium*

Geranium L.

1a. Leaves palmately compound into numerous leaflets, at least the terminal leaflet stalked, triangular-ovate in general outline

G. robertianum L.

1b. Leaves lobed, pentagonal or +/- orbicular in general outline

2a. Plants perennial from a stout rhizome; petals 18-20 mm long

G. pratense L.

2b. Plants biennial from a thickened taproot; petals 4-6 mm long

G. bicknellii Britton

GROSSULARIACEAE

Ribes L.

1a. Stems spiny

2a. Flowers solitary or in small clusters of 2-4; stems weakly spiny

R. hirtellum Michx.

2b. Flowers in +/- drooping racemes; stems usually densely spiny

R. lacustre (Pers.) Poir.

1b. Stems not spiny

3a. Ovary and fruit glandular-hispid

R. glandulosum Weber

3b. Ovary and fruit smooth

4a. Leaves resinous-dotted beneath; berry black

R. nigrum L.

4b. Leaves without resinous glands; berry red

5a. Middle leaf lobe deltoid; stems weakly ascending; calyx purple-tinged; anthers not widely separated

R. triste Pall.

5b. Middle leaf lobe ovate; stems +/- erect; calyx greenish yellow; anthers widely separated

R. rubrum L.

HALORAGACEAE

Myriophyllum L.

Ceska et al (2016), Hinds (2000).

1a. Stems mostly unbranched, short and scape-like from creeping bases; leaves minute bumps along stems

M. tenellum Bigelow

1b. Stems elongate; submerged leaves pinnately dissected

2a. Bracts of uppermost flowers comb-like to pinnatifid, as long as or longer than flowers and fruit; leaves with 9-12 pairs of divisions

M. verticillatum L.

2b. Bracts of uppermost flowers entire to serrulate or spiny-toothed

3a. Bracts far exceeding the flowers and fruit; leaves in pseudowhorls (with some additional alternate leaves); stamens 4

M. heterophyllum Michx.

3b. Bracts equaling or shorter than flowers and fruit (if longer, triangular and with a waxy bloom); leaves in regular whorls; stamens 8

4a. Bracts 1-1.5 mm, triangular, dentate, with a waxy bloom; young shoots with 1-several pairs of entire leaves at the base

M. quitense Kunth

4b. Bracts less than 1 mm in length, lanceolate; young shoots lacking entire leaves at the base

5a. Leaves with 4-14 pairs of divisions; winter buds present later in the season

M. sibiricum Kom.

5b. Leaves with 14-24 pairs of divisions; not producing winter buds

M. spicatum L.

HAMAMELIDACEAE

Hamamelis L.

This genus is represented by one species in PEI:

Hamamelis virginiana L.

HIPPURIDACEAE

Hippuris L.

This genus is represented by one species in PEI:

Hippuris vulgaris L.

HYDROCHARITACEAE

1a. Leaves very long and ribbon-like in a basal rosette

Vallisneria americana Michx.

1b. Leaves up to 6 (-12) cm long, opposite or whorled

2a. Leaves whorled

Elodea

2b. Leaves opposite

Najas flexilis (Willd.) Rostk. & W.L.E. Schmidt

Elodea Michx.

1a. Leaves narrowly lanceolate 0.8-1.5 mm wide (averaging +/- 1 mm), (4-) 5-10 (-13) times as long as wide; globose spathe body of male flower 2-3 mm long, sessile and released at maturity; female sepals 1.0-1.5 mm long

E. nuttallii (Planch.) H.St.John

1b. Leaves broadly lanceolate to oblong or ovate 1.5-4.0 (-5.0) mm wide (averaging +/- 2 mm), 2-5 times as long as wide; elongate spathe body of male flower 4.0-8.5 (-14.0) mm long at maturity and held by a delicate stalk; female sepals 2.0-4.5 mm long

E. canadensis Michx.

Najas L.

This genus is represented by one species in PEI:

Najas flexilis (Willd.) Rostk. & W.L.E.Schmidt

Vallisneria L.

This genus is represented by one species in PEI:

Vallisneria americana Michx.

HYPERICACEAE

Hypericum L.

Hypericum canadense occasionally hybridizes with *H. boreale* (= *H.* × *dissimulatum* E.P.Bicknell). The first PEI record for the hybrid was collected by Sean Blaney (# *Enmore38*), from Enmore, Prince Co. in 2008. It is intermediate between the parents in leaf and capsule shape, usually with undeveloped seeds.

1a. Petals pale purple or pinkish; stamens in fascicles of 3, alternating with large glands; leaves often purplish tinged, scarcely reduced in inflorescence

H. fraseri Steud.

1b. Petals yellow or orange-ish; stamens fascicled or not, interstaminal glands wanting; leaves not purplish tinged, usually much reduced in inflorescence

2a. Plants with clearly evident black spots on petals, sometimes on sepals and leaves

3a. Stem internodes 2-lined; sepals lanceolate or narrowly oblong to linear, apex acute to aristate; capsules with narrow linear glands and shorter, oblique glands

H. perforatum L. ssp. *perforatum*

3b. Stem internodes 4-lined (at least some); sepals broadly ovate to oblong, apex rounded-apiculate to erose-denticulate; capsules with narrow linear glands

H. maculatum Crantz ssp. *obtusiusculum* (Tourlet) Hayek

2b. Plants without black spots

4a. Leaves scale-like, less than 3 mm long, linear-subulate, +/- appressed to the stem

H. gentianoides (L.) BSP

4b. Leaves larger, linear to elliptic to lanceolate

5a. Leaves elliptic-oblong, with definite pinnate venation; styles united at base, forming a beak on capsule (separating when fruit opens); petals 6-8 mm long

H. ellipiticum Hook.

5b. Leaves linear, lanceolate, oblanceolate or elliptic oblong, with 1 vein only or 3-5 strong longitudinal veins originating from the base; styles free; petals under 6.5 mm long

6a. Leaves elliptic-oblong; sepals and outline of fruit oblong to elliptic, broadest near the middle; inflorescence branches +/- divergent

7a. Uppermost flowers subtended by leaf-like bracts; leaves green below

H. boreale (Britton) E.P.Bicknel

7b. Uppermost flowers subtended by scale-like bracts; leaves pale below

H. mutilum L.

6b. Leaves lanceolate or linear-oblanceolate; sepals and fruit lanceolate, broadest below the middle and tapering to an acute tip; inflorescence branches strongly ascending

8a. Leaves with 1 (-3) veins, linear to oblanceolate, tapering at the base; sepals linear lanceolate, 2.5-4 mm long

H. canadense L.

8b. Upper leaves with 5-7 veins, rounded from below middle to base, clasping ½ around stem, lanceolate, acute at tip; sepals lance attenuate, 4-7 mm long

H. majus (A.Gray) Britton

IRIDACEAE

1a. Leaves 10-20 mm wide; flowers greater than 6 cm wide; petals and tepals dissimilar

Iris

1b. Leaves less than 5 mm wide; flowers less than 1 cm wide; petals and tepals similar

Sisyrinchium

Iris L.

Erskine (1960) did not include *Iris foetidissima* L. but cited a Charlottetown Guardian article that reported its "tendency to become naturalized at Brackley Point". It would be quickly distinguished in fruit by its red seeds (brown in other species) and in flower by its conservatively-coloured petals and sepals with lilac to brown to gray hues (Walter et al. 1986).

1a. Small plants growing in exposed coastal habitat such as headlands, dune hollows and salt marshes

I. hookeri Penny ex. G. Don

1b. Larger plants of slightly brackish to freshwater marshes, meadows and other wetlands

2a. Flowers yellow; fruit stalks arched to pendent

I. pseudacorus L.

2b. Flowers blue; fruit stalks erect

I. versicolor L.

Sisyrinchium L.

Scoggan (1978) notes many authors treated *S. montanum* as part of *S. angustifolium* P. Mill. and listed its presence on PEI as questionable. *Sisyrinchium angustifolium* has yet to be confirmed for PEI.

1a. Inflorescences usually solitary and sessile

S. montanum Greene

1b. Inflorescences usually multiple (2-5) and peduncled

[*S. angustifolium* P. Mill.]

Sisyrinchium montanum Greene

1a. Plants mostly of moist coastal habitats; outermost spathe fused for at least 4 mm; plants drying dark brown-green

S. m. var. *crebrum* Fernald

1b. Plants mostly of moist inland, sometimes anthropogenic habitats; outermost spathe fused less than 4 mm; plants drying paler (green to olive)

S. m. var. *montanum*

ISOETACEAE

This family contains one extant genus.

Isoetes L.

The Quillworts are a cryptic and variable group of plants. Identification is only reliably determined through examination of the megaspores (the larger spores which will produce the female gametophyte). Microspores are also produced, which resemble a white to gray to brown powdery mass. *Isoetes echinospora* Durieu is the most common Quillwort species in both New Brunswick and Nova Scotia. Reports for Prince Edward Island are unconfirmed but possible. Erskine (1960) initially included the more southern species *Isoetes riparia* Engelm. ex A. Braun, however supporting specimens were revised to *I. lacustris* L.

1a. Megaspores 600-800 µm, covered by low mounded to distinct ridges

I. lacustris

1b. Megaspores 400-550 µm, densely covered with sharp or blunt spines.

[*I. echinospora*]

JUGLANDACEAE

Juglans L.

This genus is represented by one species in PEI:

Juglans cinerea L.

JUNCACEAE

1a. Inflorescence cymose to capitate; capsule +/- with three locules and with many minute seeds; plants glabrous

Juncus

1b. Inflorescence umbellate; capsule unilocular with 3 large seeds; plants often pilose

Luzula

Juncus L.

Erskine's (1960) reports of *Juncus compressus* Jacq. were revised to *Juncus gerardi* (Catling et al. 1985), however the former species may yet occur as an introduction in PEI. A collection of *J.* ×*fulvescens* Fernald (= *J. articulatus* × *J. brevicaudatus*) is known from Tignish (*Fernald, Long & St. John* 7182). Putative hybrids combine characters of both parents, are sterile and often form extensive colonies of thousands of plants (Fernald 1933). *Juncus* ×*nodosiformis* (= *J. alpinoarticulatus* × *J. nodosus*) has been reported for PEI, but details are unknown.

1a. Inflorescence appearing lateral, "bursting" from the side of the stem; stem leaves reduced to basal sheaths

2a. Stems densely tufted, not from creeping rhizomes; stamens 3

3a. Upper stem relatively lustrous, smooth or nearly so below the inflorescence, the (25-) 30-60 longitudinal striations inconspicuous until drying; ridges of dried stems capped with dull, low cells

J. effusus L.

3b. Upper stem relatively dull, evidently ridged below the inflorescence with mostly 10-30 longitudinal grooves; ridges of dried stems capped with lustrous, papillose cells

4a. Involucral bract not swollen, erect in fruit; leaf sheaths with dark red-brown to purple-black bases, the upper ones 5-12 cm long; inflorescence relatively open, mostly 15-80 mm in diameter; stems with 10-20 longitudinal ridges; tepals ascending or appressed to the capsule in fruit

J. pylaei LaHarpe

4b. Involucral bract swollen at the base of the inflorescence, sometimes somewhat reflexed in fruit; leaf sheaths with red-brown bases, the upper ones 15-23 cm long; inflorescence compact, mostly 10-25 mm in diameter; stems with 12-30 longitudinal ridges; tepals spreading from the base in fruit

J. conglomeratus L.

2b. Stems arising from creeping rhizomes; stamens 6

5a. Involucral bract usually less than ½ as long as stem below inflorescence; capsule blunt; sepals deep brown to purple-brown; anthers as long as filaments or longer

J. balticus ssp. *littoralis* (Engelm.) Snogerup

5b. Involucral bract usually more than ½ as long as stem below inflorescence; capsule tapering to a point; sepals green or pale brown when mature; anthers ½ as long as filaments or shorter; rhizome less than 2 mm in diameter

J. filiformis L.

1b. Inflorescence terminal with no involucral bract appearing as an elongation of the stem beyond the inflorescence; at least some of the stem leaves bearing blades

6a. Leaves flat or terete, not septate-nodulose

7a. Leaves flat

8a. Inflorescence 1/3 to 2/3 entire height of plant; leaf sheaths gradually tapering to summit; tufted annuals with fibrous roots

9a. Inner tepals acute to acuminate, exceeding the capsule; capsules mostly acute to subacute at apex (rarely truncate); inflorescences relatively open

J. bufonius L.

9b. Inner tepals rounded to acute at the apex, many equaling or shorter than the capsule; capsules mostly truncate at apex; inflorescences relatively dense

J. ranarius Songeon & E.P. Perrier

8b. Inflorescence much less than 1/3 height of plant; plants perennial

10a. Leaf sheaths extending +/- halfway up the stem; petals and sepals obtuse; rhizome horizontal; plants of saltmarsh habitat

J. gerardi Loisel.

10b. Leaf sheaths confined to base or lower third of stem; sepals and petals acute; rhizome short and erect; plants not halophytic

11a. Auricles scarious, (1-) 1.5-5 mm long; sheath margin pliable, transparent

J. tenuis Willd.

11b. Auricles firm, cartilaginous, 0.2–0.5 mm long; sheath margin of firmer texture, yellow to amber coloured

J. dudleyi Wiegand

7b. Leaves terete, channelled on upper side

J. greenei Oakes & Tuck.

6b. Leaves terete, septate-nodulose (sometimes obscurely so)

12a. Flowers occurring in bundles of 1-2 (-3) and often replaced by fascicles of reduced leaves

J. pelocarpus E. Mey.

12b. Flowers in clusters of 2 or more

13a. Flowers in dense globose heads, the lower reflexed; involucral bract usually longer than the inflorescence

J. nodosus L.

13b. Flowers in heads hemispherical or narrower

14a. Seeds with clear or whitish tails at both ends

15a. Most heads with many flowers each, subglobose or hemispherical; mature capsules equal to or longer than perianth; plants usually over 30 cm tall; seeds 1.3-1.8 mm long

J. canadensis J. Gay ex Laharpe

15b. Most heads with 2-5 (-7) flowers each, narrower than hemispherical; mature capsules greatly exceeding perianth; seeds 0.7-1.0 mm long; plants usually less than 30 cm tall

J. brevicaudatus (Engelm.) Fernald

14b. Seeds tailless, blunt or with dark nubs at both ends

16a. Plants stout, 3-10 dm tall; solitary cauline leaf overtopping inflorescence; plants often in shallow water and with dense capillary leaves arising from rhizome

J. militaris Bigelow

16b. Plants more slender, 2-6 dm tall (rarely over 5 dm); cauline leaves not overtopping inflorescence; plants often of shores but not normally in water; capillary leaves lacking

17a. Perianth equal to or longer than capsules; petals 1.5-2.5 mm long, blunt (often apiculate), slightly shorter than sepals; inflorescence at least twice as long as wide, branches ascending; heads relatively few, 1-10-flowered; anthers 0.3-0.5 mm long

J. alpinoarticulatus Vill.

17b. Perianth shorter than capsules; petals 2-3 mm long, short-pointed, equal to or slightly longer than sepals; inflorescence less than twice as long as wide, branches usually more spreading; heads ample, usually many-flowered; anthers (0.5-) 0.6-0.7 (-0.9) mm long

J. articulatus L.

Luzula DC.

The introduced species *Luzula pallescens* Sw. is known from NS and could be found in PEI. Its tepals are pale as in *L. multiflora* ssp. *multiflora*, but has shorter seeds (0.7-1.0 mm), shorter tepals (1.5-2.6 mm) and shorter styles (0.2-0.3 mm).

1a. Flowers mostly solitary (1-3), on drooping or arcuate pedicels

L. acuminata Raf.

1b. Flowers in compact spikes, usually on erect peduncles to 6 cm

L. multiflora (Ehrh.) Lej.

Luzula multiflora (Ehrh.) Lej.

1a. Tepals of outer and inner whorls similar, pointed, straw-coloured to chestnut; capsules light brown to brown; caruncle of seeds 0.3-0.6 mm long

L. multiflora ssp. *multiflora*

1b. Tepals of outer and inner whorls not similar, outer whorl pointed, inner whorl truncate-mucronate, dark brown to chestnut to blackish; capsules dark brown to nearly black; caruncle of seeds 0.2-0.3 mm long

L. multiflora ssp. *frigida* (Buchenau) V.I. Krecz.

JUNCAGINACEAE

Triglochin L.

Apparent intermediates between *T. maritima* and *T. gaspensis* are widespread and frequent in the Maritimes.

1a. Flowers and fruits with 3 stigmas and carpels; fruit slender, oblanceolate, to 8 mm long, beakless, cuneate at base

T. palustris L.

1b. Flowers and fruits with 6 stigmas and carpels; fruit oblong or ovoid, to 6 mm long, apically beaked, rounded at base

2a. Scapes robust, to over 50 cm tall; leaves 1.5-3.0 mm wide, erect or curving from sheath at angle of less than 30 degrees, shorter than scapes; ligule 4-5 mm long

T. maritima L.

2b. Scapes slender, 10-15 cm tall; leaves 0.5-1.0 mm wide, curving from sheath at an angle of 45-50 degrees, as tall as or taller than scapes; ligule 0.5-1.0 mm long

T. gaspensis Lieth & D. Löve

LAMIACEAE

1a. Flowers in terminal spikes; bracts +/- inconspicuous

2a. Calyx 2-lipped

3a. Upper lip of corolla wanting, pink purple lower lip 5-lobed, 12-18 mm long

Teucrium canadense L.

3b. Upper lip of corolla present

4a. Stems 1-5 dm tall, 1-several branched, not matted nor woody at base; bracts of inflorescence conspicuous; leaves petiolate, not fragrant when crushed

Prunella vulgaris L.

4b. Stems mostly under 1 dm tall, diffusely branched, becoming woody at base; bracts of inflorescence inconspicuous; leaves subsessile, spicy fragrant when crushed

Thymus pulegioides L.

2b. Calyx nearly regular or slightly oblique

5a. Corolla nearly regular; stamens exserted

Mentha L.

5b. Corolla irregular

6a. Leaves cordate-ovate, long-petioled; corolla creamy white with pink-purple spots

Nepeta cataria L.

6b. Leaves lanceolate, rounded or truncate at base, sessile or short-petiolate; corolla pinkish

Stachys L.

1b. Flowers in axils of scarcely reduced leaves, in whorls, heads, lateral panicles or corymbs

7a. Stem mostly prostrate or trailing (flowering stem sub-erect); leaves rotund-cordate to nearly reniform, crenate

Glechoma hederacea L.

7b. Stem erect or sometimes decumbent at base; plants often stoloniferous

8a. Corolla nearly regular

9a. Flowers +/- sessile, corolla white; plants not aromatic

Lycopus L.

9b. Flowers with pedicels to 2 mm long at flowering, corolla pinkish purple; plants glandular aromatic

Mentha L.

8b. Corolla irregular

10a. Calyx upper side with conspicuous protuberance; flowers bluish

Scutellaria L.

10b. Calyx without protuberance; flowers variously coloured

11a. Upper leaves greatly reduced, deeply lobed; corolla pale pink, densely villous

Leonurus cardiaca L. ssp. *cardiaca*

11b. Upper leaves scarcely reduced; corolla finely pubescent, white, pink or purplish

12a. Sepals spiny-tipped; lower lip of corolla with 2 yellowish-tipped knobs; stem +/- stiffly erect

Galeopsis L.

12b. Sepals narrowly acuminate, not spiny; lower lip of corolla without yellowish-tipped knobs

13a. Flowers many in dense terminal or axillary clusters

Origanum vulgare L. ssp. *vulgare*

13b. Flowers in few-flowered whorls in leaf axils

14a. Plants subglabrous; leaves evidently toothed

Lamium L.

14b. Stem, pedicels and calyx pubescent; leaves obscurely or irregularly toothed

Clinopodium acinos (L.) Kuntze

Clinopodium L.

This genus is represented by one species in PEI:

Clinopodium acinos (L.) Kuntze

Galeopsis L.

1a. Corolla lip notched and somewhat convex; corolla 13-15 mm long

G. bifida Boenn.

1b. Corolla lip entire and flat; corolla 15-23 mm long

G. tetrahit L.

Glechoma L.

This genus is represented by one species in PEI:

Glechoma hederacea L.

Lamium L.

1a. Leaves shallowly and regularly crenate-serrate, dark green or purplish; corolla tube pubescent within

L. purpureum L.

1b. Leaves irregularly incised-toothed, light green; corolla tube naked or slightly hairy within

L. hybridum Vill.

Lycopus L.

1a. Leaves serrate to slightly below the middle, entire-margined and tapering to base; calyx lobes acute, shorter than mature nutlets

L. uniflorus Michx.

1b. Leaves shallowly to deeply lobed, especially at base; calyx lobes spine-tipped, greatly exceeding the mature nutlets

2a. Leaf blades pubescent beneath with hairs 0.01-0.5 mm long; calyx 2-3.3 mm long; fruit with the collar-like corky crest separated by a distance of 0.1-0.3 mm at the base on the inner surface

L. americanus Muhl. ex W.P.C.Barton

2b. Leaf blades pubescent beneath with hairs 0.5-1.6 mm long; calyx 3-4.5 mm long; fruit with the corky crest completely encircling or separated by up to 0.2 mm at the base on the inner surface

L. europaeus L.

Mentha L.

Scoggan (1979) cites specimens of Red Mint, *M.* × *gentilis* L. (= *M. arvensis* L. × *M. spicata*) at GH, collected from Charlottetown and Royalty Junction, Queens Co. It would key to *M. canadensis* below but is sterile and has calyx teeth narrowly triangular or subulate (vs. fertile and teeth broadly triangular).

1a. Bracts of inflorescence similar to ordinary foliage leaves

M. canadensis L.

1b. Bracts of inflorescence small and inconspicuous; flowers in a spike

2a. Spike 5-15 mm in diameter, usually tapering to tip; leaves +/- sessile

M. spicata L.

2b. Spike 12-20 mm in diameter, rounded at tip; leaves petiolate

M. × *piperita* L.

Nepeta L.

This genus is represented by one species in PEI:

Nepeta cataria L.

Origanum L.

This genus is represented by one species in PEI:

Origanum vulgare L. ssp. *vulgare*

Prunella L.

This genus is represented by one species in PEI:

Prunella vulgaris L.

Catling et al. (1985) considers PEI plants to be “apparently the native variety” (ssp. *lanceolata* (W.P.C.Barton) Piper & Beattie), however Sean Blaney has seen plants with broadly ovate upper leaves (unpubl., 2018), and considers the exotic ssp. *vulgaris* validly reported for PEI. Specimens should be collected.

1a. Middle stem leaf blades lanceolate to narrow-oblong, usually cuneate at the base, 2-5 times as long as wide

P. v. ssp. *lanceolata* (W.P.C.Barton) Piper & Beattie

1b. Middle stem leaf blades ovate to ovate-oblong, usually rounded at the base, 1.5-2.5 times as long as wide

P. v. ssp. *vulgaris*

Scutellaria L.

1a. Flowers solitary in the axils of foliage leaves; hairs of stem angles downcurving

S. galericulata L. var. *pubescens* Benth.

1b. Flowers chiefly in lateral racemes arising from axils of foliage leaves; hairs of stem angles upcurving

S. lateriflora L.

Stachys L.

1a. Leaves mostly in the lower half of the stem; basal rosettes of long-petiolate cordate leaves present

S. officinalis (L.) Trevis.

1b. Stem leafy to the inflorescence; basal rosettes absent

S. palustris L.

Teucrium L.

This genus is represented by one species in PEI:

Teucrium canadense L.

Thymus L.

This genus is represented by one species in PEI:

Thymus pulegioides L.

LENTIBULARIACEAE

Utricularia L.

1a. Stems completely anchored in the substrate, with short, simple leaves protruding

U. cornuta Michx.

1b. Stems with creeping or free-floating segments with leaves divided 3 times or more

2a. Ultimate leaf segments flat; branches dimorphic, buried leaves with abundant traps, and free leaves with relatively few

U. minor L.

2b. Ultimate leaf segments terete or filiform; branches monomorphic

3a. Leaves very limp, with minute spine-like points only near the tips of the divisions; often with cleistogamous flowers produced solitarily on submerged stems

U. geminiscapa Benj.

3b. Leaves coarse, with minute spine-like points throughout the margins; only chasmogamous flowers produced

U. vulgaris L. ssp. *macrorhiza* (Leconte) R.T.Clausen

LILIACEAE

This key includes only those genera included in the Lily family in the strict sense (APG III 2009). Paige Harris and Island Nature Trust staff have collected an introduced species of *Lilium* L. It would not key well here but is easily distinguishable by its large orange flowers with brown speckles and its large size (up to 2 m in height).

1a. Leaves basal

2a. Plants aboveground throughout the season; flowers 3-8 in short, terminal racemes

Clintonia borealis L.

2b. Spring ephemerals; flowers solitary

Erythronium americanum Ker Gawl.

1b. Leaves on stem

3a. Leaves alternate; stems usually branched

Streptopus Michx.

3b. Leaves whorled; stems unbranched

Medeola virginiana L.

Clintonia L.

This genus is represented by one species in PEI:

Clintonia borealis L.

Erythronium L.

This genus is represented by one species in PEI:

Erythronium americanum Ker Gawl.

Medeola L.

This genus is represented by one species in PEI:

Medeola virginiana L.

Streptopus Michx.

Rose Twisted-stalk (*S. lanceolatus*) has been divided into four varieties across its range. Plants of northeast North America are var. *lanceolatus*. Hybrids between our two species, named *S.* ×*oreopolus* Fernald, are known from New Brunswick and Nova Scotia. Sean Blaney collected a putative hybrid from the Haldimand River in 2016, though its identity has not yet been confirmed. Sterile hybrids display mixed and intermediate morphological characters.

1a. Leaves strongly clasping the stem, glaucous abaxially; flowers greenish-white

S. amplexifolius (L.) DC.

1b. Leaves sessile to partially clasping, becoming clasping at branching points; flowers pink to purple

S. lanceolatus (Ait.) Reveal

LINACEAE

Linum L.

1a. Stem leaves opposite; corolla white, yellow at base, 5 mm long; stem to 3 dm tall

L. catharticum L.

1b. Stem leaves alternate; corolla normally pale blue, about 1 cm long; stem usually greater than 5 dm tall

L. usitatissimum L.

LYCOPODIACEAE

1a. Sporangia borne in the axils of unmodified leaves; plants also reproducing vegetatively through gemmae

Huperzia

1b. Sporangia borne on differentiated leaves, clustered into strobili; plants not producing gemmae

2a. Stems mostly horizontal; aerial stems simple or with sparse ascending branches

3a. Leaves of strobili much reduced

Lycopodium

3b. Leaves of strobili similar in size to branch leaves

Lycopodiella

2b. Aerial stems with spreading tree-like branches or dense ascending branches

4a. Strobili sessile; leaves spreading to ascending from stem, greater than 3.5 mm long

Dendrolycopodium

4b. Strobili pedicelled or sessile; leaves appressed tightly to the stem, if spreading to ascending then less than 3.2 mm long

Diphasiastrum

Dendrolycopodium A. Haines

1a. Leaves at base of aerial stem spreading to ascending

D. dendroideum

1b. Leaves at base of aerial stem appressed to strongly ascending

2a. Lateral branches round in outline; all branch leaves of roughly the same size and orientation

D. hickeyi

2b. Lateral branches flattened in outline; spreading lateral leaves longer than the appressed abaxial leaves

D. obscurum

Diphasiastrum Holub

Diphasiastrum ×*sabinifolium* (Willd.) Holub is the fertile hybrid between *D. tristachyum* and *D. sitchense*. It combines the morphological characters of its parents and can be found in the absence of one or both. Formerly treated as a full species, *D*. ×*sabinifolium* had a conservation rank of S1S2 on Prince Edward Island.

1a. Strobili sessile; leaves fused with branches for less than 50% of their length; branches dense and ascending, inserted near ground or on inconspicuous main axis

D. sitchense

1b. Strobili pedicelled; leaves fused with branches for greater than 50% of their length; branches more tree-like, inserted on main axis well above ground

2a. Plant glaucous (with a waxy-blue bloom); branches squarish in cross section; leaves all of equal size

D. tristachyum

2b. Plant not glaucous, green; branches flattened in cross section; abaxial leaves greatly reduced

3a. Plants with conspicuous annual constrictions; strobili often with sterile, finely pointed tips

D. complanatum

3b. Plants with inconspicuous annual constrictions; strobili tips usually rounded to blunt

D. digitatum

Huperzia Bernh.

In addition to sexual reproduction, *Huperzia* may also reproduce asexually via gemmae. These vegetative propagules consist of a ring of six leaves arranged in a cup-like shape and are readily detached. Reports of *H. selago* (L.) Bernh. ex Schrank & Mart. on Prince Edward Island are unconfirmed, though this species is known from both New Brunswick and Nova Scotia, and its presence is possible. Reports of *Huperzia arctica* (Gross. ex Tolm.) Sipliv. also need confirmation, however the southernmost North American record is from the Hudson Bay Lowlands in Ontario and it seems unlikely to be on Prince Edward Island. This northern species has yellow gemmae that are distributed throughout the annual shoot increment. *Huperzia lucidula* (Michx.) Trevis. and *H. selago* have green gemmae found only at the tips of annual increments (Gilman and Testo 2015).

1a. Plants with annual constrictions; leaves widest beyond the middle, 7-12 mm long, shallowly toothed

H. lucidula

1b. Plants with annual constrictions inconspicuous; leaves widest below the middle, 4.0-7.5 mm long, entire or minutely toothed

[*H. selago*]

Lycopodiella Holub

Lycopodiella appressa is a species of the Atlantic Coastal Plain Flora, restricted in the Maritimes to Nova Scotia, where it is found on acidic peaty lakeshores from Yarmouth to Guysborough Counties. It has been reported for PEI, however no supporting specimens have been seen.

1a. Leaves 0.8-1.0 mm wide, with minute teeth; leaves of strobili appressed to ascending; strobili 3-4 mm wide

[*L. appressa*]

1b. Leaves 0.5-0.7 mm wide, without teeth; leaves of strobili widely spreading; strobili 2.5-5.5 mm wide

L. inundata

Lycopodium L.

Stiff Clubmoss (*L. annotinum* L.) is sometimes segregated as *Spinulum annotinum* (L.) A. Haines (Haines 2011, PPG 2016).

1a. Leaves without hair-like tips

L. annotinum

1b. Leaves with white-haired tips

2a. Strobili 2-5 with loose pedicels

L. clavatum

2b. Strobili mostly 1, if 2 then nearly sessile

L. lagopus

LYTHRACEAE

1a. Leaves mostly opposite; stems erect, herbaceous; plants of wet meadows, roadside ditches and wet areas

Lythrum salicaria L.

1b. Stems spongy based, arching and sometimes rooting at tip; plants of shallow water of ponds and streams

Decodon verticillatus (L.) Elliott

Deocodon L.

This genus is represented by one species in PEI:

Decodon verticillatus (L.) Elliott

Lythrum L.

This genus is represented by one species in PEI:

Lythrum salicaria L.

MALVACEAE

1a. Plants trees

Tilia L.

1b. Plants herbaceous

2a. Carpels 5, united to form a compound ovary, not separating in fruit

Hibiscus trionum L.

2b. Carpels 5 to many, loosely united in a ring, separating in fruit

3a. Involucral bractlets wanting; leaves unlobed, broadly ovate, cordate at base, entire or shallowly crenate; corolla yellow; fruiting carpels long-beaked, 2-9 seeded per carpel

Abutilon theophrasti Medik.

3b. Involucral bractlets 1-3; leaves otherwise; corolla white to pink; carpels each with 1 seed

Malva L.

Abutilon Mill.

This genus is represented by one species in PEI:

Abutilon theophrasti Medik.

Hibiscus L.

This genus is represented by one species in PEI:

Hibiscus trionum L.

Malva L.

FNA (1993+).

1a. Upper leaves deeply cleft or lobed halfway or more to centre

M. moschata L.

1b. Upper leaves shallowly lobed

2a. Involucellar bractlets filiform to linear; calyces accrescent, lobes spreading outward exposing mericarps; petals 3-4.5(-5) mm, white to pale lilac; mericarp margins narrowly winged, toothed

M. parviflora L.

2b. Involucellar bractlets linear, oblanceolate, or lanceolate; calyces not accrescent, or, if so, lobes usually enclosing mericarps; petals (3-)5-13 mm, pale lilac, pink, pinkish, purplish, to nearly white or whitish; mericarp margins not winged, sometimes toothed

3a. Stems erect; plants 0.5-2.5 m; leaf blades 3-10(-25) cm; pedicels stout and rigid in fruit

M. verticillata L.

3b. Stems prostrate or trailing to ascending; plants usually 2-6 dm; leaf blades 1-3.5(-6) cm; pedicels slender and flexible in fruit

4a. Petals 6-13 mm, length 2 times calyx; mericarps hairy, smooth to slightly roughened or reticulate

M. neglecta Wallr.

4a. Petals 3-6 mm, length subequal to or slightly exceeding calyx; mericarps hairy or glabrate, strongly rugose-reticulate

M. pusilla L.

Tilia L.

European Linden (*T.* × *europaea* L.), the hybrid between *T. cordata* and *T. platyphyllos*, was reported as escaping cultivation by Erskine (1960) and is known from very few recent records.

1a. Lower leaf surface glabrous, except for hairy tufts in axils of main veins; cymes up to 15-flowered

T. cordata Mill.

1b. Lower leaf surface sparingly pubescent; cymes about 3-flowered

T. platyphyllos Scop.

MELANTHIACEAE

There have been a number of reports of Red Trillium (*Trillium erectum* L.) on Prince Edward Island, but these have not been verified by experts and no specimens are known. Its petals are dark maroon and up to twice as long as those of *Trillium cernuum* (2.5-6.0 cm vs. < 3 cm). Weakley et al. (2018) placed *Trillium undulatum* Willd. in the formerly-monotypic sister genus *Trillidium* Kunth with the northwest Himalayan endemic *Trillidium govanianum* (Wall. ex Royle) Kunth based on molecular and morphological data.

1a. Flowers nodding, lowered beneath sessile leaves; petals white

Trillium cernuum L.

1b. Flowers more or less erect, held above petiolate leaves; petals white with pink line across the centre

Trillidium undulatum (Willd.) Floden & E.E. Schill.

Trillidium Kunth

This genus is represented by one species in PEI:

Trillidium undulatum (Willd.) Floden & E.E. Schill.

Trillium L.

This genus is represented by one species in PEI:

Trillium cernuum L.

MONTIACEAE

1a. Leaves 2; flowers in racemes; spring ephemeral to 18 cm tall

Claytonia caroliniana Michx.

1b. Leaves many, opposite, oblanceolate to spathulate-obovate; flowers axillary or terminal; slender annual

Montia fontana L.

Claytonia L.

This genus is represented by one species in PEI:

Claytonia caroliniana Michx.

Montia L.

This genus is represented by one species in PEI:

Montia fontana L.

MYRICACEAE

1a. Leaves pinnatifid; stipules subcordate

Comptonia peregrina (L.) J.M.Coult.

1b. Leaves entire or slightly serrate at apex; stipules wanting

2a. Leaves light green, dull above; catkins borne at summit of previous year's branchlets; fruit a 2-winged nutlet

Myrica gale L.

2b. Leaves dark green, shiny above; catkins borne on old wood +/- below leafy tips; fruit a wax-covered, globular nutlet

Morella pensylvanica (Mirb.) Kartesz

Comptonia L'Hér.

This genus is represented by one species in PEI:

Comptonia peregrina (L.) J.M.Coult.

Morella Lour.

This genus is represented by one species in PEI:

Morella pensylvanica (Mirb.) Kartesz

Myrica L.

This genus is represented by one species in PEI:

Myrica gale L.

NYMPHAEACEAE

1a. Petals white or roseate; sepals green or purplish, widely spreading at anthesis; leaves orbicular, usually purple below

Nymphaea odorata Ait.

1b. Petals inconspicuous and stamen-like; sepals yellow, often tinged with red or green, abruptly bent inward; leave elliptical

Nuphar

Nuphar *S*m.

Formerly treated as a species, *N.* ×*rubrodisca* Morong is now generally considered a hybrid between the two species below. Its characteristics are roughly intermediate, and it has been reported as sterile to completely fertile (Wiersema & Hellquist 2003). The first record of the hybrid was found by Sean Blaney at a dugout pond on crown land in Prince County. Neither of the parental taxa at the site. Rosemary Curley and Diane Griffin reported *N. microphylla* for the first time for PEI from Barlow's Pond near Wellington. However, they were not entirely sure about their determination, and the species is considered unconfirmed at present.

1a. Sepals 1-2.5 cm long, numbering 5 per flower; anthers predominantly shorter than the filaments, 1-3 mm long; fruit strongly constricted below the red stigmatic disk; petals and stamens promptly deciduous, usually not persisting as remnants at the base of the fruit; basal sinus of leaf blade (42-) 54-90% of the length of the blade midrib

[*N. microphylla* (Pers.) Fernald]

1b. Sepals 2.5-5 cm long, numbering 6 per flower; anthers longer than the filaments, 3-9 mm long; fruit only slightly constricted below the green (rarely red) stigmatic disk; petals and stamens tardily deciduous, usually persisting as remnants around the base of the fruit; basal sinus of leaf blade 30-59 (-62) % of the length of the blade midrib

N. variegata Durand

Nymphaea L.

This genus is represented by one species in PEI:

Nymphaea odorata Ait.

OLEACEAE

1a. Leaves simple; corolla lilac-purple to white; fruit capsular; shrubs or small trees

Syringa vulgaris L.

1b. Leaves pinnately compound; corolla none; fruit winged; trees

Fraxinus L.

Fraxinus L.

It is unclear whether this taxon occurs as a native species in PEI. It has been extensively planted but is questionably native (D. McAskill, pers. comm. to Sean Blaney, 2000). See discussion under *F. americana*. Until further examination of specimens, we treat the species as questionably native and rare.

1a. Fruit winged nearly to base; calyx greatly reduced or wanting; leaflets subsessile (petiolules less than 2 mm long)

2a. Terminal buds brown to nearly black, conical; sessile bases of leaflets joined above by rusty tomentum; leaflets 11-14 cm long

F. nigra Marshall

2b. Terminal buds black or blue-black, low, rounded; petiolules +/- sessile or short winged, without rusty tomentum; leaftlets 3.5-10.0 cm long

F. excelsior L.

1b. Fruit winged on upper half only; calyx persisting at base of fruit; petiolules often longer than 2 mm

3a. Terminal buds low, +/- rounded; leaf scars with upper margin deeply U-shaped; wing only slightly decurrent on swollen, seed-bearing body of fruit, abruptly acute at apex; leaflets mostly rounded at base, entire or usually only serrulate along upper ½, upper and lower surface contrasting dark and light; petiolules scarcely winged

F. americana L.

3b. Terminal buds conical; leaf scars with upper margin straight or slightly downcurved; wing decurrent about ½ way on body of fruit, acuminate to summit; leaflets mostly tapering at base, usually regularly serrulate nearly to base, upper and lower surfaces not strongly contrasting; petiolules winged

F. pennsylvanica Marshall

Syringa L.

This genus is represented by one species in PEI:

Syringa vulgaris L.

ONAGRACEAE

1a. Fruit bristly; calyx lobes and petals 2; leaves opposite, long petioled

Circaea L.

1b. Fruit not bristly; calyx lobes and petals 4; leaves opposite and/or alternate, sessile to short-petioled

2a. Flowers yellow, calyx tube prolonged beyond ovary; seed without tuft of long hairs

Oenothera L.

2b. Flowers pink to white; calyx tube slightly if at all prolonged beyond ovary; seed with tuft of long hairs at apex

3a. Leaves all alternate; flowers in long, terminal, showy racemes, the buds reflexed

Chamaenerion angustifolium (L.) Scop.

3b. Leaves opposite (sometimes the upper ones alternate); flowers all or mostly in the axils of leaves or leafy bracts, the buds not reflexed

Epilobium L.

Chamaenerion Ség.

This genus is represented by one species in PEI:

Chamaenerion angustifolium (L.) Scop.

Circaea L.

The sterile hybrid between these two species, *Circaea* ×*sterilis* Boufford, was first reported from Prince Co. by Catling et al. (1985).

1a. Leaves oblong-ovate, +/- twice as long as wide; fruit with 5 longitudinal ridges; stigma shallowly lobed; pedicels pubescent, widely spreading

C. canadensis (L.) Hill

2b. Leaves ovate, less than twice as long as wide; fruit not ridged; stigma deeply lobed; pedicels glabrous, erect to ascending

C. alpina L.

Epilobium L.

1a. Petals showy, 1-2 cm long; stem often over 1 m tall

E. hirsutum L.

1b. Petals 3-9 mm long; stem less than 1 m tall

2a. Stem ridged; leaves denticulate

3a. Leaves narrow-lanceolate, tapering to base and tip, distinctly petioled, closely and irregularly denticulate; inflorescence +/- bushy branched; seed beakless, tuft of hairs cinnamon-coloured

E. coloratum Biehler

3b. Leaves broader, oblong, elliptic or ovate, subsessile, remotely low-toothed; inflorescence usually less branched; seed +/- beaked below tuft of white hairs.

E. ciliatum Raf.

2b. Stem not ridged; leaves usually entire or wavy margined and often revolute

4a. Plant villous throughout with short horizontally spreading hairs

E. strictum Muhl.

4b. Plants glabrous or with pubescence of short incurved hairs

5a. Most leaves 15-30 times as long as wide, evenly fine-hairy above; median leaves usually alternate; inflorescence usually erect in bud

E. leptophyllum Raf.

5b. Most leaves 6-12 times as long as wide, +/- glabrous above; median leaves usually opposite inflorescence often nodding in bud

E. palustre L.

Epilobium ciliatum Raf.

The nominate subspecies appears to be widespread and common in PEI (S5). Less is known about the conservation status and distribution of *E. c.* ssp. *glandulosum*, which is known from Tracadie, Queens Co. and a few locations in Prince Co. Modified from Haines (2010):

1a. Plants usually with leafy basal rosettes; stems usually richly branched apically or throughout; inflorescence relatively open, with bract blades much reduced compared with the leaf blades; petals white or infrequently pink, 2-6 (-9) mm long

E. c. ssp. *ciliatum*

1b. Plants usually with fleshy underground turions, these often near the surface and resembling compact rosettes of short, fleshy leaves; stems simple throughout or sparsely branched apically;

inflorescence crowded, with bract blades scarcely reduced compared with the leaf blades; petals rose-purple to pink or rarely white, 4.5-12 (-14) mm long

E. c. ssp. *glandulosum* (Lehm.) Hoch & P.H.Raven

Oenothera L.

Identification of members of *Oenothera* sect. *Oenothera* (i.e., *O. biennis, O. villosa, O. parviflora,* and *O. oakesiana*) can be quite difficult. See Dietrich et al. (1997) for more detail.

1a. Ovary four-angled; mature capsule winged, tapering at base

2a. Inflorescence nodding; calyx tube 4-8 mm long; capsule stipe 2-4 mm long; leaves < 6 cm long, obtuse; stem 20-60 cm tall

O. perennis L.

2b. Inflorescence erect; calyx tube 5-15 mm long; capsule subsessile; leaves to 10 cm long, acute; stem to 80 cm tall

O. pilosella Raf.

1b. Ovary and capsule +/- cylindric, not winged nor especially tapering at base

3a. Sepal tips subterminal, their bases slightly separated in bud and with a distinct protuberance within

4a. Calyx, ovary, and capsule nearly glabrous to +/- sparsely pubescent, often with some long spreading hairs as well as shorter glandular or pustulose-based hairs; largest leaves various, typically at least 15 mm broad and nearly entire; seeds 1.1-1.8 mm long

O. parviflora L.

4b. Calyx, ovary, and capsule +/- densely pubescent with appressed whitish non-glandular hairs; largest leaves typically less than 15 mm broad and denticulate; seeds 1.1-1.2 mm long

O. oakesiana (A.Gray) J.W.Robbins ex S.Watson

3b. Sepal tips terminal, their bases contiguous in bud and with at most a mere transverse ridge within at anthesis; tip of stem straight at anthesis

5a. Plants green in appearance, with predominantly sparse, spreading long hairs and often short glandular hairs

O. biennis L.

5b. Plants appearing grayish, especially distally and in the inflorescence, with dense appressed usually non-glandular pubescence

O. villosa Thunb.

ONOCLEACEAE

1a. Sterile fronds relatively tough, large, pinnate-pinnatifid; fertile fronds with relatively elongate pinnae

Matteuccia struthiopteris (L.) Tod.

1b. Sterile fronds delicate, relatively small, pinnatifid; fertile fronds with small, globular pinnae

Onoclea sensibilis L.

Matteuccia Tod.

This genus is represented by one species in PEI:

M. struthiopteris var. *pensylvanica* (Willd.) C.V.Morton

Onoclea L.

This genus is represented by one species in PEI:

Onoclea sensibilis L.

OPHIOGLOSSACEAE

Members of Ophioglossaceae may produce fronds that are either entirely sterile, or with distinct sterile and fertile segments (dimorphic). The fertile segment (sporophore) is borne apically, while the sterile portion (trophophore) branches off below. In the broad sense, *Botrychium* Sw. is monophyletic, however recent opinion (e.g. Kato 1987; Hauk et al. 2003) has been to subdivide the very large genus into smaller practical units. In PEI and the Maritimes, the segregate genera are *Sceptridium* Lyon and *Botrypus* Michx.

1a. Trophophore simple, unlobed

Ophioglossum pusillum

1b. Trophophore lobed to pinnately or ternately divided

2a. Trophophore ternately compound

3a. Trophophore evergreen, on long stalks branching near or below ground

Sceptridium

3b. Trophophore not evergreen, sessile or nearly so and branching well above ground

Botrypus virginianus

2b. Small plants with less-divided fronds: trophophore less than 9 cm, and at most once pinnate

Botrychium

Botrychium Sw.

Erskine (1960) lists *B. lunarioides* (Michx.) Sw. as an erroneous identification by MacSwain and Bain (1891) for *B. multifidum* (= *Sceptrifium multifidum*). *Botrychium lunaria*, *B. minganense*, and *B. spathulatum* – have all been reported for PEI by Wagner and Wagner (1993), but no supporting specimens have been seen.

1a. Trophophore broadly triangular in outline or broadest below middle, ultimate segments narrow ovate and lobed

2a. Trophophore sessile, the basal pinnae elongate and sparsely lobed

B. lanceolatum (Gmel.) Ångstr.

2b. Trophophore short-stalked, the basal pinnae regularly lobed

B. matricariifolium (Retz.) A.Braun ex W.D.J.Koch

1b. Trophophore usually narrow in outline, ultimate segments orbicular to fan-shaped and entire or with few lobes

3a. Trophophore with stalk 1/2 the length of the blade or greater, frond simple or with up to 7 pairs of fan-shaped pinnae; usually terminal segment broad and rounded

B. simplex E.Hitchc.

3b. Trophophore with stalk 1/4 the length of the blade or less, frond pinnate; usually terminal segment small and narrow

4a. Pinnae overlapping or nearly so; pinnae of mid trophophore 6-18 mm wide

[*B. lunaria* (L.) Sw.]

4b. Pinnae more distant, not overlapping; pinnae of mid trophophore 1-9 mm wide

5a. Trophophore narrowly oblong, firm to herbaceous; pinnae nearly spheric to fan-shaped; margins shallowly crenate

[*B. minganense* Vict.]

5b. Trophophore narrowly deltate, leathery; pinnae spatulate to linear-spatulate; margins entire to very coarsely and irregularly dentate

[*B. spathulatum* W.H.Wagner]

Botrypus Michx.

This genus is represented by one species in PEI:

Botrypus virginianus (L.) Michx.

Ophioglossum L.

This genus is represented by one species in PEI:

Ophioglossum pusillum Raf.

Sceptridium Lyon

Erskine (1960) treated old reports of *Botrychium ternatum* (Thunb.) Sw. (= *Sceptridium rugulosum*) under *B. multifidum* (S.G. Gmel) Rupr. (= *S. multifidum*). It is unclear if he was lumping the taxa or if the earlier reports were incorrect. No confirming specimens have been seen for *S. rugulosum*.

1a. Ultimate apical segments much longer than the lateral segments; or plants with deeply lacerate trophophores, the sinuses cut more than halfway to the midrib

S. dissectum (Spreng.) Lyon

1b. All ultimate segments roughly the same size; never lacerate as above

2a. Ultimate segments symmetrically tapered to a broadly obtuse to rounded apex; margins entire to very finely dentate

S. multifidum (S.G.Gmel.) M.Nishida

2b. Ultimate segments asymmetrically wedge-tapered to the apex; margins finely dentate

[*S. rugulosum* (W.H.Wagner) Škoda & Holub]

ORCHIDACEAE

1a. Plants without leaves (excluding bracts)

2a. Plants lacking chlorophyll, myco-heterotrophic

Corallorhiza

2b. Plants with chlorophyll, autotrophic; lacking leaves at flowering time

3a. Flowers solitary, pink; lip speckled with magenta and with yellow centre

Arethusa bulbosa

3b. Flowers arranged in a spike, white to yellowish; lip pure white or with green or yellow patch

Spiranthes

1b. Plants with leaves

4a. Flowers usually solitary, sometimes paired

5a. Lip petal inflated, pouch-like; flowers primarily pink, white, or yellow; leaves 2 or more

Cypripedium

5b. Lip petal not inflated, simple or fringed; flowers pink; leaf solitary

6a. Grass-like leaves absent at flowering time, developing afterwards; floral bracts small, inconspicuous

Arethusa bulbosa

6b. Elliptic leaves well-developed at flowering time; floral bracts large, conspicuous

Pogonia ophioglossoides

4b. Flowers many, arranged in a spike or raceme

7a. Leaves mostly basal, at most with 1 or 2 at proximal end of stem

8a. Plants with a solitary basal leaf; flowers pink, non-resupinate

Calopogon tuberosus

8b. Plants with more than one basal leaf; flowers white, green to brown, or yellow, resupinate

9a. Leaves several; flowers white, arranged in a spike

10a. Lower petals simple; leaves narrowly lanceolate, entirely green

Spiranthes

10b. Lower petals pouch-like; leaves ovate to elliptic, usually marked with white to pale green

Goodyera

9b. Leaves usually two; flowers green to brown, yellow, sometimes white, arranged in a raceme

11a. Lip petals without a nectar spur; leaves 2, ascending

Liparis loeselii

11b. Lip petals with a nectar spur; leaves 2 and prostrate, or 1 and ascending

Platanthera (in part)

7b. Leaves definitely on stem

12a. Leaves 2, opposite to sub-opposite

Neottia

12b. Leaves 1-several, alternate

13a. Lower stem leaves reduced to bladeless sheaths

Epipactis helleborine

13b. Lower stem leaves with well-developed blades

14a. Flowers minute, 3-4 mm wide, greenish; lower petal without a spur

Malaxis

14b. Flowers larger, white, yellow, green, or pink; lower petal with a spur

Platanthera (in part)

Arethusa L.

This genus is represented by one species in PEI:

Arethusa bulbosa L.

Calopogon R.Br.

This genus is represented by one species in PEI:

Calopogon tuberosus (L.) Britton, Sterns & Poggenb. var. *tuberosus*

Corallorhiza Gagnebin

1a. Perianth 3.5-7.0 mm long; sepals and petals 1-veined; capsule greenish; scape to 3.5 dm tall with sheaths toward base.

C. trifida Châtel

1b. Perianth 4.7-15.0 mm long; sepals and petals 3-veined; capsule yellowish-brown, brownish, or red; scape to 6.5 dm tall with sheaths extending beyond middle

C. maculata (Raf.) Raf.

Corallorhiza maculata (Raf.) Raf.

Two varieties are recognized in the Maritimes, though their respective conservation statuses are unclear. Morphologically intermediate plants in western North America may represent hybrids, but without supporting evidence the varieties are presently treated within a single variable species (Freudenstein & Doyle 1994).

1a. Middle lobe of the lip: expanded only slightly or not at all distally, widest part less than 1.5 times as wide as the base; floral bracts 0.5-1.0 mm long, usually entire

C. m. var. *maculata*

1b. Middle lobe of the lip: distinctly expanded distally, widest part over 1.5 times as wide as the base; floral bracts 1.0 to 4.5 mm long, usually two- to three-lobed

C. m. var. *occidentalis* (Lindl.) Ames

Cypripedium L.

Two varieties of Yellow Lady's-slipper are known from the Maritimes: *C. parviflorum* var. *pubescens* and *C. p.* var. *makasin*. Names have changed substantially over time, leaving the varietal identity of some old reports unclear. Only the larger var. *pubescens* (Willd.) O.W.Knight is confirmed for PEI.

1a. Leaves 2, basal; scapose stem with single pale pink to crimson-pink, occasionally pure white flower; lip open along full length

C. acaule Aiton

1b. Leaves more than 2, cauline; lip open only at base

2a. Lip yellow; sepals sharply acute; stems finely pubescent, to 8 dm tall

C. parviflorum Salisb.

2b. Lip white, usually with pink or purple markings; sepals obtuse or rounded; stems conspicuously hirsute, to 10 dm tall

C. reginae Walter

Epipactis Zinn

This genus is represented by one species in PEI:

Epipactis helleborine (L.) Crantz

Goodyera R. Br.

1a. Leaf blades 4-6 cm long, only midvein outlined in white or entirely pale green above; perianth 6-9 mm long; plants 20-50 cm tall

G. oblongifolia Raf.

1b. Leaf blades to 4 cm long, usually with pale green or white lines throughout; perianth 1.5-5.5 cm long; plants 5-35 cm tall

2a. Base of mature lip petal with deep pouch, nearly as deep as long, tip portion strongly recurved; perianth about 4 mm long; racemes +/- one-sided; leaves 1-3 cm long, widest near base, tapering to acute tip.

G. repens (L.) R.Br.

2b. Base of mature lip petal with shallow pouch, longer than deep, tip portion only slightly recurved; perianth about 5 mm long; racemes loosely spiral; leaf blades 2-5 (-6) cm long, tapering from near middle to each end.

G. tesselata Lodd.

Liparis Rich.

This genus is represented by one species in PEI:

Liparis loeselii (L.) Rich.

Malaxis Sol. ex Sw.

Malaxis monophyllos (L.) Sw. var. *brachypoda* (A. Gray) F. Morris & E.A. Ames is sometimes treated at the specific level. It differs from the nominate variety in having resupinate flowers (Catling & Magrath 2002).

1a. Lip entire, apex pointed; pedicels 2.0-4.5 mm long; raceme slender, elongate, flowers +/- equally distributed along rachis; leaf sheathing base of stem

M. monophyllos var. *brachypoda*

1b. Lip 2-lobed at apex, with indistinct central tooth; pedicels (3.8-) 5.0-10.0 (-13.0) mm long; raceme thick, rounded, flowers clumping near apex of rachis; leaf +/- sheathing bottom ½ of stem.

M. unifolia Michx.

Neottia Guett.

Our species used to be placed in the genus Listera. Molecular phylogenetic work (such as Zhou and Jin 2018) has demonstrated *Neottia* to be nested within *Listera*, with the former name having priority.

1a. Stem distance from leaves to first flower about ½ as long as leaves

N. convallarioides (Sw.) Rich.

1b. Stem distance from leaves to first flower about 2-3 times length of leaves

2a. Rachis and pedicels glabrous; lip purplish-green, 4-5 mm long with 2 forward-projecting hornlike teeth at base, 1.5 mm long, not auricled; leaves spreading

N. cordata (L.) Rich.

2b. Rachis and pedicels glandular; lip dull maroon-red, 5-10 mm long, without conspicuous horns, auricled at base; leaves ascending

N. bifolia (Raf.) Baumbach

Platanthera Rich.

1a. Leaves 1 or 2, basal (except in *P. clavellata*, usually 1 leaf sheathing to base)

2a. Leaf 1, rarely 2, elliptic, linear-oblong to oblanceolate

3a. Leaf sheathing lower ¼ - ⅓ of stem; lip broadest towards 3-toothed apex; spur much exceeding lip

P. clavellata (Michx.) Luer

3b. Leaf sheathing base of stem; lip broadest at base, tapering to apex; spur equalling lip or only slightly longer

P. obtusata (Banks ex Pursh) Lindl.

2b. Leaves 2, basal, +/- orbicular

4a. Scape naked (rarely with 1 bract); flowers sessile, yellowish-green; lip upcurved; spur 0.9-2.5 cm long, tapering to rounded tip

P. hookeri (Torr. ex A.Gray) Lindl.

4b. Scape with 1-6 bracts below inflorescence; flowers whitish-green with short pedicels; lip not upcurved; spur 0.8-2.8 cm long (to 4.5 cm in *P. macrophylla*) with parallel sides and slightly enlarged tip

5a. Average length of spurs less than 28 mm, average length of hemipollinaria less than 4.6 mm

P. orbiculata (Pursh) Lindl.

5b. Average length of spurs 28 mm or more, average length of hemipollinaria 4.6 mm or more

[*P. macrophylla* (Goldie) P.M.Br.]

1b. Leaves more than 2, mostly on stem

6a. Lip entire or toothed, not 3-parted

7a. Flowers pure white; lip usually markedly expanded near base to 1-3 mm wider than below; space between anthers greater at apex than base

P. dilatata (Pursh) Lindl. ex L.C.Beck

7b. Flowers green to greenish yellow; lip lanceolate, usually not dilated or only slightly dilated at base to 0.4-1.0 mm wider than below; space between anthers greater at base than apex

8a. Lip of fresh flowers dull yellowish-green, rhombic-lanceolate, 2.5-6.0 mm long; anthers not separated by more than 0.3 mm at their apices, viscidia orbicular; spur stout and club-shaped; flowers usually scentless and self-pollinating

P. aquilonis Sheviak

8b. Lip of fresh flowers green to whitish-green, lanceolate, 5.0-12.0 mm long; anthers separated by 0.6—1.5 mm at their apices, viscidia oblong; spur slenderly cylindrical to somewhat clavate; flowers moderately to strongly sweetly pungent and cross-pollinating

P. huronensis (Nutt.) Lindl.

6b. Lip fringed

9a. Lip fringed, but not 3-parted; flowers white; spur (15-) 18-20 (-27) mm long

P. blephariglottis (Willd.) Lindl.

9b. Lip deeply 3-parted; spur 1-4 cm long

10a. Lateral lobes of lip incised more than halfway to base; flowers yellowish-green to greenish-white

P. lacera (Michx.) G.Don

10b. Lateral lobes of lip incised less than halfway to base; flowers pink-purple

11a. Inflorescence 2.5-4.5 cm in diameter; perianth 4-7 mm long; lip 6-16 mm broad; opening to spur a horizontally-oriented rectangular shape

P. psycodes (L.) Lindl.

11b. Inflorescence 5-9 cm in diameter; perianth 9-12 mm long; lip 1.8-3.0 cm broad; opening to spur oval to round

P. grandiflora (Bigelow) Lindl.

Pogonia Juss.

This genus is represented by one species in PEI:

Pogonia ophioglossoides (L.) Ker Gawl.

Spiranthes Rich.

Considerable attention has been paid to the Nodding Ladies'-tresses species complex (*S. cernua* s.l.) in eastern North America by Pace and Cameron (2017) and Hough and Young (2021). In the Maritimes, the group of plants that was formerly called Nodding Ladies'-tresses has been shown to include two additional species: Appalachian (*S. arcisepala* M.C. Pace) and Sphinx Ladies'-tresses (*S. incurva* (Jennings)

M.C. Pace). Although PEI has not been included in any specimen or molecular studies, photographic records (especially those provided by Don McLelland and others on iNaturalist.ca) have provided some insight. Appalachian Ladies'-tresses is usually readily distinguished by its downward arching lateral sepals and appears to be the most frequent and widespread in PEI. Sphinx and Nodding Ladies'-tresses can be identified by photos alone with less confidence. Both appear to be very rare in PEI and should be further documented with specimens.

Don McLelland found a single individual of *Spiranthes casei* var. *novaescotiae* in September 2021. This is the first record for PEI, and the first documented outside of Nova Scotia. No specimen was collected, but the iNaturalist record was verified by M. Hough.

1a. Leaves broadly elliptic to round-ovate, usually flat on the ground, present or absent at anthesis; lower petal with central green patch

S. lacera (Raf.) Raf.

1b. Leaves lanceolate, ascending, present at anthesis; lower petal either entirely white or with yellow colouration

2a. Labellum constricted below expanded tip and +/- sharply deflexed; lateral sepals partly united with dorsal sepals and lateral petals to form a hood

S. romanzoffiana Cham.

2b. Labellum oblong, ruffled but not constricted below tip; lateral sepals free

3a. Petals clearly shorter than sepals; labellum acute at the apex, with thickened and +/- inflexed margins

S. casei Catling & Cruise var. *novaescotiae* Catling

3b. Petals slightly shorter than to longer than the sepals; labellum rounded to slightly acute at the apex, the margins +/- ruffled

4a. Labellum with yellow colouration centrally, with rounded glands beneath; lateral sepal tips linear-lanceolate

S. ochroleuca (Rydb.) Rydb.

4b. Labellum mostly white or faint yellow centrally, with reduced-conical or rounded glands beneath; lateral sepals lanceolate

5a. Labellum relatively thin and membranous, the abaxial glands reduced, usually flattened; lateral sepals curving inward at the tips over the lateral and petals and dorsal sepal

S. cernua (L.) Rich.

5b. Labellum centrally thickened, the abaxial glands spherical; lateral sepals strongly downwardly falcate or straight, sometimes upcurved

6a. Floral bracts nearly flat to moderately concave, either recurved, straight and spreading, or erect and weakly incurved, green or with prominent white hyaline margins or nearly wholly white;

flowers spreading or slightly ascending, typically arranged in the inflorescence in 3-4 distinct vertical ranks; labellum apex typically acuminate

S. incurva (Jennings) M.C.Pace

6b. Floral bracts strongly concave, often abruptly tapered to the apex, the slender apex incurved over the base of the flower, wholly green (at most with a hyaline margin only a few cells thick); flowers spreading, more often slightly to strongly nodding, not forming distinct vertical ranks except in exceptionally robust plants, sometimes single ranked; labellum apex obtuse to short acute

S. arcisepala M.C.Pace

OROBANCHACEAE

1a. Plants essentially without chlorophyll or green colouration, holoparasitic; leaves small bracts

2a. Flowers white to violet, scapose, solitary; plants usually growing in dense, low tufts, conspicuously glandular-villous; parasitic on many different species

Aphyllon uniflorum (L.) Torr. & A.Gray

2b. Flowers whitish with purple-brown stripes, numerous in a large panicle; plants minutely glandular-pubescent, parasitic only on *Fagus grandifolia*

Epifagus virginiana (L.) W.P.C.Barton

1b. Plants green, hemiparasitic; leaves not reduced to bracts

3a. Leaves less than twice as long as broad, mostly sessile

Euphrasia L.

3b. Leaves at least 3 times as long as broad, including petiole (if present)

4a. Flowers anthocyanic; fruit +/- radially symmetrical

5a. Calyx 4-lobed; leaves entire, linear

Agalinis purpurea (L.) Pennell

5b. Calyx 5-lobed; leaves serrate, oblong-lanceolate

Odontites vernus Moench

4b. Flowers not anthocyanic, with at least some yellow; fruit bilaterally symmetrical

6a. Main stem leaves entire or few-toothed; flowers white with yellow palate; calyx not inflated

Melampyrum lineare Desr.

6b. Main stem leaves strongly toothed; flowers bright yellow; calyx strongly inflated in fruit

Rhinathus minor L. ssp. *minor*

Agalinis Raf.

This genus is represented by one species in PEI:

Agalinis purpurea (L.) Pennell

Aphyllon Mitch.

This genus is represented by one species in PEI:

Aphyllon uniflorum (L.) Torr. & A.Gray

Epifagus Nutt.

This genus is represented by one species in PEI:

Epifagus virginiana (L.) W.P.C.Barton

Euphrasia L.

Adapted from Gussarova (2019). Sessile glands on the bracts are of no taxonomic value.

1a. Corollas 2.5-4.5 mm long, lilac or purple, rarely white

2a. Cauline internode lengths 1-3(-5) times subtending leaves; bracts 2-7 mm, abaxial surfaces setulose on veins, adaxial puberulent

E. randii B.L.Rob.

2b. Cauline internode lengths 1-2 times subtending leaves; bracts 2-4 mm, surfaces coarsely, densely hirsute

E. farlowii (Pers.) Wallr.

1b. Corollas over 5 mm long

3a. Corollas 5-7.5(-8.5) mm long; inflorescences beginning at node (7-)10-12; bracts glabrous or hirsute, eglandular

E. nemorosa (Pers.) Wallr.

3b. Corollas 6-11 mm long; inflorescences beginning at node 3-9(-11); bracts glabrous or hirsute, with glandular hairs or not

4a. Corollas 8-10 mm; inflorescences beginning at nodes (5-)7-9(-11)

E. stricta J.P.Wolff ex J.F.Lehm.

4b. Corollas 6-8(-10) mm; inflorescences beginning at nodes 3-5

E. arctica Lange ex Rostr. ssp. *borealis* (F. Towns.) Yeo

Melampyrum L.

This genus is represented by one species in PEI:

Melampyrum lineare Desr.

Odontites Ludw.

This genus is represented by one species in PEI:

Odontites vernus Moench

Rhinanthus L.

This genus is represented by one species in PEI:

Rhinathus minor L. ssp. *minor*

OSMUNDACEAE

Traditionally placed in *Osmunda* L., molecular work by Metzgar et al. (2008) showed Cinnamon Fern (*Osmundastrum cinnamomeum*) to be sister to the remainder of the family (including two Australasian genera, *Todea* C. Presl and *Leptopteris* Willd. ex Bernh.). This supported placement in its own genus *Osmundastrum* C. Presl.

1a. Fronds completely bipinnate; fertile segment borne at apex of sterile frond

Osmunda regalis

1b. Fronds pinnate-pinnatifid

2a. Pinnae quickly tapering to rounded or acute apex; sporangia borne in modified pinnae in the middle of the frond

Claytosmunda claytoniana

2b. Pinnae long-tapering to acute apex; sporangia borne in small, cinnamon-haired fertile fronds; sterile fronds with tufts of cinnamon hair at junction of pinnae and rachis

Osmundastrum cinnamomeum

Claytosmunda (Y.Yatabe, N.Murak. & K.Iwats.) Metzgar & Rouhan

This genus is represented by one species in PEI:

Claytosmunda claytoniana (L.) Metzgar & Rouhan

Osmunda L.

This genus is represented by one species in PEI:

Osmunda regalis var. *spectabilis*

Osmundastrum C.Presl.

This genus is represented by one species in PEI:

Osmundastrum cinnamomeum

OXALIDACEAE

Oxalis L.

1a. Leaves all basal; flowers solitary, white, pinkish veined

O. montana Raf.

1b. Leaves cauline; flowers several per inflorescence, yellow

2a. Stipules absent; pubescence mostly of septate hairs; stem and pedicels with spreading pubescence or glabrate; plants rhizomatous

O. stricta L.

2b. Stipules present; pubescence of simple hairs, at least some antrorse-appressed; plants not rhizomatous

3a. Stems erect, sometimes decumbent at base; leaves +/- whorled; pubescence densely appressed

O. dillenii Jacq.

3b. Stems prostrate, rooting at many nodes; leaves clearly alternate; pubescence with scattered spreading hairs

O. corniculata L.

PAPAVERACEAE

1a. Flowers with bilateral symmetry; sap clear

2a. Leaves basal; flowers white, with the 2 outer sepals spurred or saccate at base

Dicentra cucullaria (L.) Bernh.

2b. Leaves cauline and sometimes basal; flowers variously coloured; only one outer sepal spurred or saccate at base

3a. Ovary and fruit subglobose

Fumaria officinalis L.

3b. Ovary and fruit elongate

Capnoides sempervirens (L.) Borkh.

1b. Flowers regular; sap coloured

4a. Leaves ternately dissected into numerous very narrowly linear lobes, glabrous to puberulent

Eschscholzia californica Cham.

4b. Leaves +/- pinnately round-lobed

Chelidonium majus L.

Capnoides Mill.

This genus is represented by one species in PEI:

Capnoides sempervirens (L.) Borkh.

Chelidonium L.

This genus is represented by one species in PEI:

Chelidonium majus L.

Dicentra Bernh.

This genus is represented by one species in PEI:

Dicentra cucullaria (L.) Bernh.

Eschscholzia Cham.

This genus is represented by one species in PEI:

Eschscholzia californica Cham.

Fumaria L.

This genus is represented by one species in PEI:

Fumaria officinalis L.

PHRYMACEAE

1a. Leaves sessile, rounded or clasping at base, lanceolate; corolla purple or pinkish

Mimulus ringens L. var. *ringens*

1b. Leaves petiolate, ovate; corolla yellow

Erythranthe moschata (Douglas ex Lindl.) G.L.Nesom

Erythranthe Spach

This genus is represented by one species in PEI:

Erythranthe moschata (Douglas ex Lindl.) G.L.Nesom

Mimulus L.

This genus is represented by one species in PEI:

Mimulus ringens L. var. *ringens*

PINACEAE

1a. Leaves in bundles of at least two

2a. Leaves deciduous, in tufts of 10-many

Larix laricina

2b. Leaves evergreen, 2-5 in a bundle

Pinus

1b. Leaves solitary

3a. Leaves squarish in cross section

Picea

3b. Leaves flat

4a. Leaves fragrant when crushed, relatively long; cones upright, cylindric, 4 to 7 cm long; bark developing blisters full of resin

Abies balsamea

4b. Leaves relatively short and stout; cones pendent, spherical to ovoid, to 2.5 cm long; bark developing large scales and fissures

Tsuga canadensis

Abies Mill.

Balsam Fir trees whose seed cones have exserted scales are sometimes called var. *phanerolepis* Fernald, although this character has been shown to be very variable, even within individual trees or cones. This genus is represented by one species in PEI:

Abies balsamea (L.) Mill.

Larix Mill.

This genus is represented by one species in PEI:

Larix laricina (Du Roi) K.Koch

Picea A.Dietr.

Black Spruce is very closely related to Red Spruce, with which it hybridizes (= *P. mariana* × *P. rubens*). Though hybridization is reportedly locally common (e.g., the eastern lowlands of New Brunswick, Hinds 2000), it is not typical of natural situations, instead mostly arising during significant disturbances such as clearcutting (Major et al. 2008). Hybrids have been reported from Prince Edward Island National Park (MacQuarrie et al. 1999). *Picea abies* (Norway Spruce) is very common in cultivation but has not been confirmed to be escaping in PEI. It is most similar to *P. glauca*, from which it can be distinguished at a distance by its drooping lateral branchlets. It is included in the key below.

1a. Twigs glabrous and bud scales glabrous [sometimes scarcely pubescent in *P. abies*]

2a. Cones small, 2.5-6 cm long; leaf tips sharp

P. glauca (Moench) Voss

2b. Cones large, 12-16 cm long; leaf tips blunt

[*P. abies* (L.) H.Karst.]

1b. Twigs and lower bud scales obviously pubescent

3a. Leaves glaucous, blunt, 6-18 mm long; cones persistent, 1.5-3.5 cm long

P. mariana (Mill.) Britton, Sterns & Poggenb.

3b. Leaves yellow-green, pointed, 10-30 mm long; cones usually high in tree, 2.3-5 cm long, shed by fall

P. rubens Sarg.

Pinus L.

Many species of Pinus are commonly cultivated and may spread from plantings or escape into natural habitat. For discussion of further species and their distinction from native Pines, see Catling (2005).

1a. Leaves in bundles of five

P. strobus L.

1b. Leaves in bundles of two

2a. Leaves short: less than 8 cm long

3a. Cones curved at tip; branches and trunk dark; leaves 2-5 cm long

P. banksiana Lamb.

3b. Cones more or less straight; larger branches orange-brown; leaves 3-7 cm long

P. sylvestris L.

2b. Leaves long: greater than 9 cm

4a. Fresh leaves not breaking readily when bent; at least some cone scales with small barb; winter buds pale silvery; very rare introduced species

P. nigra J.F.Arnold

4b. Fresh leaves snapping when bent; cone scales without barbs; winter buds reddish-brown; rare native species

P. resinosa Aiton

Tsuga (Endl.) Carrière

Eastern Hemlock is threatened by the Hemlock Woolly Adelgid (*Adelges tsugae*), an exotic invasive insect which (as of 2019) is established in southern Nova Scotia but has not yet spread to New Brunswick and Prince Edward Island. This genus is represented by one species in PEI:

Tsuga canadensis (L.) Carrière

PLANTAGINACEAE

1a. Flowers minute, corolla lacking or scarious and radially symmetrical

2a. Leaves in a basal rosette

Plantago L.

2b. Leaves opposite, the terminal ones bunched in a rosette

Callitriche L.

1b. Flowers conspicuous, with corolla petaloid and usually bilaterally symmetrical

3a. Corolla nearly radially symmetrical, the lobes much longer than the tube

Veronica L.

3b. Corolla bilaterally symmetrical, the lobes shorter than the tube

4a. Midstem leaves subopposite or whorled

Chelone glabra L.

4b. Midstem leaves chiefly alternate

5a. Corolla not spurred

Digitalis purpurea L. ssp. *purpurea*

5b. Corolla spurred

6a. Flowers axillary on pedicels at least twice as long as calyx

Chaenorrhinum minus (L.) Lange ssp. *minus*

6b. Flowers in terminal bracted racemes on pedicels about as long as calyx

7a. Palate of 2 short, white ridges; seeds wingless, not sharply 3-angled, +/- 0.4 mm long

Nuttallanthus canadensis (L.) D.A.Sutton

7b. Palate of a single yellow or orange ridge; seeds with wings or winglike angles or sharply 3-angled, mostly larger, to 1.7 mm long

Linaria L.

Callitriche L.

1a. Leaves all submerged, linear, 1-ribbed, truncate or slightly notched at summit, opposite pairs not connected at base; fruit nearly orbicular, conspicuously winged around entire margin, deeply furrowed between carpels

C. hermaphroditica L.

1b. Leaves usually dimorphic: floating leaves 3-5 ribbed and broad, submerged leaves narrow, 1-ribbed; opposite leaf pairs connected at base by narrow wing; fruit obovate, narrowly winged, shallowly furrowed between carpels

C. palustris L.

Chaenorrhinum Lange

This genus is represented by one species in PEI:

Chaenorrhinum minus (L.) Lange ssp. *minus*

Chelone L.

This genus is represented by one species in PEI:

Chelone glabra L.

Digitalis L.

This genus is represented by one species in PEI:

Digitalis purpurea L. ssp. *purpurea*

Linaria L.

1a. Styles simple; plants perennial; corolla white, pale yellow or bright yellow, sometimes with an orange palate, 27-32(-33) mm long

L. vulgaris L.

1b. Styles bifid; plants annual; corolla purple or red, with white, yellow or red palate, 22-29 mm long

L. maroccana Hook.f.

Nuttallanthus D.A.Sutton

This genus is represented by one species in PEI:

Nuttallanthus canadensis (L.) D.A.Sutton

Plantago L.

Erskine (1960) states that Watson collected a specimen of *P. rugelii* Decne. (det. John Macoun), but that the specimen was not kept, and that the species should be sought in PEI. If it occurs, it is probably only as an introduction.

1a. Inflorescence usually much less than 1/3 as long as peduncle; bracts and sepals scarcely keeled

P. lanceolata L.

1b. Inflorescence 1/3 or more the length of peduncle; bracts and sepals prominently keeled

2a. Leaves lanceolate, thick and fleshy

P. maritima L.

2b. Leaves broadly ovate, not fleshy

P. major L.

Veronica L.

1a. Main axis terminated by opposite leaves; flowers in axillary racemes

2a. Leaves linear-lanceolate, sessile, obscurely toothed; pedicels filiform, reflexed in fruit

V. scutellata L.

2b. Leaves ovate to oblong or lanceolate

3a. Stem +/- glabrous; leaves petiolate, lance-ovate, broadest near base

V. americana (Raf.) Schwein. ex Benth.

3b. Stem pubescent; leaves sessile or on winged petioled

4a. Leaves sessile or on petioles less than 2 mm long, ovate or cordate, coarsely crenate-serrate; pedicels 5-9 mm long, equal to or longer than sepals

V. chamaedrys L.

4b. Leaves abruptly narrowed to winged petioles or sessile, elliptic to obovate, finely serrate; pedicels 1-2 mm long, shorter than sepals

V. officinalis L.

1b. Main axis terminating in an inflorescence; flowers solitary in axils of leaves or in terminal spikes; upper bract like leaves alternate

5a. Flowers crowded in spike-like inflorescences; leaves sharply serrate, 4-10 cm long; erect perennial to 1 m high

V. longifolia L.

5b. Flowers in looser, raceme-like inflorescences; leaves usually under 3 cm long

6a. (Fruiting) pedicels over 3 cm, often deflexed, about twice as long as subtending leaves; mature capsules veiny

V. persica Poir.

6b. Pedicels 1-5 mm long; mature capsules not veiny

7a. Bracts of inflorescence conspicuously extended beyond fruit; plant glabrous, +/- fleshy; leaves narrowly oblong to oblanceolate, entire or shallowly toothed; corolla white

V. peregrina L. ssp. *peregrina*

7b. Bracts of inflorescence inconspicuous, scarcely extended beyond fruit; plants pilose to closely puberulent; leaves mostly broader; corolla bluish

8a. Plants usually decumbent at base, finely puberulent; mid-stem leaves entire or low-toothed; rhizomatous perennials

V. serpyllifolia L.

8b. Plants mostly erect at base, pilose; mid-stem leaves serrate or lobed; annuals

9a. Style shorter than capsule lobes; mid-stem leaves lobed

V. verna L.

9b. Style as long as or longer than capsule lobes; mid-stem leaves serrate

V. arvensis L.

POACEAE

All old PEI records of *Brachyelytrum erectum* (Schreb.) P. Beauv. were referred to *B. aristosum*. The former is a more southern species, in the Maritimes known historically from New Brunswick. *Cinna arundinacea* L. and *Coleataenia longifolia* (Torr.) Soreng were reported for PEI are based on MacSwain and Bain (1891), who reported a number of unlikely species. These records are most likely incorrect. Scoggan (1978) reports *Eragrostis pectinacea* (Michx.) Nees for PEI, who gives an odd range list, saying the species is "known from ON, QU and NS (Pictou, Pictou Co; P.E.I.)"; it seems Scoggan may have listed PEI in error.

1a. All spikelets unisexual; female spikelets borne above male spikelets

Zizania palustris L.

1b. Spikelets bisexual or unisexual and with male and female spikelets on separate plants (dioecious)

2a. Spikelets forming a simple spike or spikes, directly sessile or subsessile on main inflorescence axis or at most on secondary branches

3a. Spikelets with a dense basal tuft of silky hairs longer than the glumes, the pedicel glabrous or very short hairy; large (to 2.5 m tall) naturalized exotic plants in anthropogenic settings

Miscanthus sacchariflorus
(Maxim.) Benth. & Hook. f. ex Franch.

3b. Spikelets not as above; native or introduced species, if introduced then to 1.5 m tall, usually much smaller

GROUP A

2b. Spikelets pedicelled and / or on tertiary or further inflorescence branches (check congested inflorescences for reduced panicle branches)

4a. Spikelets with 3 or more florets (be careful to note rudimentary florets)

5a. Glumes shorter than the lowest lemma; awn of lemma, when present, terminal or lemma with bifid apex

GROUP B

5b. Glumes as long as or longer than the lowest lemma, sometimes as long as the entire spikelet; awn, when present, on the back of the lemma

GROUP C

4b. Spikelets with 1 - 2 florets

6a. Glumes absent; spikelets strongly flattened

Leersia oryzoides (L.) Sw.

6b. Glumes present; spikelets not strongly flattened

7a. Spikelets round in cross section or flattened from back to front (dorsiventrally), with a sterile lemma resembling the larger glume present below the fertile lemma (the first glume often resembles a small scale at the base of the spikelet); disarticulation below the membranous glumes

GROUP D

7b. Spikelets flattened from side to side (laterally), without a sterile lemma below the fertile lemma; if dorsiventrally flattened, disarticulating above the glumes; if round in cross section, disarticulating below the hardened (indurate) glumes

GROUP E

GROUP A

1a. Spikes one-sided, with spikelets borne on one side of rachis

2a. Glumes keeled, flattened laterally or not

3a. Glumes equal, about 2-3 mm long, deeply pouch-like and largely covering the floret, the spikelet strongly flattened and about as wide as long; ligule membranous, not ciliate; anthers 0.5-1.0 mm long

Beckmannia syzigachne (Steud.) Fernald

3b. Glumes unequal, the longer ones about 3-25 mm long, not pouch-like, the lower glumes shorter than florets; ligules ciliate; anthers 3.0-6.0 mm long

Sporobolus (in part)

2b. Glumes rounded on back, not flattened laterally

4a. Lower glume about half the length of the spikelet; upper glume essentially equal in length to sterile lemma; inflorescence branches arranged in a raceme along main axis; ligule absent

Echinochloa crus-galli (L.) P. Beauv.

4b. Lower glume minute or rudimentary; upper glume nearly or fully as long as the floret; inflorescence branches from relatively congested origin on main axis; ligule present

Digitaria

1b. Spikelets borne on opposite sides of rachis, the spikes not one-sided

5a. Each inflorescence node with 1 spikelet

6a. Spikelets flattened, the narrow edge positioned against the rachis

Lolium

6b. Spikelets positioned with broad face against the rachis

7a. Keels of the lemmas centered; perennials

Elymus (in part)

7b. Keels of the lemmas off centre, nearer one margin than the other; annuals

8a. Glumes 1-nerved, linear-subulate; lemmas ciliate on keel and margins

Secale cereale L.

8b. Glumes 3-nerved, ovate; lemmas not ciliate

Triticum aestivum L.

5b. Inflorescences usually with 2 or 3 spikelets per node

9a. Spikelets 3 at each node, each 1-flowered, the lateral ones stalked (except in cultivated barley) and sterile, reduced to awns, the central spikelet sessile and bisexual

Hordeum

9b. Spikelets 2 or more at each node, each with 2 or more bisexual florets, all similar and sessile

10a. Lemmas without awns; rhizomes extensively creeping; glumes 2 cm or more, excluding the awns

Leymus mollis (Trin.) Pilg.

10b. Lemmas with or without awns, if awnless (or awn as long as a third of the lemma body) then rhizomes absent and glume bodies less than 2 cm long

Elymus (in part)

GROUP B

1a. Tall reeds to 4 m; panicles large, plumose; rachilla hairs conspicuous, brownish, longer than the lemmas

Phragmites

1b. Smaller plants without plumose panicles; rachilla hairs inconspicuous or absent

2a. Spikelets in 1-sided clusters on 2 or 3 naked panicle branches

Dactylis glomerata L.

2b. Spikelets not as above

3a. Lemma nerves, callus or base of lemma densely bearded

4a. Lemmas awnless, cobwebby at base, the callus not bearded

Poa (in part)

4b. Lemmas awned from apical notch, not cobwebby at base

Schizachne purpurascens (Torr.) Swallen

3b. Lemma nerves, callus or base of lemma glabrous, ciliate or minutely pubescent but not densely bearded

5a. Spikelets unisexual; plants dioecious

Distichlis spicata (L.) Greene

5b. Spikelets with at least 1 bisexual floret

6a. Lemma tips with 2 teeth and often awned from the notch

Bromus

6b. Lemma tips not toothed, the awn, when present, at the tip

7a. Lemmas with 1-3 strong nerves

8a. Ligule membranous, not ciliate; spikelets not strongly flattened

Poa (in part)

8b. Ligule ciliate; spikelets strongly flattened

Eragrostis minor Host

7b. Lemmas with 5 or more nerves, the ones between the keel and margin often very faint

9a. Lemmas with a prominent midrib

Poa (in part)

9b. Lemmas with nerves all about the same

10a. Lateral nerves of lemmas coming together at the apex

11a. Leaves involute, < 3 mm wide

Festuca

11b. Leaves flat (margins inrolled when dry), (2.5-) 3.0-8.0 mm wide

Lolium

10b. Lateral nerves of lemmas not coming together at the apex

12a. Lemma nerves not prominent or not equally so and not equally spaced; plants mainly halophytic

Puccinellia

12b. Lemma nerves raised, equally prominent, +/- equally spaced; plants not halophytic

13a. Lemmas 7-nerved; upper glume 3-nerved; leaf sheaths closed at first, rupturing later; underground rhizomes present

Glyceria

13b. Lemmas 5-nerved; upper glume 3-nerved; leaf sheaths open; rhizomes absent, but stems extensively creeping

Torreyochloa pallida (Torr.) G.L. Church

GROUP C

1a. Spikelets with one bisexual awnless floret with two additional, often dissimilar staminate, sterile, or vestigial lemmas below it

2a. Lower florets staminate, at least as large as bisexual floret, awnless or awned, but evident in the spikelet

Anthoxanthum

2b. Lower florets sterile, small and inconspicuous, awnless, only the awnless bisexual floret evident in the spikelet

Phalaris

1b. Spikelets usually with 2 or more bisexual florets

3a. Lemmas all awnless; larger glumes +/- broadest above the middle

Sphenopholis intermedia (Rydb.) Rydb.

3b. At least some florets with a clear awn (sometimes hidden by glumes); glumes ovate to lanceolate

4a. Larger glumes 6–27 mm long

5a. Lemma with awn arising between terminal teeth; ligule a fringe of short hairs with a long tuft on each side

Danthonia

5b. Lemma with awn arising dorsally; ligule membranous, hairless

6a. Spikelets (excluding awns) under 10 mm long; lower floret staminate with a strong awn, upper floret bisexual with a usually weak awn

Arrhenatherum

6b. Spikelets 20-27 mm long; florets all bisexual or the upper rudimentary; awns various

Avena

4b. Larger glumes less than 6 mm long

7a. Basal leaves tufted, involute, mostly setaceous, about 1.5 dm long; panicle branches +/- glabrous; lemma awns geniculate, well exserted

Avenella flexuosa (L.) Drejer

7b. Basal leaves flat or tardily involute, 1.5-5.0 mm wide, to 6 dm long; panicle branches +/- scabrous; lemma awns mostly straight, included or only slightly exserted

Deschampsia cespitosa (L.) Trin.

GROUP D

1a. Spikelets with persistent bristles below, articulated above the bristles, these remaining on inflorescence; ligule a row of hairs

Setaria

1b. Spikelets not as above

2a. Second glume or sterile lemma awned or sharp pointed; spikelets often with coarse hairs

Echinochloa crus-galli (L.) P. Beauv.

2b. Second glume not as above; spikelets without coarse hairs

3a. Margins of fertile lemma flat, not involute

Digitaria

3b. Margins of fertile lemma involute

4a. Panicles terminating the culms usually appearing in late spring; branches usually developing from the lower and middle cauline nodes in summer, the branches rebranching 1 or more times by fall; upper florets not disarticulating at maturity, plump

Dichanthelium

4b. Panicles terminating the culms usually appearing after midsummer; branches usually not developing branches from the lower and middle cauline nodes, when present, rarely rebranched; upper florets disarticulating or not very plump at maturity

Panicum

GROUP E

1a. Inflorescence a dense, symmetrical, cylindric to ovoid, spike-like panicle

2a. Lemma surrounded by a tuft of hairs at the base

Ammophila breviligulata Fernald

2b. Lemma not as above

3a. Glumes awned, prominently folded and keeled; lemmas awnless

Phleum pratense L.

3b. Glumes not awned

4a. Glumes longer than and enclosing lemma; lemma indurated, appressed-pilose to silky

Phalaris

4b. Glumes shorter than or equalling the lemma; lemmas awned on the back below the middle

Alopecurus

1b. Inflorescence a branched panicle, either loose and open or contracted, spike-like and lobed or asymmetrical in outline

5a. Lemma conspicuously harder than the glumes in texture

6a. Lemma awned

7a. Leaf blades usually flattened, often glaucous above, becoming slightly involute in drying, more than 4 mm; lemmas 6-9 mm long (excluding awn); glumes distinctly ribbed

Oryzopsis asperifolia Michx.

7b. Leaf blades involute, less than 3 mm in diameter; lemma 2-4 mm long (excluding awn); glumes (except midrib) inconspicuously ribbed

Piptatheropsis canadensis
(Poir.) Romasch., P.M. Peterson & Soreng

6b. Lemma awnless

8a. Spikelets compressed dorsiventrally

Milium effusum L.

8b. Spikelets compressed laterally

Phalaris

5b. Lemma similar in texture to the glumes, membranous

9a. Floret on a short stipe above the glumes; spikelet disarticulating from the inflorescence below the glumes

Cinna latifolia (Trevir. ex Göpp.) Griseb.

9b. Floret not as above; spikelet disarticulating above the glumes

10a. Lemma mucronate or awned from the tip

11a. Glumes minute; rachilla prolonged behind palea; lemma tapering into a long awn; rhizomes absent; tufted grasses of woodland habitat

Brachyelytrum aristosum (Michx.) P. Beauv. ex Trel.

11b. At least one glume conspicuous; rachilla not prolonged behind palea; rhizomes when present, scaley; clustered or rhizomatous grasses of mostly open habitats

Muhlenbergia

10b. Lemma awnless or awned from the back or below the tip

12a. Lemma surrounded at the base by a tuft of hairs

13a. Lemma awned on the back

Calamagrostis

13b. Lemma awnless

14a. Spikelets longer than 8 mm

Ammophila breviligulata Fernald

14b. Spikelets (excluding the awns) shorter than 8 mm

Muhlenbergia

12b. Lemma not as above

15a. Lemma 1-nerved; seed loose within the surrounding tissue, gelatinizing when wet

Sporobolus

15b. Lemma 3-nerved; seed loose within the surrounding tissue, not gelatinizing when wet

16a. At least one glume nearly as long or longer than the floret; lemmas awnless or with awns exserted less than twice the length of the spikelets

Agrostis

16b. Glumes much shorter than the floret

Catabrosa aquatica (L.) P. Beauv.

Agrostis L.

1a. Ligule truncate, 0.5-2.0 mm long; palea roughly ½ as long as the lemma

A. capillaris L.

1b. Ligules rounded or acute, +/- lacerate, 2-6 mm long; paleas as above or vestigial or absent

2a. Stems tufted, not arising from rhizomes or stolons

3a. Panicle branches abundantly scabrous, usually forking beyond the middle; spikelets reddish tinged, borne mostly near ends of branches; leaf branches mainly basal, +/- involute, less than 2 (-3) mm broad, the uppermost usually shorter than the lowest panicle branches; flowering in midsummer

A. scabra Willd.

3b. Panicle branches smooth or only slightly scabrous, usually forking near or below the middle; spikelets pale greenish (rarely reddish), not as confined to the ends of the branches; leaf blades distributed along stem, the uppermost about twice as long as lowest panicle branches; flowering late summer

A. perennans (Walter) Tuck.

2b. Stems not tufted, arising from stolons or rhizomes

4a. Lemma with a bent awn extending beyond glumes; palea vestigial or absent

A. canina L.

4b. Lemma awnless, if awned then awn straight, shorter than glumes; palea at least ½ as long as lemma

5a. Leaf blades usually more than 3 mm wide; panicle open during and after flowering; bases of middle branches meeting axis at an angle of about 30-40 degrees when mature; spikelets +/- purple-tinged; stems arising straight or curved at the very base, from underground scaly rhizomes and sometimes also stolons

A. gigantea Roth

5b. Leaf blades usually less than 3 mm wide; panicle open at anthesis, closed and +/- cylindrical after flowering; bases of middle branches usually strongly ascending or appressed to axis, diverging about 15 degrees; spikelets pale greenish (rarely reddish); stems from stolons, +/- decumbent at bases, lower nodes strongly bend and/or rooting, rhizomes wanting

A. stolonifera L.

Alopecurus L.

1a. Stems erect or ascending, usually over 6 dm tall; panicle about 10 mm thick; leaves to 10 mm wide; spikelets 4.0-6.5 mm long with awns exserted up to 7 mm beyond glumes; plants of dryish open areas

A. pratensis L.

1b. Stems decumbent to tufted and erect, usually under 6 dm tall; panicle 5-7 mm thick; leaves to 6 mm wide; spikelets not over 3 mm long with awns included, or exserted 2-3 mm beyond glumes; plants of wet shores, ditches and similar open areas

2a. Awn inconspicuous, included or rarely exserted to 2 mm beyond glumes, straight, attached near middle of lemma; anthers yellow or orange after anthesis

A. aequalis Sobol.

2b. Awn conspicuously exserted 2-3 mm beyond glumes, geniculate, attached near base of lemma; anthers purplish after anthesis

A. geniculatus L.

Ammophila Host

This genus is represented by one species in PEI. Some authors treat it as *Calamagrostis breviligulata* (Fernald) Saarela (Saarela et al. 2017).

Ammophila breviligulata Fernald

Anthoxanthum L.

Anthoxanthum hirtum (Schrank) Y. Schouten & Veldkamp may be mapped for Prince Edward Island in Allred and Barkworth (2004), but the map scale and dot size are such that it is hard to be certain. Given the habitat difference (*A. hirtum* being largely or entirely restricted to non-saline sites), it may not occur on PEI.

1a. Panicle open, pyramidal in outline, the branches spreading or drooping; glumes nearly equal in length, with lateral nerves obscure or prominent only on basal half; lower florets awnless

A. nitens (Weber) Y. Schouten & Veldkamp

1b. Panicle contracted, the branches ascending or appressed; glumes very unequal, with lateral nerves (at least on larger glumes) prominent beyond the middle; lower florets awned

A. odoratum L.

Arrhenatherum P.Beauv.

This genus is represented by one species in PEI:

Arrhenatherum elatius (L.) P.Beauv. ex J.Presl & C.Presl

Avena L.

Avena hybrida Peterm. has been reported for Prince Edward Island (Baum 2004), although the record needs confirmation. It would key to *A. fatua* below but can be distinguished by its spikelets usually containing 2-4 florets (vs. 2 or rarely 3 in *A. fatua*).

1a. Florets not disarticulating from the glumes, remaining attached to the plant even at maturity; calluses glabrous; lemmas glabrous

A. sativa L.

1b. Florets disarticulating at maturity, only the glumes remaining attached; calluses bearded; lemmas pubescent

A. fatua L.

Beckmannia Host

This genus is represented by one species in PEI:

Beckmannia syzigachne (Steud.) Fernald

Brachyelytrum P.Beauv.

This genus is represented by one species in PEI:

Brachyelytrum aristosum (Michx.) P. Beauv. ex Trel.

Bromus L.

1a. Plants annual; panicle small and +/- dense with short, erect or ascending branches

B. racemosus L.

1b. Plants perennial, remains of previous year's growth usually present; panicle with open, drooping branches

2a. Plants rhizomatous; awns absent or less than 1 mm long; sheaths usually glabrous

B. inermis Leyss.

2b. Plants tufted, not rhizomatous; awns 2-6 mm long; sheaths pubescent or glabrous

B. ciliatus L.

Calamagrostis Adans.

1a. Panicle widely open with loosely spreading branches at flowering, slightly contracted in fruit; lemma nearly smooth; callus hairs as long as or longer than lemma

C. canadensis (Michx.) P. Beauv.

1b. Panicle contracted and narrow with strongly ascending branches at flowering; lemma prominently scabrous; callus hairs usually shorter than lemma

C. stricta (Timm) Koel.

Calamagrostis canadensis (Michx.) P. Beauv.

Two varieties of C. canadensis are reported for Prince Edward Island:

1a. Glumes 2.8–4.5 mm long, acute to acuminate at the apex, distinctly longer than the lemma

C. canadensis var*. canadensis*

1b. Glumes 2.2–2.8 mm long, obtuse to acute at the apex, scarcely or not exceeding the lemma

C. canadensis var. *macouniana* (Vasey) Stebbins

Catabrosa P.Beauv.

This genus is represented by one species in PEI:

Catabrosa aquatica (L.) P. Beauv.

Cinna L.

This genus is represented by one species in PEI:

Cinna latifolia (Trevir. ex Göpp.) Griseb.

Dactylis L.

This genus is represented by one species in PEI:

Dactylis glomerata L.

Danthonia DC.

1a. Apical teeth of the lemma 0.5–2 mm long; panicle 2–5 cm tall, crowded, the branches ascending to appressed after anthesis; pedicels shorter than or equaling the associated spikelets; leaf blades commonly involute, 0.8–2 (–3) mm wide, usually curling at maturity

D. spicata (L.) P. Beauv. ex Roem. & Schult.

1b. Apical teeth of the lemma 2–4 mm long; panicle 5–10 cm tall, open, the branches often divergent after anthesis; pedicels as long as or longer than the associated spikelets; leaf blades flat, 2–4 mm wide, not curling

D. compressa Austin

Deschampsia L.

This genus is represented by one species in PEI:

Deschampsia cespitosa (L.) Trin.

Dichanthelium (Hitchc. & Chase) Gould

Dichanthelium acuminatum is now treated in the strict sense, and not present as far north as Canada (Thomas 2015). Erskine (1960) maps 10 locations for *Panicum lanuginosum* and *Panicum subvillosum* collectively. However, Thomas (2015) does not map or list the latter species for PEI. It is unclear if Erskine's records represent *Dichanthelium subvillosum* in the strict sense.

1a. Leaves very long and narrow, 10-20 times as long as wide, 2-5 mm wide, mostly confined to near base; nodes +/- hidden within leaf sheaths, plants not forming rosettes of short, stubby leaves

D. depauperatum (Muhl.) Gould

1b. Leaves shorter and broader, not more than 10 times as long as wide, well distributed along the stem; nodes conspicuous; plants usually forming basal rosettes of short, stubby leaves

2a. Ligule hairs less than 1 mm long; spikelets 1.5-2.3 mm long; leaves sometimes greater than 1 cm wide

D. boreale (Nash) Freckmann

2b. Ligule hairs 2-5 mm long; spikelets usually less than 2 mm long; leaves generally less than 1 cm wide

(*D.* sect. *Lanuginosa* (Hitchc.) Freckmann & Lelong)

3a. Upper surface of mid-stem leaves of vernal culms lacking pubescence along the central one third of the blade from base to tip

D. portoricense
(Desv. ex Ham.) B.F. Hansen & Wunderlin

3b. Upper surface of mid-stem leaves of vernal culms uniformly pubescent across the surface (margin to margin) or glabrous

4a. Largest vernal leaves typically ≤ 65 mm long; vernal stem leaves typically < 6.0 mm wide; plants growing in acidic substrates and usually at sites with significantly high native floristic quality; typical habitats include sandy woodlands, bogs, Cedar (*Thuja occidentalis*) swamps, and Tamarack (*Larix larilcina*) swamps

D. implicatum (Scribn.) Kerguélen

4b. Largest vernal leaves typically > 65 mm long; vernal stem leaves typically > 6.0 mm wide; plants more often associated with neutral or alkaline soils and not indicative of high native floristic quality; typical habitats include old fields, woodlands and glades

D. lanuginosum (Elliott) Gould

Digitaria Haller

1a. Spikelets usually 2-2.3 mm long; upper glume nearly or fully as long as the floret; sheaths and blades usually nearly or quite glabrous (except around summit of sheath)

D. ischaemum (Schreb.) Muhl.

1b. Spikelets usually 2.5-3 mm long; upper glume only about half as long as the floret; sheaths and usually blades ± pilose, at least toward base of plant

D. sanguinalis (L.) Scop.

Distichlis Raf.

This genus is represented by one species in PEI:

Distichlis spicata (L.) Greene

Echinochloa P.Beauv.

This genus is represented by one species in PEI:

Echinochloa crus-galli (L.) P. Beauv.

Elymus L.

Elymus virginicus L. has been divided into several varieties, with all Prince Edward Island specimens (C.S. Blaney 5940; C.J. Chapman 1354) aligning with *E. v.* var. *halophilus* (E.P. Bicknell) Wiegand. All varieties present in Atlantic Canada may be keyed with Haines (2011).

1a. Spikelets 2-3 at each node, with 4-6 hardened glumes subtending each node like an involucre

E. virginicus L.

1b. Spikelets 1 at each node

2a. Anthers 3-7 mm long; plants with elongate rhizomes

E. repens (L.) Gould

2b. Anthers 1-2 mm long; plants cespitose, without rhizomes

E. trachycaulus (Link) Gould

Eragrostis Wolf

This genus is represented by one species in PEI:

Eragrostis minor Host

Festuca L.

Old reports of *Festuca ovina* L. for Prince Edward Island likely refer to *F. ovina* var. *duriuscula* (= *F. trachyphylla*) rather than *F. ovina* s.s.

1a. Leaf sheaths of youngest shoots closed to near summit, reddish and hirsute, older sheaths open, brown, disintegrating to pale fibres near base; +/- rhizomatous with shoots bursting laterally through the lowest sheaths

F. rubra L.

1b. All leaf sheaths open to near base with mostly overlapping edges, tan to dark brown or sometimes reddish, smooth, not disintegrating into fibres; plants +/- densely tufted

2a. Lemmas 2.5-3.5 mm long, awnless or rarely with awns to 0.3 mm long, brownish; leaves capillary, 0.2-0.3 mm broad, flexuous; anthers 1.5-1.8 mm long

F. filiformis Pourr.

2b. Lemmas 3.8-5.0 mm long, awned, green; leaves 0.5-1.2 mm broad; anthers 2.7-3.0 mm long

F. trachyphylla (Hack.) R.P. Murray

Festuca rubra L.

Festuca rubra ssp. *fallax* was confirmed by David Mazerolle during 2018 AC CDC fieldwork in Prince Edward Island. Plants had not recorded previously under this name due to taxonomic ambiguity and uncertainty on how to treat exotic occurrences of Red Fescue.

1a. Leaf blades of vegetative shoots 0.8-3 mm wide, flat or loosely folded; anthers 3.5-4.5 mm long

F. rubra ssp. *fallax* (Thuill.) Nyman

1b. Leaf blades of vegetative shoots 0.3-1 mm wide, tightly folded (rarely up to 2 mm wide and flat); anthers 1.8-3.5 mm long

F. rubra ssp. *rubra*

Glyceria R.Br.

1a. Spikelets 10-20 mm long; pedicels appressed to main axis, shorter than spikelets; leaves often floating

2a. Lemmas glabrous between the veins, 3.1-3.9 mm long; anthers 0.6-1.0 mm long; mid-stem leaf blades minutely but densely papillose on the adaxial surface

G. borealis (Nash) Batch.

2b. Lemmas scabrous between the veins, 5.4-7.0 mm long; anthers 2-3 mm long; adaxial surface of mid-stem leaf blades smooth

G. fluitans (L.) R. Br.

1b. Spikelets linear to ovate, 2.0-6.5 mm long; pedicels erect to widely spreading, longer than spikelets; leaves not floating

3a. Lemmas with corrugated appearance from conspicuously raised, scabrous ribs; spikelets to 2.6 mm wide at maturity

4a. Spikelets 5-6 mm long; glumes 1 mm or longer; lemma ovate, usually purple-tinged; anthers 0.7-1.0 mm long; more robust in nearly all aspects than the following species

G. grandis S. Watson

4b. Spikelets 2.0-4.5 mm long; lower glumes usually less than 1 mm long; lemma elliptic to obovate, usually not as conspicuously purple tinged; anthers 0.3-0.5 mm long

G. striata (Lam.) Hitchc.

3b. Lemmas +/- smoothly rounded on back or with glabrous ribs only slightly raised near base; spikelets to 4 mm wide at maturity

G. canadensis (Michx.) Trin.

Glyceria canadensis (Michx.) Trin.

Glyceria canadensis var. *laxa* has been treated both as a hybrid between *G. canadensis* s.s. and *G. striata* and as a species. The presence of dehiscent anthers and well-formed fruit on many specimens suggests it should not be treated as a hybrid (Barkworth and Anderton). Sterile hybrids between *G. canadensis* and *G. striata* are known only from the type location of *G.* ×*ottawensis* Bowden.

1a. Lower lemmas 3-4 mm long, 0.5-1.0 mm longer than paleas; secondary branches of panicle in groups of 1-3; spikelets 5-10-flowered, 4.5-7.0 mm long; cauline leaves 3-5

G. canadensis var. *canadensis*

1b. Lower lemmas 2.0-2.5 mm long, about as long as paleas; secondary branches of panicle in groups of 3-5; spikelets 3-6-flowered, 3-5 mm long; cauline leaves 6-8

G. canadensis var. *laxa* (Scribn.) Hitchc.

Hordeum L.

1a. Leaves conspicuously auricled, glabrous; spike rachis not disarticulating at maturity; awns of lemmas conspicuously larger than those of the glumes

H. vulgare L.

1b. Leaves without auricles, pubescent (at least on the sheaths); spike rachis disarticulating at maturity; awns of lemmas and glumes similar

H. jubatum L.

Leersia Sw.

This genus is represented by one species in PEI:

Leersia oryzoides (L.) Sw.

Leymus Hochst.

This genus is represented by one species in PEI:

Leymus mollis (Trin.) Pilg.

Lolium L.

1a. Inflorescence a simple spike; glumes 1

L. perenne L.

1b. Inflorescence a panicle; glumes 2

2a. Branches of panicle mostly 2 at each node, both with several spikelets; auricles at summit of leaf sheath ciliate; larger lemmas 7-8.5 mm long

L. arundinaceum (Schreb.) Darbysh.

2b. Branches of panicle mostly 1 at each node, if present the second branch bearing usually only one spikelet; auricles glabrous; larger lemmas mostly 5.5-7 mm long

L. pratense (Huds.) Darbysh.

Milium L.

This genus is represented by one species in PEI:

Milium effusum L.

Miscanthus Andersson

This genus is represented by one species in PEI:

Miscanthus sacchariflorus (Maxim.) Benth. & Hook. f. ex Franch.

Muhlenbergia Schreb.

1a. Glumes (including awns) less than 3.6 mm long, egualling or shorter than body of lemma; anthers not over 0.5 mm long

M. mexicana (L.) Trin.

1b. Glumes (including awns) (3.0-) 3.5-6.5 (-7.5) mm long, distinctly longer than the body of the lemma; anthers 0.5-1.3 mm long

M. glomerata (Willd.) Trin.

Oryzopsis Michx.

This genus is represented by one species in PEI:

Oryzopsis asperifolia Michx.

Panicum L.

1a. Plants large perennials with scaly rhizomes

P. virgatum L.

1b. Plants annual, without rhizomes

2a. Leaf sheaths and usually leaves glabrous; nodes glabrous; lower glumes not over ¼ length of spikelet, truncate or triangular-tipped

P. dichotomiflorum Michx.

2b. Leaf sheaths and leaves papillose-hispid; nodes usually bearded; lower glume at least 1/3 length of spikelet

3a. Spikelets large, 4.5-5.0 mm long; grain 2 mm thick; panicle heavy and often drooping at tip

P. miliaceum L.

3b. Spikelets smaller, less than 4 mm; grain less than 1 mm thick; panicle erect

P. capillare L.

Phalaris L.

Our typical *Phalaris arundinacea* L. is the nominate var. *arundinacea*. The cultivated var. *picta* L. sometimes persists around old homesteads and can be distinguished by its green leaves that bear white stripes (Catling et al. 2014).

1a. Inflorescence large, 5-20 cm long, branched, becoming closely contracted after flowering; glumes lanceolate, often purple-tinged, the keel inconspicuously winged

P. arundinacea L.

1b. Inflorescence smaller, less than 4 cm long, ovoid, dense and spikelike; glumes white with green ribs, the keel broadly winged

P. canariensis L.

Phleum L.

This genus is represented by one species in PEI:

Phleum pratense L.

Phragmites Adans.

This genus contains one species in our flora (*P. australis* (Cav.) Trin. ex Steud.), with both a native subspecies (ssp. *americanus* Saltonstall, P.M. Peterson & Soreng) and a highly invasive European subspecies (ssp. australis). The First confirmed PEI record of the introduced subspecies was collected by Rosemary Curley near Grand River along the highway in 2004.

1a. Ligules 0.4–0.9 (–1.1) mm long; lower glumes 2.5–5 mm long; upper glumes 4.5–7.5 mm long; lemmas 7.5–12 mm long; middle and upper internodes of stem dull, ridged, tan during the growing season; leaf sheaths of middle and upper stem persistent on plant, removed with difficulty in the fall; rhizomes usually thicker than 15 mm, often compressed; leaf blades dark green or dark gray-green (yellow-green in some coastal populations); clones with densely set stems

P. australis ssp. *australis*

1b. Ligules 1–1.7 mm long; lower glumes 3–6.5 mm long; upper glumes 5.5–11 mm long; lemmas 8–13.5 mm long; middle and upper internodes of stem smooth and highly lustrous, red-brown to dark red-brown during the growing season; leaf sheaths of middle and upper stem sometimes deciduous, easily removed in the fall; rhizomes usually thinner than 15 mm, terete; leaf blades yellow-green; clones with sparsely set stems

P. australis ssp. *americanus*
Saltonstall, P.M. Peterson & Soreng

Piptatheropsis Romasch., P.M.Peterson & Soreng

This genus is represented by one species in PEI:

Piptatheropsis canadensis
(Poir.) Romasch., P.M. Peterson & Soreng

Poa L.

1a. Plants annual or short-lived perennial; densely tufted wih soft, light green leaves, without long persistent basal leaves; panicle branches 1-2 at each node

P. annua L.

1b. Plants perennial, creping or tufted, the bases often with persistent old leaves or dry leaf sheaths; leaves dark green; panicle branches usually 2 or more at a node

2a. Lemmas with only 3 ribs (1 on the keel, and 1 on each margin)

3a. Marginal ribs of lemma glabrous, keel rib pubescent at base; lower panicle branches widely spreading and 4-8 per node; ligule 0.7-2.2 mm long

P. alsodes A. Gray

3b. Marginal ribs of lemma pubescent

4a. Panicle branches mostly 2-3 per node; inflorescence narrowly elongate; stems strongly compressed

P. compressa L.

4b. Panicle branches usually 4-6 per node; inflorescence broadly ovate in outline; stems not strongly compressed

P. palustris L.

2b. Lemmas with 5 distinct ribs (1 on keel, 1 on each margin, 2 intermediate ribs)

5a. Panicle branches 1-3 per node, the florets borne mostly beyond the middle; lemmas glabrous except for webbed callus; upper ligules 1.0-8.0 mm long

P. saltuensis Fernald & Wiegand

5b. Panicle branches 3-5 per node, the florets borne to below middle; lemma keel glabrous or appressed-pubescent; upper ligules 1.0-8.0 mm long

6a. Upper ligules 4-8 mm long, acuminate; lemma margins and keel glabrous or keel appressed-pubescent; lower sheaths and upper stem often scabrous; plants not rhizomatous

P. trivialis L.

6b. Upper ligules about 1 mm long, +/- truncate; lower sheaths glabrous or rarely pubescent; plants rhizomatous

P. pratensis L.

Poa pratensis L.

Poa pratensis L. is represented on Prince Edward Island by two subspecies. Apparently native in coastal habitat is *P. p*. ssp. *alpigena* (Fries ex Blytt) Hiitonen. The introduced species commonly used in lawns is presumably all *P. p.* ssp. *pratensis*.

1a. Panicle branches smooth or with a few scabrules; intermediate veins of lemma usually pubescent

P. pratensis ssp*. alpigena* (Fries ex Blytt) Hiitonen

1b. Panicle branches scabrous; intermediate veins of lemma glabrous

P. pratensis ssp*. pratensis*

Puccinellia Parl.

Old Prince Edward Island records for *Puccinellia tenella* (Lange) Holmb. have been referred to *P. pumila*.

1a. Lemmas +/- firm and leathery throughout

2a. Anthers 0.6-1.0 mm long; spikelets to 5 mm long, their lemmas 1.8-3.0 mm long, with midribs often extending as a point beyond the tip; lower branches of inflorescence with spikelets borne nearly to base

P. fasciculata (Torr.) E.P. Bicknell

2b. Anthers 1.5-2.6 mm long; spikelets to 12 mm long, 4-9 flowered; lemmas 3-5 mm long; lower branches of inflorescence with branches and spikelets borne from about halfway along; leaves to 3.5 mm broad; stems to over 5 dm tall

P. maritima (Huds.) Parl.

1b. Lemmas softer, thinner or herbaceous

3a. Tip of lemmas entire or with scattered denticles (small, narrow teeth); body of lemmas often purple, the lowermost 1.5-2.5 mm long; leaves flat (subinvolute in drying); stems not conspicuously glaucous, usually not over 2 dm tall

P. pumila (Vasey) Hitchc.

3b. Tip of lemmas conspicuously denticulate-erose

4a. Lemmas broad-obtuse to truncate at the apex, the lowest of the spikelet 1.5–2.5 mm long; inflorescence open, the lower branches spreading or reflexed; anthers 0.4–0.8 mm long

P. distans (Jacq.) Parl.

4b. Lemmas acute to narrow-obtuse at the apex, the lowest of the spikelets 2.2–3 mm long; inflorescence more upright, the branches commonly ascending; anthers 0.6–1.5 mm long

P. nuttalliana (Schult.) Hitchc.

Schizachne Hack.

This genus is represented by one species in PEI:

Schizachne purpurascens (Torr.) Swallen

Setaria P.Beauv.

Erskine (1960) lists *S. verticillata* (L.) P. Beauv. under *S. viridis*, with an old MacSwain and Bain (1891) record. He likely meant that MacSwain and Bain's identification of *S. verticillata* was incorrect and that the record actually refers to *S. viridis*.

1a. Bristles yellowish to golden brown; fertile lemma conspicuously cross-wrinkled, upper half exposed in fruit; sheath margins glabrous

S. pumila (Poir.) Roem. & Schult.

1b. Bristles greenish to purplish; fertile lemma smooth, nearly concealed by second glume; sheath margins ciliate

S. viridis (L.) P.Beauv.

Sphenopholis Scribn.

This genus is represented by one species in PEI:

Sphenopholis intermedia (Rydb.) Rydb.

Sporobolus R.Br.

Including the large, distinctive grasses formerly placed in the genus *Spartina* Schreb. (Peterson et al. 2014). *Sporobolus* ×*eatonianus* P.M.Peterson & Saarela, the hybrid between *S. michauxianus* and *S. pumilus* is highly variable, but is generally intermediate in height, number of panicle branches, and spikelet length. Its leaves are often strongly involute when fresh, as in *S. pumilus*, but broader than in that species.

1a. Slender annual plants, usually less than 50 cm high, maturing and conspicuous only in late summer and fall; panicle usually under 5 cm long, often concealed in upper leaf sheaths

S. vaginiflorus (Torr. ex A. Gray) Alph. Wood

1b. Robust perennial plants, often much over 50 cm high; panicle not concealed in leaf sheaths, usually much longer than 5 cm

2a. Leaves tightly involute to base of blade when fresh or dried, about 1 mm in diameter; glumes unawned; spikes 2-4, 3-6 cm long; stems slender, wiry, from rhizomes 1-3 mm thick

S. pumilus (Roth) P.M.Peterson & Saarela

2b. Leaves flat when fresh, +/- involute at least towards tip when dried, about 4-5 mm broad when flattened; glumes awned or not; spikes 6-30+; stems robust from rhizomes 3-8 mm thick

3a. Leaves harshly scabrous on margins; glumes awned; rhizome rigid, covered with hard brownish or purplish scales

S. michauxianus (Hitchc.) P.M.Peterson & Saarela

3b. Leaves glabrous; glumes unawned; rhizome flaccid, covered with soft, light-coloured scales

S. alterniflorus (Loisel.) P.M.Peterson & Saarela

Torreyochloa G.L.Church

This genus is represented by one species in PEI:

Torreyochloa pallida (Torr.) G.L. Church

Triticum L.

This genus is represented by one species in PEI:

Triticum aestivum L.

Zizania L.

A Prince Edward Island record for *Zizania aquatica* L. from the Journal of the Arnold Arboretum has not been confirmed. One species and two varieties are known from Prince Edward Island:

Zizania palustris L.

1a. Lower pistillate branches with 9-30 spikelets; pistillate part of the inflorescence 10-40 cm or more wide, the branches ascending to widely divergent; plants 1-3 m tall; blades 10-40+ mm wide

Z. palustris L. var. *interior* (Fassett) Dore

1b. Lower pistillate branches with 2-8 spikelets; pistillate part of the inflorescence 1-8 (15) cm wide, the branches appressed or ascending, or a dew branches somewhat divergent; plants to 2 m tall; blades 3-21 mm wide

Z. palustris var. *palustris*

POLYGONACEAE

1a. Inner three sepals enlarged and valve-like, the outer three sepals linear and often reflexed

Rumex L.

1b. All sepals alike, often petaloid

2a. Achene exserted or loosely embraced by the shriveling calyx; smooth annuals with hastate, cordate or deltoid leaves

Fagopyrum esculentum Moench

2b. Achene +/- included in closely appressed and enlarged calyx (some spp. with linear to linear-lanceolate leaves often produce late-season fruit that are slightly exserted from the calyx)

3a. Three outer perianth lobes +/- keeled to broadly winged, especially in fruit

4a. Stems stiffly erect, becoming woody but dying to ground in winter; stigmas fimbriate; perianth enlarging in fruit; plants mostly dioecious

Reynoutria Houtt.

4b. Stems twining or trailing; stigmas capitate or peltate; perianth usually not enlarging in fruit; plants not dioecious

Fallopia Adans.

3b. Three outer perianth lobes neither keeled nor winged, even in fruit

5a. Flowers few in axils of ordinary or reduced leaves; ocrea 2-lobed, becoming +/- lacerate; filaments, at least the innermost, dilated

Polygonum L.

5b. Flowers in terminal and often axillary spikes, racemes, panicles or heads; ocrea various, not 2-lobed; filaments slender

Persicaria (L.) Mill.

Fagopyrum Mill.

This genus is represented by one species in PEI:

Fagopyrum esculentum Moench

Fallopia L.

1a. Ocrea with ring of reflexed bristles below

F. cilinodis (Michx.) Holub

1b. Ocrea without ring of reflexed bristles below

2a. Fruiting perianth 4-5 mm long, scarcely winged, basal lobes of leaves +/- acute; annuals; achene striate-papillose, dull

F. convolvulus (L.) Á.Löve

2b. Fruiting perianth 7-15 mm long, broadly winged, basal lobes of leaves various; annual or perennial; achene smooth, lustrous

F. scandens (L.) Holub

Persicaria (L.) Mill

1a. Leaves sagittate, auriculate, cordate, hastate, rarely truncate at base; reclining forbs with recurved prickles or bristles on the stem

2a. Leaf blades triangular in outline; perianth 4-parted

P. arifolia (L.) Haraldson

2b. Leaf blades lanceolate to narrowly elliptic; perianth 5-parted

P. sagittata (L.) H.Gross

1b. Leaves cuneate to obtuse, rarely rounded at base; upright, prostrate or sprawling forbs

3a. Plants perennial with rhizomes or stolons

4a. Ocrea not ciliate at summit or cilia usually < 1 mm; leaves usually oval to ovate

P. amphibia (L.) Delarbre

4b. Ocrea ciliate at summit with cilia > 1 mm long; leaves lanceolate

P. punctata Small

3b. Plants tap-rooted annuals

5a. Ocrea summit without cilia or cilia < 1 mm long

6a. Perianth without recognizable vein pattern, segments 5

P. pensylvanica (L.) M.Gómez

6b. Perianth with conspicuous anchor-shaped veins; perianth segments 4 (rarely 5)

P. lapathifolia (L.) Delarbre

5b. Ocrea summit with cilia > 1 mm long

7a. Perianth glandular-dotted

8a. Achenes lustrous, smooth; axillary flowers mostly absent (inflorescence not interrupted with small leaves)

P. punctata Small

8b. Achenes dull, minutely striate-dotted; axillary flowers present and +/- enclosed in ocrea (inflorescence interrupted with small leaves)

P. hydropiper (L.) Delarbre

7b. Perianth not glandular-dotted

P. maculosa Gray

Persicaria amphibia (L.) Delarbre

See Reveal & Atha (2012).

1a. Plants palustrine, usually with emergent leafy stems; ocreae never with flared apices; aerial leaves petiolate with acuminate tips; inflorescence spikes terminal, usually 2 (unequal), > 4 cm long

P. a. var. *emersa* (Michx.) J.C.Hickman

1b. Plants aquatic, usually with floating stems and leaves; ocreae with flared apices (when stranded); aerial leaves (when present) nearly sessile with somewhat cordate bases and blunt apices; inflorescence spikes usually 1, < 4 cm long

P. a. var. *stipulacea* (N.Coleman) H.Hara

Polygonum L.

Costea et al. (2005) describe *Polygonum aviculare* as "a taxonomically controversial polyploid complex of selfing annuals". They report three infraspecific taxa for PEI: ssp. *aviculare*, ssp. *depressum* (Meisn.) Arcang., and ssp. *neglectum* (Besser) Arcang. Consult Costea et al. (2005) for a key to these taxa.

1a. Outer 3 tepals flat or folded, of approximately equal width and length to the inner tepals and not or scarcely concealing them; plants usually of inland, non-saline habitats such as roadsides, sidewalks, and disturbed habitats

P. aviculare L.

1b. Outer 3 tepals cucullate, much wider and often longer the inner tepals, partially or completely concealing them; plants usually of brackish and saline habitats such as coastal marshes and dunes

2a. Leaf blades pale green to white-green, somewhat to strongly glaucous; tepals loosely ascending and not investing apical portion of achene

P. oxyspermum C.A.Mey. & Bunge

2b. Leaf blades green, blue-green, or yellow-green, sometimes tinged with red; tepals +/- erect and rather closely investing achene

3a. Leaves lanceolate, oblanceolate or linear, 5-12 times as long as wide; plants +/- erect; pedicels usually greater than 2.5 mm, mostly long-exserted from ocreae; early season achenes mostly 2.5-3.5 mm long

P. ramosissimum Michx.

3b. Leaves oblong, ovate or obovate, 2-4 times as long as wide; achenes broadly ovate, usually >3 mm long, to 2.5 mm broad; fruiting perianth mostly > 3 mm; plant mostly bluish green to glaucous or rarely reddish tinged

P. fowleri B.L.Rob.

Reynoutria Houtt.

The hybrid of the below two species (*R.* ×*bohemica* Chrtek & Chrtková) is in cultivation and may occur spontaneously as well. It was first collected for PEI and Atlantic Canada by Sean Blaney on the eastern edge of Summerside, along the TransCanada Trail, in July 2004.

1a. Leaves acute to obtuse at base; perianth white; inflorescence slender-panicled racemes

R. japonica Houtt.

1b. Leaves cordate to rounded at base; perianth greenish-white; inflorescence small axillary clusters

R. sacchalinensis Nakai

Rumex L.

1a. Basal leaves with basal lobes; leaves acid tasting; flowers unisexual

2a. Leaves hastate; sepals not greatly enlarged in fruit; flowering in early May

R. acetosella L.

2b. Leaves sagittate; sepals greatly enlarged in fruit; flowering in June

R. acetosa L.

1b. Basal leaves cuneate, truncate or cordate at base; leaves not acid tasting; flowers perfect

3a. Valves of fruit without enlarged tubercles (rarely with one poorly developed)

R. longifolius DC.

3b. Valves of fruit with at least one conspicuously enlarged tubercle

4a. Valve margin entire, toothed or undulate

5a. Ascending stems with axillary branches or leaf tufts; leaves linear-lanceolate, tapering to both ends; fruiting pedicels filiform, curved; valves triangular, 3-6 mm long, truncate at base

6a. Inner tepals with a broad tubercle, the tubercle more than half as wide and nearly as long as its associated inner tepal; leaf blades mostly 7-10 times as long as wide; plants predominantly of coastal marshes and shorelines

R. pallidus Bigelow

6b. Inner tepals with a narrow tubercle, the tubercle less than half as wide and much shorter than its associated tepal; leaf blades mostly 2.5-6 times as long as wide; plants predominantly of freshwater wetlands and inland disturbed habitats

R. triangulivalvis (Danser) Rech.f.

5b. Erect stems usually without axillary branches or leaf tufts; leaves broader, oblong-lanceolate or linear-oblong

7a. Leaves oblong-lanceolate, with +/- flat margins; valves to 8 mm long; base of tubercles separated from base of valve; pedicel obscurely jointed near base; stem to 2.5 m tall; plants of wetland habitats

R. brittanica Huds.

7b. Leaves lanceolate, with strongly wavy margins; valves to 6 mm long; tubercles with base even with base of valve or projecting below; pedicel with a conspicuous node near base; stem to 1 m; plants of mostly dry, waste areas

R. crispus L.

4b. Valve margin with bristle-like or spinose teeth

8a. Tubercle usually present on the midrib of only 1 valve of the fruiting calyx; basal leaves broadly to narrowly ovate, long-petioled, often red-veined, crenulate; plants of non-saline habitats

R. obtusifolius L.

8b. Tubercle normally present on all 3 valves of the fruiting calyx; basal leaves narrow to broadly lanceolate; annual plants of brackish or saline habitats

9a. Tubercles +/- narrow-lanceolate, 0.3-0.4 mm wide, less than 1/2 as wide as the associated inner tepals excluding the marginal spines, acute to subacute at the apex, brown to red-brown in life; marginal spines of inner tepals 1-3 mm long

R. fueginus Phil.

9b. Tubercles +/- elliptic, 0.4–0.6 mm wide, almost as wide as the inner tepals excluding the marginal spines, obtuse at the apex, cream to white-yellow in life; marginal spines of inner tepals 1-1.5 (-1.7) mm long

R. persicarioides L.

POLYPODIACEAE

Polypodium L.

Our two species hybridize to produce *P*. ×*incognitum* Cusik. Suspected hybrids of intermediate morphology can be confirmed with the presence of aborted spores.

1a. Fronds usually widest at or near base; pinnae tips acute to narrowly rounded; spores usually less than 52 µm

P. appalachianum Haufler & Windham

1b. Fronds usually widest near middle; pinnae tips rounded to obtuse; spores usually greater than 52 µm

P. virginianum L.

POTAMOGETONACEAE

1a. Submersed leaves opposite or whorled, without stipules

Zannichellia palustris L.

1b. Submersed leaves alternate, with stipules (these sometimes disintegrating)

2a. Submersed leaf bases entirely free from stipular sheaths or fused for less than 5 mm (or less than ½ length of the stipule); leaves all submersed or both submersed and floating, the submersed semitransparent, not channelled longitudinally but flattened, filiform or linear to ovate, oblong or elliptical; peduncles stiff, often supporting emergent inflorescences

Potamogeton

2b. Submersed leaf bases fused to stipular sheaths for more than 5 mm (or 2/3 or more of stipule length); leaves all submersed, opaque, channelled longitudinally, filiform to narrowly linear, to 2 mm wide; peduncles flexible with submersed inflorescences

Stuckenia

Potamogeton L.

Potamogeton gramineus has been reported from Cherry Valley, Queens County, although attempts to relocate the site were unsuccessful, with Catling et al. (1985) suggesting it should be considered unconfirmed for PEI.

1a. Submerged leaves broadly linear-oblong to lanceolate, elliptic or orbicular

2a. Leaves clasping the stem

3a. Stipules 3-10 mm long, whitish, persistent and conspicuous; blades 1-3 cm wide, 10-25 cm long, apex cucullate, splitting when pressed

P. praelongus Wulfen

3b. Stipules 0.4-2.0 mm long inconspicuous and rapidly disintegrating; blades 1-6 cm long, 0.5-2.0 cm wide, apex not cucullate

P. perfoliatus L.

2b. Leaves not clasping the stem

4a. Submerged leaves with 7 major ribs and a narrow band of lacunae, often reddish tinged in upper parts when dry, acute or obtuse at apex; floating blades delicate, translucent, on petioles 1-3 cm long, tapering gradually to base; stem mostly unbranched from base; stipules blunt; fruit plump, pedicelled

P. alpinus Balb.

4b. Submerged leaves with 3-17 major ribs and lacking obvious band of lacunae, not reddish colour in drying, apex acute or with an awl-like tip; floating blades leathery, opaque, on petioles 2-10 (-15) cm long, rounding to short-tapering at base; stem commonly much branched; stipular sheath 1-3 cm long

[*P. gramineus* L.]

1b. Submerged leaves linear

5a. Floating leaves usually present

6a. Submerged leaves with prominent lacunae on each side of midrib ½ to 1/3 as wide as blade, floating leaves tapering at base, with flattened petioles; fruit keel 0.2-1.2 mm high

P. epihydrus Raf.

6b. Submerged leaves without prominent lacunae

7a. Floating leaves with well-developed blades 1.2-4.7 cm wide (sometimes more narrowly elliptic and acute at both ends); submersed leaves phyllodial, without expanded blade; plants perennial with well developed rhizomes

8a. Blades of floating leaves cordate to subcordate at base, 2.0-4.7 cm wide, (3.2-) 3.7-9.0 (-10.0) cm long; fruit with beak (3.5-) 3.7-4.5 mm long, obscurely keeled

P. natans L.

8b. Blades of floating leaves rounded to acute at base, (0.5-) 1.2-2.2 (-2.8) cm wide; fruit with beak 2.5-3.5 m long, prominently keeled

P. oakesianus J.W. Robbins

7b. Floating leaves, if present, with blades less than 1-2 cm broad, 5-9 veined (sometimes not developed); submersed leaves with definite flat blades 0.1-1.0 mm wide; winter buds common; fruit with distinct dorsal keel and recurved beak; plants annual from winter buds or seeds

P. vaseyi J.W. Robbins

5b. Floating leaves not produced

9a. Stem winged / flattened; leaves 2-5 mm wide with 15-20 close veins; fruit 3.5-5.5 mm long

P. zosteriformis Fernald

9b. Stem not broadly flattened; leaves with 3-9 veins

10a. Nodal glands absent

P. foliosus Raf.

10b. Nodal glands present

11a. Stipules +/- coarsely fibrous, whitish, disintegrating into fibres towards the base of stem; winter buds hardened towards base, strongly ribbed

P. friesii Rupr.

11b. Stipules more delicate, membranous, whitish to green or brownish, not disintegrating into fibres; winter buds, if present, not hardened or strongly ribbed

12a. Leaves rounded or apiculate at apex, 2.0-3.5 mm wide, often tinted reddish brown; fruit keeled, 3-4 mm long including beak

P. obtusifolius Mert. & W.D.J. Koch

12b. Leaves obtuse, acute or apiculate, 0.2-2.5 mm wide, usually green; fruit not keeled, less than 3 mm long

13a. Margins of stipules connate below the middle, at least when young; largest leaves 0.8-1.2 (-2) mm wide, acute, midrib lacking cellular-reticulate border

P. pusillus L.

13b. Margins of stipules separate, often overlapping but not connate; largest leaves 0.5-2.0 (-2.7) mm wide, obtuse or rounded to acute; midrib often with a narrow cellular-reticulate border

P. berchtoldii Fieber

Stuckenia L.

1a. Leaves acute, apiculate on young plants and branches; fruit (2.5-) 3.0-4.5 mm long, not including the short but definite beak

S. pectinata (L.) Börner

1b. Leaves +/- blunt, obtuse or notched and apiculate; fruit 2-3 mm long with a central wart-like beak

S. filiformis (Pers.) Börner

Zannichellia L.

This genus is represented by one species in PEI:

Zannichellia palustris L.

PRIMULACEAE

1a. Leaves alternate; flowers white, 5-merous, in terminal racemes

Samolus parviflorus Raf.

1b. Leaves opposite or +/- whorled; flowers white, yellow, pink or red, variously arranged

Lysimachia L.

Lysimachia L.

1a. Leaves lanceolate, in a single terminal whorl; flowers +/- 7-merous

L. borealis (Raf.) U.Manns & Anderb.

1b. Leaves mostly opposite or in several whorls; flowers 5- to 6-merous

2a. Flowers white, pink, or red

3a. Plants fleshy, erect or ascending; flowers about 3 mm wide, calyx petaloid, pink or white

L. maritima (L.) Galasso, Banfi & Soldano

3b. Plants not fleshy, trailing; flowers 10-12 mm wide, scarlet or brick-red; annuals

L. arvensis (L.) U.Manns & Anderb.

2b. Flowers yellow

4a. Stem prostrate; leaves +/- orbicular; flowers axillary

L. nummularia L.

4b. Stem erect; leaves lanceolate to elliptic or ovate

5a. Flowers large, showy, uniformly yellow

6a. Leaves with long, ciliate-margined petioles, glabrous

L. ciliata L.

6b. Leaves +/- sessile, pubescent at least on veins beneath

7a. Flowers whorled in upper leaf axils; corolla lobe margins glandular-ciliate; calyx lobes green throughout, to about 1 cm long

L. punctata L.

7b. Flowers in terminal leafy panicles; corolla lobe margins entire; calyx lobes dark-margined, to about 5 mm long

L. vulgaris L.

5b. Flowers smaller, corolla dark-streaked or dotted

8a. Open racemes terminal; pedicels 9-17 mm long; leaf axils often bearing elongate reddish bulblets

L. terrestris L.

8b. Dense racemes from axils of narrowly lanceolate midstem leaves; pedicels to about 3 mm long; plants not bulblet-bearing

L. thyrsiflora L.

Samolus L.

This genus is represented by one species in PEI:

Samolus parviflorus Raf.

RANUNCULACEAE

1a. Flowers with spurred petals

2a. Flowers regular with 5 spurred petals

Aquilegia vulgaris L.

2b. Flowers irregular, bluish, the upper petaloid sepal helmet-shaped; inner 2 petals with small spurs; fruit follicular

Aconitum napellus L.

1b. Flowers regular, without spurs

3a. Perianth small and inconspicuous

4a. Flowers white to greenish in panicles, usually unisexual; fruit an achene

Thalictrum L.

4b. Flowers white in racemes, bisexual; fruit a berry

Actaea L.

3b. Perianth conspicuous

5a. Stem leaves opposite or whorled; sepals petaloid

6a. Leaves trifoliate, leaflets toothed; stems climbing; sepals 4; styles plumose

Clematis virginiana L.

6b. Leaves simple, deeply parted nearly to midrib; stems not climbing; sepals 5+; styles not plumose

Anemonastrum canadense (L.) Mosyakin

5b. Stem leaves alternate or leaves all basal; sepals petaloid in some species

7a. Leaves all basal; plants with elongate golden yellow rhizomes; flowers white

Coptis trifolia (L.) Salisb.

7b. Leaves alternate; main stem sometimes creeping; flowers yellow (or white)

8a. Sepals petaloid and showy; petals wanting or inconspicuous

Caltha palustris L.

8b. Sepals and petals both present (sepals sometimes yellowish); petals with nectar-pit at base; fruit an achene

9a. Stem leaves lobed or divided

Ranunculus L.

9b. Stem leaves simple, neither divided nor lobed (except for truncate to +/- cordate base), crenate

10a. Plants of brackish habitats; petals 2.5-4 mm long; roots not tuberous

Halerpestes cymbalaria (Pursh) Greene

10b. Plants of anthropogenic habitat; petals 8-10 mm long; roots tuberous

Ficaria verna Huds.

Aconitum L.

This genus is represented by one species in PEI:

Aconitum napellus L.

Actaea L.

1a. Pedicels swollen, reddish; fruit white with conspicuous dark spot at apex (rarely red); leaflets +/- glabrous

A. pachypoda Elliott

1b. Pedicels filiform; fruit normally red (rarely white); leaflets pubescent beneath

A. rubra (Aiton) Willd.

Anemonastrum L.

This genus is represented by one species in PEI:

Anemonastrum canadense (L.) Mosyakin

Aquilegia L.

This genus is represented by one species in PEI:

Aquilegia vulgaris L.

Caltha L.

This genus is represented by one species in PEI:

Caltha palustris L.

Clematis L.

This genus is represented by one species in PEI:

Clematis virginiana L.

Coptis Salisb.

This genus is represented by one species in PEI:

Coptis trifolia (L.) Salisb.

Ficaria Guett.

This genus is represented by one species in PEI:

Ficaria verna Huds.

Halerpestes Greene

This genus is represented by one species in PEI:

Halerpestes cymbalaria (Pursh) Greene

Ranunculus L.

PEI records of *R. aquatilis* L. s.s. are referred to *R. trichophyllus*, although *R. longirostris* Godr. s.l. (including *R. circinatus* Sibth. and *R. subrigidus* W.B. Drew) may also occur.

1a. Aquatic plants; leaves finely dissected

2a. Flowers white, on pedicels only slightly surpassing the leaves; nutlets wrinkled

R. trichophyllus Chaix ex Vill.

2b. Flowers yellow, on pedicels extending well beyond the leaves; nutlets smooth

R. gmelinii DC.

1b. Terrestrial plants; leaves otherwise

3a. Petals conspicuously longer than the sepals, 6-17 mm long

4a. Receptacle glabrous; basal leaves deeply divided into 3-7 sessile divisions; achenes with stout recurved beaks about 0.6 mm long

R. acris L.

4b. Receptacle usually villous; basal leaves compound

5a. Stigma covering one side of the short, recurved style; body of achene to 2.5 mm long with a short, triangular curved beak; fresh leaves often white-mottled

R. repens L.

5a. Stigma terminating the long +/- straight style; body of achene to 4.5 mm long with straight or curved beak to 3 mm long; basal leaves to 2 dm broad, not mottled

R. hispidus Michx. var. *caricetorum* (Greene) T.Duncan

3b. Petals rarely longer than the sepals, 1.5-5.0 mm long

6a. Basal leaves usually unlobed, crenate; receptacle bristly; stem leaves sessile

R. abortivus L.

6b. Basal leaves variously lobed or divided

7a. Achenes minutely beaked, swollen, without a sharp border; basal leaves deeply 3-parted; sepals reflexed; petals pale yellow, slightly longer than sepals

R. sceleratus L.

7b. Achenes conspicuously beaked, flattened with a sharp border

8a. Stem with soft spreading hairs; achenes in globose head, beaks hooked at tip; basal leaves palmately cleft to deeply 3-parted; plants of rich woods

R. recurvatus Poir.

8b. Stem with stiff, spreading hairs; achenes in long ovoid heat, beaks straight; basal leaves soon withering, parted into multiple 3-lobed leaflets; plants of marshes and wet meadows

R. pensylvanicus L.f.

Thalictrum L.

1a. Stem leaves below inflorescence sessile, branching immediately above stipular base; largest leaflets usually widest above middle, entire to 3-lobed, glabrous to pubescent beneath; anthers less than 3 mm long, blunt, their white or yellowish filaments expanded upwards; carpels both glandular and eglandular pubescent; plants flowering in late July to early August

T. pubescens Pursh

1b. Stem leaves below inflorescence petioled; largest leaflets with (3-)5-7 lobes, usually widest at or above middle, usually minutely glandular pubescent beneath; anthers to 4 mm long, acuminate, their +/- purplish filaments filiform; carpels glandular-pubescent; plant usually flowering in late May to early June

T. confine Fernald

RHAMNACEAE

1a. Leaves +/- entire, twigs pubescent; shrub or small tree to 7 m tall

Frangula alnus Mill.

1b. Leaves serrate; twigs glabrous at maturity

2a. Branches spine-tipped; leaves subopposite, clustered near ends of shoots; twigs rugose from leaf scars; shrub or small tree to 6 m tall

Rhamnus L.

2b. Branches not spine-tipped; leaves alternate; twigs not rugose; low shrub to 1 m tall

Endotropis alnifolia (L'Héritier) Hauenschild

Endotropis Raf.

This genus is represented by one species in PEI:

Endotropis alnifolia (L'Héritier) Hauenschild

Frangula Mill.

This genus is represented by one species in PEI:

Frangula alnus Mill.

Rhamnus L.

1a. Blades of well-developed leaves 0.9-2.1 times as long as wide, usually less than 6 cm long; leaves with 2-3 pairs of lateral veins

R. cathartica L.

1b. Blades of well-developed leaves 2.2-4.3 times as long as broad, the longest usually 7.5-12 cm long; larger leaves with 3-4 pairs of lateral veins

R. davurica L.

ROSACEAE

×*Sorbaronia arsenii* (Britton ex L. Arsène) G.N. Jones, an intergeneric hybrid between *Aronia* ×*prunifolia* and *Sorbus decora*, has been reported for PEI, although its occurrence is doubtful as the latter parent does not occur in the province.

1a. Stem +/- woody, at least at the base

2a. Leaves compound

3a. Fruit dry

4a. Flowers white in dense terminal panicles; sepals without alternating bracts

Sorbaria sorbifolia (L.) A. Braun

4b. Flowers yellow in open leafy cymes; sepals alternating with bracts

Dasiphora fruticosa (L.) Rydb.

3b. Fruit fleshy

5a. Ovary superior; fruit of several to many one-seeded fleshy drupelets

Rubus (in part)

5b. Ovary +/- inferior

6a. Stems usually prickly; petals large, often pink (rarely white, reddish-purple or yellow), emarginate; flowers solitary or several clustered; stipules fused to petiole for more than 1/2 their length

Rosa

6b. Stems not prickly; petals small, white, entire; flowers numerous in relatively tight flat-topped or domed clusters; stipules attached at base only, early deciduous

Sorbus

2b. Leaves simple

7a. Ovary appearing superior

8a. Fruit fleshy, either a single large drupe or several small drupelets in a head

9a. Flowers with 1 ovary

Prunus

9b. Flowers with many ovaries

Rubus (in part)

8b. Fruit dry

10a. Leaves palmately 3-5 lobed; inflorescence racemose, dome-shaped, as wide as or wider than long; follicles inflated bladder-like

Physocarpus opulifolius (L.) Maxim.

10b. Leaves not lobed, coarsely serrate; inflorescence paniculate, longer than wide; follicles not inflated

Spiraea

7b. Ovary inferior

11a. Stems usually with long thorns; fruit apple-like, to about 2.5 cm thick, with 1-5 bony nutlets

Crataegus

11b. Stems usually without thorns; fruit berry-like with 5-10 small seeds

12a. Flowers in flat or dome-shaped compound corymbs; locules as many as styles; fruit pulpy, astringent

Aronia

12b. Flowers solitary, in racemes or umbel-like clusters

13a. Flowers more than 3 cm wide, pink-tinged; fruit a pome

Malus pumila Mill.

13b. Flowers usually less than 3 cm wide; fruit berry-like with 10 small seeds

Amelanchier

1b. Stems herbaceous, dying to the ground in winter

14a. Leaves simple

Rubus (in part)

14b. Leaves compound

15a. Basal leaves palmately compound

16a. Petals white; fruit of small achenes scattered on the surface of a fleshy receptable or achenes densely hirsute

17a. Fruit of small achenes scattered on the surface of a fleshy receptacle

Fragaria

17b. Fruit not fleshy, carpels, achenes and receptacle densely hirsute

Sibbaldia tridentata (Aiton) Paule & Soják

16b. Petals yellow; fruit a cluster of dry achenes

Potentilla

15b. Basal leaves pinnately compound

17a. Flowers numerous, congested in dense heads

Filipendula ulmaria (L.) Maxim.

17b. Flowers solitary or several in open racemes, corymbs or cymes

18a. Inflorescence a spike-like raceme; calyx tube armed with hooked bristles

Agrimonia

18b. Inflorescence cymose or corymbose or flowers appearing single; calyx tube not bristly

19a. Style elongate, jointed, becoming hooked in fruit; leaves differing markedly in shape from base to summit of stem

Geum

19b. Style short, inconspicuous, not jointed or hooked in fruit; except for size, leaves similar from base to summit of stem

20a. Stems reduced to stolons; leaflets usually more than 9; flowers solitary on long pedicels

Potentilla anserina L.

20b. Stems ascending; leaflets 7 or less; flowers in few-flowered, leafy cymes; petals dark red-purple

Comarum palustre L.

Agrimonia L.

Catling et al. (1985) report *Agrimonia repens* L. as persisting from cultivation, but not explicitly naturalizing. The outermost bristles of the calyx tube are reflexed as in *A. gryposepala* but has its major leaflets +/- overlapping.

1a. Axis of inflorescence without glands, or these sparse and +/- hidden by pubescence; bristles of floral tube +/- strongly ascending or erect

A. striata Michx.

1b. Axis of inflorescence conspicuously glandular; outermost bristles of calyx tube reflexed or widely spreading

A. gryposepala Wallr.

Amelanchier Medik.

Amelanchier bartramiana hybridizes with *A. laevis* (= *A.* ×*neglecta* Eggl. ex G.N. Jones). The hybrid is known from a few locations on the island and is relatively few-flowered (2-5) like the former but with longer petioles and the style divided only halfway to the base.

1a. Inflorescence a fascicle of 1-4 flowers; very young leaves revolute and glabrous; mature leaves cuneate at base; style divided nearly to base

A. bartramiana (Tausch) M. Roem.

1b. Inflorescence in racemes of usually more than 5 flowers; very young leaves folded; mature leaves cordate to rounded or broadly tapering at base; style divided at most halfway to base

2a. Abaxial leaf surfaces glabrous or sparsely hairy by anthesis; petals 6.0-17.7 mm long

3a. Ovary apices glabrous (or sparsely hairy); petals usually 12.5-17.7 mm long

4a. Racemes open and pendulous, 12-20 flowered; leaves mostly well-grown at flowering, glabrous

A. laevis Wiegand

4b. Racemes ascending, tightly 7-10 flowered; leaves sparsely hairy at anthesis, glabrous later

A. intermedia Spach

3b. Ovary apices usually densely (moderately) hairy; petals 6–15 mm long

5a. Sepals erect or ascending; low rhizomatous shrubs in calcareous thickets and shores; to about 1 m high

A. fernaldii Wiegand

5b. Sepals recurved after flowering; shrubs or trees of moist woods and stream banks; 1-10 m high

A. interior E.L. Nielsen

2b. Abaxial leaf surfaces densely (rarely moderately) hairy by anthesis; petals usually 6.0-10.2 mm long

6a. Leaf blades oval to orbiculate; sepals recurved after flowering; ovary apices densely hairy (rarely glabrous)

A. spicata (Lam.) K. Koch

6b. Leaf blades elliptic or oval to oblong or obovate; sepals erect, ascending, or spreading after flowering; ovary apices glabrous (rarely moderately hairy)

A. canadensis (L.) Medik.

Aronia Medik.

1a. Plant +/- glabrous at flowering, completely so at maturity, calyx lobes deltoid

A. melanocarpa (Michx.) Elliott

1b. Plant at least partly white-tomentose at anthesis, tomentum usually persisting until maturity; calyx lobes longer than wide

A. ×prunifolia (Marshall) Rehder

Comarum L.

This genus is represented by one species in PEI:

Comarum palustre L.

Crataegus L.

1a. Veins of leaves running to the sinuses as well as to the points of the lobes; leaves usually with deep sinuses; style and nutlet 1; fruit 5.0-8.0 mm in diameter; calyx persistent in fruit

C. monogyna Jacq.

1b. Veins running only to the points of the lobes or to the larger teeth; fruit 6.0-15.0 mm in diameter

2a. Sepals +/- entire; stamens +/- 10, anthocyanic; lateral faces of pyrenes plane

C. jonesiae Sarg.

2b. Sepals conspicuously serrate, glandular-serrate or glandular-laciniate

3a. Stamens +/- 20, anthocyanic; lateral faces of pyrenes pitted

C. succulenta Schrad. ex Link

3b. Stamens +/- 10, anthocyanic or not; lateral faces of pyrenes plane

4a. Anthers white to cream; short shoot leaves cuneate at base, the leaf margins forming an angle less than 95 degrees

C. chrysocarpa Ashe

4b. Anthers anthocyanic; short shoot leaves mostly broad-cuneate, rounded, or truncate at the base, the margins forming an angle of greater than 95 degrees

C. holmesiana Ashe

Dasiphora Raf.

This genus is represented by one species in PEI:

Dasiphora fruticosa (L.) Rydb.

Filipendula Mill.

This genus is represented by one species in PEI:

Filipendula ulmaria (L.) Maxim.

Fragaria L.

Erskine (1960) considered all early reports of *F. vesca* L. to refer to *F. virginiana*. The Island Nature Trust had one record, which was unsupported by a specimen.

1a. Fruit mostly 5-20 mm in diameter; flowers 11.5-25.5 mm in diameter; leaflets thin, sometimes slightly leathery

2a. Terminal tooth of leaflets commonly less than half as wide as adjacent teeth and surpassed by them; leaflets usually petiolulate; petals 7-10 (-12) mm long; achenes embedded in the surface of the fruiting receptacle

F. virginiana Mill. ssp. *glauca* (S. Watson) Staudt

2b. Terminal tooth of leaflets commonly more than half as wide as adjacent teeth and surpassing them; leaflets usually sessile or nearly so; petals 4-7 mm long; achenes not or only slightly embedded in the surface of the fruiting receptacle

[*F. vesca* L.]

1b. Fruit mostly 25-65 mm in diameter; flowers 25-55 mm in diameter; leaflets thick, evergreen

F. ×*ananassa* Duchesne ex Rozier ssp. *cuneifolia* (Nutt. ex Howell) Staudt

Geum L.

Sean Blaney discovered a population of *Geum* ×*aurantiacum* Fr. ex Scheutz (= *G. aleppicum* × *G. rivale*) north of Mount Pleasant, Prince Co. in 2018. The plants are similar to *G. rivale*, with patches of predominantly basal leaves and clonal growth, but with divided basal leaflets as in *G. aleppicum*. Several hybrids have been described in the genus and require careful examination to confirm. See Hough (2018) for discussion of several *Geum* hybrids.

1a. Calyx bell-shaped; sepals and petals purplish, the petals varying to yellowish; flowers nodding; upper and lowermost part of style setose

G. rivale L.

1b. Calyx +/- saucer-shaped, green, the lobes reflexing at maturity; petals white or yellow; flowers not nodding or not strongly so

2a. Plant in flower

3a. Petals white

4a. Petals much shorter than calyx lobes; peduncles hirsute with long spreading hairs +/- hiding shorter pubescence; basal leaves pinnately compound with pinnately-lobed and incised leaflets

G. laciniatum Murray

4b. Petals +- equalling to longer than lobes; peduncles puberulent with longer hairs scattered or wanting; basal leaves mostly trifoliate

G. canadense Jacq.

3b. Petals yellow

5a. Styles with distal segments glabrous or with short hairs, hairs shorter than diameter of style; cauline leaves with stipules 10-40 x 5-35 mm

G. urbanum L.

5b. Styles with distal segments pilose at base, hairs much longer than diameter of style; cauline leaves with stipules 7-28 x 3-22 mm

6a. Epicalyx bractlets often absent; styles with proximal segments sparsely to densely stipitate-glandular; basal leaves interruptedly lyrate-pinnate, terminal leaflets usually much larger than laterals

G. macrophyllum Willd.

6b. Epicalyx bractlets present; styles with proximal segments eglandular; basal leaves interruptedly pinnate, terminal leaflets usually only slightly larger than laterals

G. aleppicum Jacq.

2b. Plant in fruit

7b. Receptacle glabrous or minutely pubescent; plants with either glandular-beaked achenes or ± dense long hairs overtopping puberulence of the pedicels

8a. Fruiting heads globose, 1.7-2.5 cm in diameter; styles drab or brownish, not all reflexed, not glandular; achenes +/- glabrous; peduncle stout with crowded divergent or reflexed hairs 1-2 mm long; some or all basal leaves pinnately compound, the segments pinnately-lobed and incised

G. laciniatum Murray

8b. Fruiting heads ovoid, 1.2-1.8 cm in diameter; achenes hirsute; styles usually purplish, minutely glandular at base, mostly all reflexed at maturity; peduncles slender, minutely puberulent, often with scattered longer hairs; all basal leaves with terminal segments cordate-reniform or suborbicular, often deeply lobed

G. macrophyllum Willd.

7a. Receptacle long-hirsute; plants with neither glands on the beaks nor (usually) dense long hairs on pedicels

9a. Fruiting heads globose at maturity, the styles loosely ascending to spreading or tardily reflexed; peduncles slender; basal leaves mostly ternately compound (rarely pinnately compound with 1-2 additional pairs of much smaller leaflets, or simple and trilobed)

G. canadense Jacq.

9b. Fruiting heads obovoid at maturity, the styles all +/- tightly reflexed; basal leaves mostly pinnately-divided with 5-9 incised leaflets

10a. Peduncles stout, enlarged toward summit; cauline leaves pinnately compound with mostly more than 3 lanceolate to rhombic leaflets, serrate with acute teeth; styles drab to brownish; calyx lobes lanceolate or lance-ovate, 5-9 mm long

G. aleppicum Jacq.

10b. Peduncles slender, not enlarged toward summit; cauline leaves ternately compound (rarely 3-lobed), the oblanceolate to narrowly rhombic leaflets incised-crenate with blunt teeth; styles purplish; calyx lobes broadly deltoid, 2.5-5.0 mm long

G. urbanum L.

Malus Mill.

This genus is represented by one species in PEI:

Malus pumila Mill.

Physocarpus (Cambess.) Raf.

This genus is represented by one species in PEI:

Physocarpus opulifolius (L.) Maxim.

Potentilla L.

Erskine (1960) considered reports of *P. canadensis* L. from PEI by Groh, Hurst and Campbell to represent *P. simplex*. *Potentilla simplex* has sometimes been included within *P. canadensis* (as in Scoggan 1978), which would explain how the species was reported from PEI. It is unlikely that *P. canadensis* s.s. occurs in the province.

1a. Plants with stolons; stems becoming prostrate, rooting at some nodes; flowers at stolon nodes

2a. Leaves pinnately compound, with 5 to many leaflets

P. anserina L.

2b. Leaves palmately compound, with 5 leaflets only

P. simplex Michx.

1b. Plants without stolons; stems usually decumbent to erect, sometimes prostrate, but not rooting at nodes; inflorescences usually cymes, sometimes in racemes or flowers solitary

3a. Basal leaves with either 3 leaflets or 5-9 leaflets; annuals, biennials, or perennials

4a. Basal leaves with 3 leaflets; plants annuals, biennials, or short-lived perennials

P. norvegica L.

4b. Basal leaves with 5-9 leaflets; plants perennial

P. gracilis Douglas ex Hook.

3b. Basal leaves with 5 leaflets, rarely with 3; perennials

5a. Petals pale yellow to cream-coloured; hypanthia 5-9 mm in diameter

P. recta L.

5b. Petals yellow; hypanthia 2-5 mm in diameter

6a. Leaflets with 2-3 teeth per side, the toothing restricted to distal 1/2 to 2/3; leaflet surfaces strongly dissimilar, abaxially white with dense cottony hairs

P. argentea L.

6b. Leaflets with 4-10 teeth per side, the toothing in the distal 3/4; leaflet surfaces similar or only somewhat dissimilar, abaxially green to grayish

7a. Petals 4-7 (-8) mm long; leaflets grayish to gray-green abaxially, with +/- abundant (sometimes sparse) short or crisped hairs; leaflet margins usually evenly incised; length of epicalyx bractlets +/- as long as sepals

P. inclinata Vill.

7b. Petals 3-5 mm long; leaflets green to grayish-green abaxially, with +/- sparse short or crisped hairs; leaflet margins usually unevenly (sometimes evenly) incised; length of epicalyx bractlets usually 2/3 as long as to completely as long as sepals

P. intermedia L.

Potentilla anserina L.

1a. Epicalyx bractlets as long as sepals, often bifid or dentate, narrowly to broadly ovate-triangular; plants of inland or seashore habitat; achenes with dorsal groove

P. anserina ssp. *anserina*

1b. Epicalyx bractlets shorter than sepals, usually entire, rarely bifid or dentate; plants of seashore and coastal habitat; achene without dorsal groove

P. anserina ssp. *pacifica* (Howell) Rousi

Prunus L.

1a. Flowers and fruit many in terminal cylindrical racemes

P. virginiana L.

1b. Flowers and fruit solitary or in umbel-like clusters

2a. Calyx lobes glandular-serrate; petals often pink-tinged; fruit light red to yellowish; twigs often spiny

P. nigra Ait.

2b. Calyx lobes entire, glandular

3a. Leaves +/- glabrous, lanceolate to oblong-lanceolate, long-acuminate, finely and sharply serrate with incurved teeth; calyx lobes rounded, erect; flowers 1.0-1.5 cm wide

P. pensylvanica L. f.

3b. Leaves pubescent beneath, especially along the midrib and vein axils, elliptic to ovate to obovate; calyx lobes erect at maturity

P. cerasus L.

Rosa L.

Rosa ×*hodgdonii* W.H. Lewis, a natural hybrid between our two most common species (*R. nitida* × *R. virginiana*) is reported for PEI. See Lewis (2016) for description and comments on identification. Two exotic hybrids are reported as rare escapes from cultivation (*R.* ×*centifolia* and *R.* ×*odorata*).

1a. Inflorescence many-flowered; flowers usually white, sometimes pink; stipules comb-like and glandular-ciliate; stems very prickly, often arching and layering or climbing

R. multiflora Thunb.

1b. Inflorescence 1-5-flowered (rarely more); flowers usually some shade of pink or red, occasionally white to yellowish; stems more erect or arching

2a. Leaflets abaxially stipitate- or resinous-glandular over entire undersurface or tomentose; pedicels glandular-bristly

3a. Leaflets leathery, abaxially stipitate-glandular, adaxially rugose with deep veins

R. rugosa Thunb.

3b. Leaflets not leathery, abaxially resinous-glandular or tomentose, not rugose adaxially

R. tomentosa Sm.

2b. Leaflets not abaxially stipitate- or resinous-glandular or tomentose, sometimes pubescent

3a. Branchlets usually with prominent prickles in pairs near the nodes; small prickles and bristles scattered or absent

4a. Pedicel and sometimes calyx tube glabrous

5a. Sepals entire

R. cinnamomea L.

5b. Sepals pinnatifid

R. rubiginosa L.

4b. Pedicel and often calyx tube glandular-hispid

5a. Nodal prickles usually down-curved or down-slanting, the flattened bases usually longer than ½ the length of the prickle; internodal prickles rare; flowers corymbose on branches from old stem part; stipules often glandular-toothed, widened upward, attached portion 3-10 mm wide; leaflets 7-9, glabrous, shiny, toothed on upper ¾ margin, 1-3 cm wide

R. virginiana Mill.

5b. Nodal prickles +/- straight, slender, terete, rarely wanting, with base less than ½ the length of prickle; internodal prickles frequent, especially at base; flowers mostly single on on-year stems; stipules firm, trough-like, scarcely widened upward, fused portion 0.5-2.0 mm wide; leaflets 3-5 or 7, 1.0-1.5 cm wide, glabrous or pubescent, toothed mostly above middle

R. carolina L.

3b. Branchlets usually without conspicuous prickles in pairs near the nodes; prickles scattered with or without bristles

6a. Pedicels and often calyx tube glandular-hispid; branchlets very densely covered with thin prickles and red bristles; leaflets glabrous; calyx lobes entire; native plants of swamp thickets and bogs

R. nitida Willd.

6b. Pedicels and usually calyx tube glabrous; non-native escapes from cultivation in disturbed areas

7a. Leaflets 5-7 (-9); internodal prickles sparse or absent; leaves gray-green

R. glauca Pourr.

7b. Leaflets 7-11; internodal prickles dense

R. spinosissima L.

Rosa rubiginosa L.

Lewis et al. (2015).

1a. Distal branches: prickle lengths ± uniform, aciculi and setae absent; hips 10–12 × 7–9 mm; flowers 2–3.5 cm diam., sepals deciduous before or as hips mature, styles usually glabrous, stylar orifices 1/5–1/6 diam. of rims 2.5–4 mm diameter.

R. rubiginosa var. *nemoralis*

1b. Distal branches: prickle lengths varying, aciculi and setae sometimes present; hips 10–25 × 10–22 mm; flowers 2.5–4 cm diam., sepals deciduous as or after hips mature, styles usually villous, stylar orifices 1/3 diam. of rims 4 mm diameter.

R. rubiginosa var. *rubiginosa*

Rubus L.

The hybrid between *R. canadensis* L. and *R. pensilvanicus* (= *R.* ×*crux* Ashe) has been collected near Mount Stewart. It is most similar to the essentially hairless-leaved *R. canadensis*, differing in having denser prickles and a leafy corymbiform inflorescence. *Rubus* ×*recurvicaulis* Blanch., a putative hybrid between *R. flagellaris* Willd. and *R. pensilvanicus* Poir., is reported from multiple locations in PEI. It would key to *R. hispidus* below but would differ in having more stout and sparse prickles, duller leaves, and longer petals (10-25 mm long). *Rubus flagellaris* has been reported for PEI but is as of yet unconfirmed.

1a. Leaves simple

2a. Leaves unlobed

R. repens (L.) Kuntze

2b. Leaves 3-7 lobed

R. chamaemorus L.

1b. Leaves compound

3a. Stems strongly pruinose

R. idaeus L.

3b. Stems at most weakly pruinose

4a. Stems rarely over 4 dm long, without prickles or bristles, subherbaceous, without primocane and floricane development; elongate runners frequently tip-rooting; fruit red

R. pubescens Raf.

4b. Stems usually longer than 4 dm, mostly with conspicuously prickles and/or bristles, +/- woody and developing primocanes and floricanes; fruit black

5a. Primocanes and floricanes trailing or very low-arching and trailing, usually tip-rooting; flowering shoots erect from +/- prostrate floricane; leaflets 3 (rarely 5); inflorescence usually glandless, few to several-flowered

R. hispidus L.

5b. Primocanes erect to arched-ascending, not usually tip-rooting nor with trailing tips; leaflets 5 (rarely 3); inflorescence usually stipitate-glandular, racemose or corymbiform, many-flowered

6a. Primocanes with hairs, bristles, or slender, small-based prickles; stems 0.3-1.0 m tall

R. setosus Bigelow

6b. Primocanes mostly with stout, broad-based prickles; stems 0.5-3.0 m tall

7a. Leaves lustrous, glabrous or puberulent beneath; prickles absent or widely scattered and narrow-based; inflorescence subglabrous

R. canadensis L.

7b. Leaves not lustrous, at least moderately pubescent beneath; prickles broad-based or sometimes absent; inflorescence pubescent with or without glandular hairs

8a. Inflorescence axis eglandular to moderately sessile-glandular; inflorescence (2-) 5-12 (-16)-flowered, cymose to short-racemose

R. pensilvanicus Poir.

8b. Inflorescence axis conspicuously stipitate-glandular; inflorescence (5-) 15-25-flowered, often elongate, racemose

R. allegheniensis Porter

Rubus idaeus L.

1a. Stems stipitate-glandular; native plants of woodlands and disturbed areas

R. idaeus ssp. *strigosus* (Michx.) Focke

1b. Stems eglandular; non-native plants, seldom escaping cultivation

R. idaeus ssp. *idaeus*

Sibbaldia L.

This genus is represented by one species in PEI:

Sibbaldia tridentata (Aiton) Paule & Soják

Sorbaria (Ser.) A.Braun

This genus is represented by one species in PEI:

Sorbaria sorbifolia (L.) A.Braun

Sorbus L.

Sean Blaney has observed *S.* ×*splendida* Hedl., the putative hybrid between *S. americana* and *S. aucuparia*, twice on PEI (Blaney 5874, MT; Blaney 8955, DAO). Erskine (1960) states that early records of *S. decora* have been referred to *S. aucuparia*.

1a. Leaflets abruptly +/- acute-tipped, terminal tooth not prolonged, margins +/- parallel; inflorescence, leaf axes and undersides of leaflets white-tomentose; winter buds usually densely pubescent

S. aucuparia L.

1b. Leaflets more acuminate-tipped, terminal tooth +/- prolonged margins not parallel; inflorescence and leaf axes white-tomentose at first, becoming glabrate in fruit; winter buds glabrous or sparsely pilose

2a. Lateral leaflets broadest below middle, long-acuminate, +/- shiny above, serrate nearly to base, with 50-75 teeth; about 3.5-5.0 times as long as wide; bud scales glabrous or merely ciliate; flowers 5-6 mm wide; petals obovate, cuneate at base

S. americana Marshall

2b. Lateral leaflets broadest near middle, abruptly acute, dull above, serrate to slightly below middle, with 30-40 (-50) teeth, about 2-3 times as long as wide; inner bud scales rusty-villous; flowers about 10mm wide; petals orbicular

[*S. decora* (Sarg.) C.K. Schneid.]

Spiraea L.

1a. Leaves densely tomentose beneath; panicle narrow, long-tapering to summit; petals roseate

S. tomentosa L.

1b. Leaves +/- glabrous beneath; panicle open-pyramidal; petals white or rarely pink-tinged

S. alba Du Roi var. *latifolia* (Aiton) Dippel

Spiraea tomentosa L.

1a. Pedicels usually not visible, 0.1–0.5 mm; flowers or fruits 12–20 per cm of branches

S. tomentosa var. *tomentosa*

1b. Pedicels easily visible, 0.5–1.5 mm; flowers or fruits 6–11 per cm of branches

S. tomentosa var. *rosea* (Raf.) Fernald

RUBIACEAE

1a. Leaves whorled; stem 4-angled; corolla tube very short

Galium L.

1b. Principal leaves opposite

2a. Stem trailing; plant evergreen; leaves round-ovate; fruit fleshy, red; corolla lobes villous above, white

Mitchella repens L.

2b. Stem erect, often tufted; plant not evergreen; leaves obovate or spatulate; corolla white or blue with yellow eye; fruit capsular

Houstonia caerulea L.

Galium L.

1a. Leaves blunt or abruptly acute-tipped

2a. Leaves linear to linear-lanceolate, broadest near base; flowers in dense terminal panicles; corolla clear white; stem short-bearded below nodes

G. boreale L.

2b. Leaves elliptic to oval or obovate, broadest near or above middle

3a. Inflorescence with repeated divergent branching, each branch bearing 5-many flowers; pedicels usually less than 5 mm long

G. palustre L.

3b. Inflorescence only once or twice branched, each branch bearing 2-4 flowers; pedicels 5-30 mm long

4a. Corolla rarely to 1.5 mm broad, mostly with 3 blunt, greenish white lobes; stems reclining, +/- downwardly scabrous, developing matted basal offshoots

5a. Pedicels often scabrous, arching in fruit, 0.3-3.0 cm long, 1-3 per peduncle; leaves 4 per node, linear to linear-oblanceolate; fruit to 2 mm thick

G. trifidum L.

5b. Pedicels smooth, straight, widely spreading in fruit, to 8 mm long; leaves 4-6 per node, oblanceolate to oblong-spatulate; fruit to 1.5 mm thick

G. tinctorium L.

4b. Corolla to 2.5(-3.0) mm broad, usually with 4 acute, white lobes; stems erect or ascending, smooth or slightly hispidulous, lacking matted basal offshoots

6a. Leaves spreading or ascending, scabrous on midvein beneath, 1.5-3.0 cm long; inflorescence mostly terminal, not surpassed by sterile branches; fruit 2.5-3.5 mm thick

G. obtusum Bigelow

6b. Leaves mostly reflexed on lower main stem, midvein usually glabrous beneath, margins closely spreading-ciliate, often +/- revolute, 0.5-1.5 cm long; peduncles to 1.7 cm long; inflorescence once-branched, soon surpassed by sterile branches; fruit less than 2 mm thick

G. labradoricum (Wiegand) Wiegand

1b. Leaves sharply acuminate, cuspidate or mucronate-tipped

7a. Fruit bristly

8a. Leaves mostly 8 per whorl, bristle-tipped hairs bent towards base on upper surface, margins and midvein beneath, stem harshly down-pointed bristly; annuals

G. aparine L.

8b. Leaves 4-6 per node, cuspidate, mostly smooth above, hairs bent towards base on midvein beneath but with hairs on margin bent towards tip; stem +/- barbed-hispid on angles; perennials

G. triflorum L.

7b. Fruit smooth

9a. Flowers yellow; leaves linear, +/- 6 per node

G. verum L.

9b. Flowers white; leaves broader

10a. Stem smooth or slightly hairy below, erect from decumbent base

G. mollugo L.

10b. Stem downwardly scabrous, weak, with matted basal offshoots

G. asprellum L.

Houstonia L.

This genus is represented by one species in PEI:

Houstonia caerulea L.

Mitchella L.

This genus is represented by one species in PEI:

Mitchella repens L.

RUPPIACEAE

Ruppia L.

This genus is represented by one species in PEI:

Ruppia maritima L.

SALICACEAE

1a. Inflorescence long and pendulous, their scales laciniate; leaves generally ovate; stamens 6-60; buds with numerous scales

Populus L.

1b. Inflorescences usually short and stiff, their scales entire; leaves generally lanceolate to linear; stamens 7 or fewer, usually 2; buds with a solitary scale

Salix L.

Populus L.

Populus ×*canescens* (Aiton) Sm. was recorded in East Point area, Kings Co. in 2006 by Sean Blaney. Likely significantly overlooked and perhaps actually more common than pure *Populus alba* in cultivation and as an escape.

1a. Petioles flattened in cross section; buds not sticky

2a. Leaf blades orbicular to reniform at most obscurely triangular

3a. Leaves finely toothed with 4-8 teeth per cm, glabrous even when young

P. tremuloides Michx.

3b. Leaves coarsely toothed with about 1.5 teeth per cm, white-tomentose when young, becoming glabrous

P. grandidentata Michx.

2b. Leaf blades clearly broadly triangular or +/- diamond-shaped

P. nigra L.

1b. Petioles round in cross section; buds large and sticky

4a. Leaves and twigs +/- glabrous and fragrant; leaf margins entire to very finely toothed

P. balsamifera L.

4b. Leaves and twigs tomentose, not fragrant; leaves coarsely toothed

P. alba L.

Salix L.

Salix ×*smithiana* Willd. (=*S. cinerea* × *S. viminalis*) is reported to be spreading from cultivation near Charlottetown (see Erskine 1960). *Salix* ×*fragilis* L. (=*S. alba* × *S. euxina* I.V.Belyaeva) is a rare escape from cultivation sometimes found in roadside ditches and other disturbed habitats.

1a. Base of mature leaves clearly rounded to cordate; leaf tip acute to short-acuminate

2a. Young leaves and branchlets glabrous, fragrant of balsam; leaves broadly lanceolate to ovate; stipules wanting or minute

S. pyrifolia Andersson

2b. Young leaves and branchlets glabrous or pubescent but not fragrant; leaves ovate to lanceolate; stipules often large and persistent

S. eriocephala Michx.

1b. Base of mature leaves cuneate or +/- gradually tapered to slightly rounded; leaf tip various

3a. Leaf margin distinctly revolute and blades +/- persistently pubescent abaxially

4a. Twigs, blades and capsules white-woolly; leaves oblanceolate or narrowly oblong

S. candida Flüggé ex Willd.

4b. Leaf pubescence more lustrous, silvery-velvety to white-tomentose

5a. Leaves +/- oblanceolate, 1/3 to 1/5 as wide as long, acute to blunt at tip, tomentose beneath with short, spreading, white, wavy hairs; shrubs of mostly upland sites

S. humilis Marshall

5b. Leaves linear-lanceolate to broadly lanceolate, 1/6 to 1/10 as wide as long, acuminate at tip, densely and closely silvery-satiny, nearly obscuring the surface; introduced species of mostly disturbed sites

S. viminalis L.

3b. Leaf margin not distinctly revolute; blades smooth or pubescent abaxially

6a. Mature leaf tip abruptly long-acuminate to caudate

7a. Petioles with conspicuous glands on upper side near base of blade; leaves not whitened beneath, long acuminate at maturity; petioles and young foliage often sparsely to +/- heavily pubescent with copper-coloured hairs

S. lucida Muhl.

7b. Petioles without conspicuous glands; leaves usually persistently silky-pubescent beneath; branchlets persistently silky, reddish brown to olive-brown

S. alba L.

6b. Mature leaf tip acute to short-acuminate

8a. Mature leaves usually less than 1.5 cm wide, linear to linear-lanceolate or narrowly oblanceolate

9a. Leaves opposite to sub-opposite, alternate on young shoots, finely rugose-reticulate on both surfaces

S. purpurea L.

9b. Leaves regularly alternate

S. petiolaris Sm.

8b. Mature leaves usually more than 1.5 cm wide, lanceolate to elliptic or broadly obovate-ovate

10a. Blades usually 2.5-5.5 cm x 0.6-2.5 cm, glabrous even when young, whitened beneath, abruptly acute or rounded at tip, margin entire, slightly revolute; twigs glabrous; bog plants to about 1 m in height

S. pedicellaris Pursh

10b. Blades usually > 6 cm long, usually pilose or tomentose when young, becoming glabrate; twigs glabrous or pilose

11a. Leaves bright, +/- lustrous green above, glaucous and glabrous below or with scattered hairs; branchlets +/- smooth and lustrous

S. discolor Muhl.

11b. Leaves dull, dark green above, surface sparingly to heavily pilose below, becoming glabrate; branchlets +/- pilose

S. bebbiana Sarg.

SAPINDACEAE

1a. Leaves palmately compound; flowers with conspicuous petals, arranged in erect racemes or panicles

Aesculus hippocastanum L.

1b. Leaves simple or pinnately compound; flowers mostly drab or small, variously arranged

Acer L.

Acer L.

1a. Leaves pinnately compound

A. negundo L.

1b. Leaves simple

2a. Sinuses of leaves rounded

3a. Leaf lobes all obtuse and rounded at apex

A. campestre L.

3b. Leave lobes acuminate at apex

4a. Petals none; wings of fruit divergent at 120° or less; sap of leaves clear

A. saccharum Marshall

4b. Petals present, drab yellow; wings of fruit +/- horizontally divergent; sap of leaves milky

A. platanoides L.

2b. Sinuses of leaves pointed, +/- sharply angled

5a. Inflorescences conspicuously red, arranged in a sessile umbel-like manner, emerging before the leaves; leaves silvery or bluish green below

A. rubrum L.

5b. Inflorescences yellow to green coloured, with peduncled in racemes or panicles, emerging with or after the leaves; leaves green below

6a. Branchlets green with white stripes; leaves mostly more than 10 cm long, finely double-serrate; inflorescence racemose, drooping; petals conspicuous

A. pensylvanicum A.Gray

6b. Branchlets not striped; leaves mostly less than 10 cm long, coarsely and +/- simply serrate; flowers relatively inconspicuous

7a. Leaves +/- deeply cordate at base; shoots prominently grey-hairy; wings of fruit horizontally spreading; inflorescence a slender erect panicle; flowers greenish

A. spicatum Lam.

7b. Leaves rounded or shallowly cordate at base; shoots glabrous; wings of fruit +/- parallel; terminal leaf lobe much larger than poorly developed lateral lobes; flowers fragrant, whitish in long drooping panicles

A. tataricum L. ssp. *ginnala* (Maxim.) Wesm.

Aesculus L.

This genus is represented by one species in PEI:

Aesculus hippocastanum L.

SAXIFRAGACEAE

1a. Basal rosettes wanting; petals not developed; stems prostrate

Chrysosplenium americanum Schwein. ex Hook.

1b. Basal rosettes developed; petals present, fringed; stems ascending or erect

Mitella nuda L.

Chrysosplenium L.

This genus is represented by one species in PEI:

Chrysosplenium americanum Schwein. ex Hook.

Mitella L.

This genus is represented by one species in PEI:

Mitella nuda L.

SCROPHULARIACEAE

1a. Leaves all basal, linear, 2-5 cm long; flowers on filiform scape-like pedicels; corolla regular

Limosella australis R.Br.

1b. Leaves not all basal

2a. Corolla yellow, the lobes longer than the tube

Verbascum L.

2b. Corolla greenish to reddish brown, the lobes equal to or shorter than the tube

Scrophularia nodosa L.

Limosella L.

This genus is represented by one species in PEI:

Limosella australis R.Br.

Scrophularia L.

This genus is represented by one species in PEI:

Scrophularia nodosa L.

Verbascum L.

1a. Filaments pubescent with purple hairs; bracts 2-5 mm long; basal leaf blades cordate at base

V. nigrum L.

1b. At least the upper 3 filaments pubescent with white to yellow hairs; bracts 8-40 mm long; basal leaf blades cuneate to rounded at the base

2a. Stigma capitate; inflorescence crowded at maturity, the flowers concealing the axis of the spike; corolla 10-25 (-35) mm wide; upper cauline leaves long decurrent

V. thapsus L. ssp. *thapsus*

2b. Stigma spatulate, decurrent on the sides of the style; inflorescence less dense at maturity, the flowers spaced enough to expose the axis of the spike; corolla 25-45 (-55) mm wide; upper leaves only slightly if at all decurrent

V. phlomoides L.

SOLANACEAE

1a. Corolla deeply lobed; anthers erect, surrounding style, opening by terminal pores; fruit a berry

Solanum L.

1b. Corolla funnelform, shallowly lobed to +/- entire; anthers opening by longitudinal slits; fruit a berry or capsule

2a. Fruit a berry, covered by or at least with conspicuous enlarged calyx

Nicandra physalodes (L.) Gaertn.

2b. Fruit a capsule, not covered by the calyx

3a. Corolla greenish yellow with purple veins and throat; spikelike inflorescence leafy, one-sided

Hyoscyamus niger L.

3b. Corolla white or pale violet; flowers single, axillary

Datura stramonium L.

Datura L.

This genus is represented by one species in PEI:

Datura stramonium L.

Hysoscyamus L.

This genus is represented by one species in PEI:

Hyoscyamus niger L.

Nicandra Adans.

This genus is represented by one species in PEI:

Nicandra physalodes (L.) Gaertn.

Solanum L.

1a. Plants viney, woody near the base, perennial; corolla bluish purple

S. dulcamara L.

1b. Plants erect, herbaceous annuals and perennials; corolla white, yellow or palish violet

2a. Plants spiny; pubescence of stems and leaves all or mostly stellate

S. rostratum Dunal

2b. Plants without spines; pubescence of simple hairs

3a. Leaves +/- irregularly toothed or sinuate, neither compound nor lobed; annuals

S. emulans Raf.

3b. Leaves pinnately compound; perennials with large underground tubers

S. tuberosum Dunal

TAXACEAE

Taxus L.

In *Taxus*, the seed cone is modified into an aril – a fleshy red structure partially covering a single seed. All parts of the plant except for the aril are highly poisonous. European and Asian species such as *T. baccata* L. and *T. cuspidata* Sieb. & Zucc. are commonly cultivated and have been reported as escaping in New England (Haines 2011). The genus has one species on Prince Edward Island:

T. canadensis Marshall

THELYPTERIDACEAE

Roland (1947) reported *Thelypteris simulata* (Davenp.) Nieuwl., however this record was dropped from later editions. Catling et al. (1985) could find no supporting specimen.

1a. Fronds triangular; rachis winged except between basal pinnae; sori naked (without indusia)

Phegopteris connectilis (Michx.) Watt

1b. Fronds lanceolate to elliptic-lanceolate; rachis not winged; sori not naked, with indusia

2a. Frond broadest around the middle, strongly tapering to each end

Parathelypteris noveboracensis (L.) Ching

2b. Frond broadest below the middle, not or weakly tapering to base

3a. Most lateral veins of pinnules branching; fronds glandless

Thelypteris palustris Schott

3b. Lateral veins of pinnules not branching; fronds with sessile glands abaxially

[*Coryphopteris simulata* (Davenp.) S.E.Fawc.]

Parathelypteris (H.Ito) Ching

This genus is represented by one species in PEI:

Parathelypteris noveboracensis

Phegopteris (C.Presl) Fée

This genus is represented by one species in PEI:

Phegopteris connectilis (Michx.) Watt

Thelypteris Schmidel

This genus is represented by one species in PEI:

Thelypteris palustris var. *pubescens* (G.Lawson) Fernald

THYMELAEACEAE

Daphne L.

This genus is represented by one species in PEI:

Daphne mezereum L.

TYPHACEAE

1a. Pistillate flowers in one to several spherical heads; perianth of greenish sepals; leaves strongly keeled or flat

Sparganium

1b. Pistillate flowers in an elongate densely flowered spike; perianth of white hairs; leaves flat-elliptic in cross-section

Typha

Sparganium L.

Ito et al. (2015) demonstrated *S. emersum* s.s. to be sister to *S. angustifolium*. The more distantly related *S. emersum* ssp. *acaule* was elevated to specific status.

1a. Flowers and fruits with 2 stigmas; fruit sessile with a rounded summit

S. eurycarpum Engelm.

1b. Flowers and fruits with 1 stigma; fruit tapering into beak at summit

2a. Flowering stems with a single male spike; fruiting spikes 0.8-1.2 cm in diameter; beak of fruit 0.5-1.5 mm long; plants submerged or floating

S. natans L.

2b. Flowering stems with 2-20 male spikes; fruiting spikes 1.2-2.5 cm in diameter; beak of fruit 0.5-6.0 mm long; plants floating or emersed

3a. Entire fruit reddish brown, the beak 2-3 mm long, strongly curved; anthers and stigmas short, oblong to ovoid, 0.4-0.8 (-1.0) mm long; leaves convex or flat but not keeled near the tips, usually floating

S. fluctuans (Morong) B.L. Rob.

3b. Fruit green or reddish brown at base, the beak erect or slightly curved only; anthers and stigmas longer, linear, 0.6-4.0 mm long; leaves keeled or not, floating or erect

4a. All sessile female spikes of the main axis and the peduncle bases of the lateral branches borne directly in the axils of leaves or bracts

S. americanum Nutt.

4b. At least one or all of the sessile female spikes of the main axis and/or the peduncle bases of the lateral branches borne above the axils of leaves or bracts

5a. Fruit red near the base; beak much shorter than the body of the fruit, 0.5-2.0 mm long; stigmas 0.6-1.5 mm long; male portion of the inflorescence crowded, +/- continuous, usually 1-4 cm long; leaves usually limp, floating, unkeeled, up to 120 cm long

S. angustifolium Michx.

5b. Fruit entirely greenish; beak nearly as long as to slightly exceeding the fruit body in length; 2.0-4.3 mm long; stigmas 2.0-4.3 mm long; male portion of the inflorescence well spaced, usually 4-10 cm long; leaves usually keeled (plants which become flooded sometimes produce flat or somewhat keeled leaves), usually erect and emersed, up to 85 cm long

6a. Female heads usually remote, the lower often pedunculate; lower bracts shorter or about equaling the inflorescence; fruit beak shorter than the body in length; fruit body 3.5-5.5 mm long

S. emersum Rehmann

6b. Female heads crowded and usually sessile (the lowermost sometimes remote and pedunculate); lower bracts conspicuously longer than the inflorescence; fruit beak equal to or exceeding the fruit body in length; fruit body 3-4 mm long

S. acaule (Beeby) Rydb.

Typha L.

The hybrid between *T. angustifolia* and *T. latifolia* (*T.* ×*glauca* Godr.) is most obvious when growing with both parents, where intermediacy and hybrid vigour can be noted. The first PE record was collected by H. Harries (NBM VP-24838) at St. Peters Lake, Queens Co. in July 1970.

1a. Staminate and pistillate portions of the spike separated; stigmas slender and elongate; mature female part of spike less than 2 cm thick, cinnamon-brown; stigmas linear; leaf blades 3–8 mm wide; summit of leaf sheath usually prominently auricled (with rounded auricles projecting upward)

T. angustifolia L.

1b. Staminate and pistillate portions of the spike contiguous or only slightly separated; mature pistillate part of spike up to 3.5 cm thick, dark brown with darker markings; stigmas lance-ovate; leaf blades 6–25 mm wide; sheaths usually tapered or truncate, not auricled at summit

T. latifolia L.

ULMACEAE

Ulmus L.

1a. Fruit margins densely white-ciliate; leaf apices without additional lobes; leaf base unequal, but neither side concealing the petiole

U. americana L.

1b. Fruit margins (usually) without cilia; leaves often with multiple (1-3) acuminate lobe tips; leaf base strongly unequal with one side partially concealing the petiole

U. glabra L.

URTICACEAE

1a. Plant without stinging hairs; stems watery, +/- translucent; flowers in axillary cymes or panicles; weak-stemmed, glabrous annuals usually less than 4 dm tall

Pilea pumila (L.) A.Gray

1b. Plant with stinging hairs; stems not watery; perennials, much larger

2a. Leaves alternate; flowers in cymes from upper leaf axils

Laportea canadensis (L.) Wedd.

2b. Leaves opposite; flowers in axillary cymoid racemes or panicles

Urtica L.

Laportea Gaudich.

This genus is represented by one species in PEI:

Laportea canadensis (L.) Wedd.

Pilea Lindl.

This genus is represented by one species in PEI:

Pilea pumila (L.) A.Gray

Urtica L.

1a. Leaves ovate to lanceolate, acute to acuminate at apex; stipules to 1.5 cm long; tough-stemmed, rhizomatous perennials to over 1 m tall

U. dioica L.

1b. Leaves blunt tipped, oval or elliptic; stipules less than 5 mm long; soft-stemmed, tap-rooted annuals to 5 dm tall

U. urens L.

Urtica dioica L.

1a. Leaves mostly rounded or only slightly cordate at base, finely toothed (11-38 teeth per margin), usually without stinging hairs on the upper side of blade; stem and petioles without stout bristles; monoecious

U. d. ssp. *gracilis* (Aiton) Selander

1b. Leaves mostly cordate at base, coarsely toothed (11-14 teeth per margin), with stinging hairs on both sides; upper stem and petioles with stout bristles and pilose; dioecious

U. d. ssp. *dioica*

VIOLACEAE

Viola L.

The hybrid *V.* ×*melissifolia* Greene (= *V. cucullata* × *V. sororia*) is intermediate between the parental species, presenting sparse pubescence and hairs of the lateral petals with slightly expanded tips. *Viola selkirkii* Pursh ex Goldie is reported for PEI in Scoggan (1978) without supporting details. Erskine (1960) did not list the species, but it is possible for PEI and we consider it unconfirmed. Plants identified as *V. riviniana* Rchb. are common on iNaturalist, including for PEI. All records with verifiable photos have been misidentifications. The species would key to *V. labradorica* below and could be distinguished by its larger sepal auricles when in fruit.

1a. Leaves and flowers rising directly from rhizomes or stolons

2a. Plants with stolons; petals white

3a. Leaves lanceolate to elliptic, long tapering to base

V. lanceolata L.

3b. Leaves broadly ovate, cordate at base

4a. Blades completely glabrous; flowers strongly fragrant; lateral petals slightly bearded or beardless; stolons often bearing flowers and leaves; cleistogamous peduncles erect

V. macloskeyi F.E.Lloyd

4b. Blades with some pubescence; flowers faintly or not at all fragrant; lateral petals strongly bearded; stolons without flowers; cleistogamous pedicels prostrate

V. blanda Willd.

2b. Plants without stolons; petals violet (white in *V. renifolia*)

5a. Leaves kidney-shaped, rounded at tip; lateral petals glabrous; petals white

V. renifolia A.Gray

5b. Leaves more or less acute at tip; lateral petals various; petals violet

6a. Leaves oblong-ovate, usually sharply incised or toothed toward the subcordate or truncate base

V. sagittata Aiton

6b. Leaves cordate, coarsely serrate along complete margin

7a. Lateral petals with clavate hairs; leaves and sepals glabrous (sepals may be ciliate)

V. cucullata Aiton

7b. Lateral petals with hairs not expanded apically; leaves and sepals pubescent or not

8a. Plants essentially glabrous; leaves broadly ovate; sepals blunt-tipped, not ciliate; often densely clumped plants of calcareous shores and peatlands

V. nephrophylla Greene

8b. Plants usually pubescent; sepals ciliate; leaves ovate to reniform; plants of various habitats

V. sororia Willd.

1b. Leaves and flowers rising from axils of leaves on upright or reclining stems

9a. Stipules small, entire or finely fringed; native perennials

10a. Stipules entire to weakly toothed; flowers yellow

V. pubescens Aiton

10b. Stipules toothed or fringed; flowers violet

V. labradorica Schrank

9b. Stipules large, divided to near the base; introduced annuals or short-lived perennials without rhizomes

11a. Flowers large, the petals 2-3 times as long as sepals, variously coloured

V. tricolor L.

11b. Flowers small, the petals as large as or slightly larger than sepals, pale yellow

V. arvensis Murray

VITACEAE

Concord Grape (*V.* × *labruscana* L.H.Bailey) is widely cultivated and has escaped and become naturalized in NB & NS. Sean Blaney determined an iNaturalist record by Iain Crowell from the Island Nature Trust, Norboro Natural Area as probably this taxon.

1a. Leaves simple; petals partly fused

Vitis riparia (L.) Planch.

1b. Leaves palmately compound; petals separate

Parthenocissus Planch.

Parthenocissus Planch.

1a. Plants often high-climbing by means of tendrils with adhesive disks; cyme with definite central axis; leaves dull above

P. quinquefolia (L.) Planch.

1b. Tendrils not developing adhesive disks, though sometimes club-shaped at apices; inflorescence dichotomously (or trichotomously) forking, the branches of equal width; leaves +/- shiny above

P. inserta (A.Kern.) Fritsch

Vitis L.

This genus is represented by one species in PEI:

Vitis riparia (L.) Planch.

ZOSTERACEAE

Zostera L.

This genus is represented by one species in PEI:

Zostera marina L.