

Solanaceae

nightshade family

Nearly 2800 species are included in this family of familiar crops, found throughout the world. Cultivation is extensive in several genera, particularly the tomato, potato, tobacco and petunias. All species in Nova Scotia are Eurasian or South American introductions to our flora.

Typically leaves are alternate and the five-merous perfect flowers are arranged in cymes. Calyx is comprised of five persistent sepals. Corollas may be round or tubular, bearing the stamens alternately with the corolla lobes. Ovary is bilocular and superior. Fruits are capsules or berries.

Key to genera, requiring flowers or fruits

- | | |
|---|-----------------|
| A. Stems woody. | <i>Lycium</i> |
| aa. Stems herbaceous. | B |
| B. If you have plants in flower..... | C |
| C. Corolla nearly round, widely spreading. | <i>Solanum</i> |
| cc. Corolla tubular or funnellform. | D |
| D. Calyx tubular, 3.5–10cm long; sepals united, > 3.5cm long. | <i>Datura</i> |
| dd. Calyx short and tubular, or sepals separate, <3.5cm long. | E |
| E. Corolla white to yellow; carpels 2. | <i>Physalis</i> |
| ee. Corolla blue; carpels 3–5. | <i>Nicandra</i> |
| bb. If you have plants in fruit. | F |
| F. Fruit a berry. | G |
| G. Calyx not inflating after anthesis, subtending the berry, spiny. | <i>Solanum</i> |
| gg. Calyx enlarging with age, enclosing berry, smooth or hairy. | H |
| H. Calyx divided to base, carpels 3–5. | <i>Nicandra</i> |

hh. Calyx divided only at summit;
carpels 2.

Physalis

ff. Fruit a capsule.

Datura

***Datura* L.**

Neotropical and warm-temperate, this small genus numbers only 25 species. All are narcotic and generally POISONOUS, shrubs or herbs. Leaves are very large, lobed or dentate. The lobed corolla is well-developed and may be showy. Calyx is circumscissile forming a collar beneath the fruit. Nova Scotia has a single species, escaped from cultivation.

***Datura stramonium* L.**

Jimsonweed; Thornapple; stramoine commune



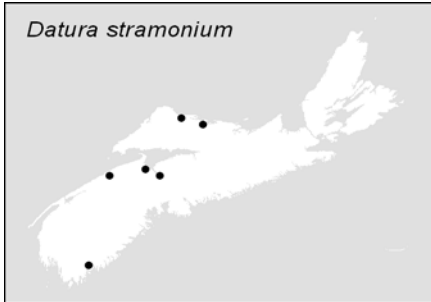
Photo by Alex Wilson

A tall species, the purple or green stems may reach 2m; they are hollow and smooth. Leaves are dimorphic, those produced early-season ovate and unlobed. The later leaves have sharply lobed margins, alternating along the stem, on long petioles. Flowers are white and solitary, borne on short peduncles. Corollas are sharply lobed. Five stamens are inserted towards the base of the corolla-tube. Seeds are brown or black contained in a bristly capsule, within each of four valves. Fruit and seeds contain toxic alkaloids.

Flowers from July to September.

About old gardens, building sites and farms. May have been introduced in tomato or tobacco crops.

Rarely seen now, its import is controlled. Formerly



collected from Annapolis to Cape Breton.

Throughout the continent and under eradication in various jurisdictions.



***Hyocymus niger* L., Henbane** is a poisonous annual or biennial bearing a strong odour and with slimy leaves. The pale purple and greenish white flowers encouraged its inclusion in gardens. It was once collected at Annapolis Royal. Usually shrubs or small trees, there are about 100 species worldwide. Unlike others in the family, this genus is typified by the presence of thorns. Calyx is 4–5 parted and rupturing with the expansion of the fruit within.

***Lycium* L.
matrimony-vine**

***Lycium barbarum* L.
Matrimony vine; lyciet de Barbarie**



Photo by Ruth Newell

A climbing shrub, it bears narrowly elliptic or lanceolate leaves. The drooping branches are thorny. Pink flowers produce reddish fruit.

Flowers late June to September.

Occasional weed persisting after cultivation.

Collected from Canning, Wallbrook and Hortonville, Kings



Co. Reported from: Sable Island, Digby and Port Mouton.

Ranges across Canada, except for NB and MB, south to CA, FL and TX. European native.

Photo by Martin Thomas



Photo by Ruth Newell

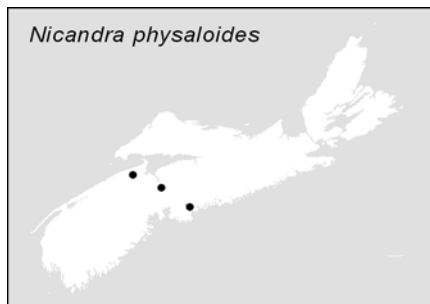
***Nicandra* Adans.**

Apple-of-Peru

A monotypic genus, reaching Nova Scotia only as an escape. The calyx is much enlarged at maturity forming an envelope around the berries.

***Nicandra physalodes* (L.) Gaertn.**

Apple-of-Peru; nicandre faux-coqueret



Leaves are pale green, their margins are strongly irregular and often lobed or winged at the base. Stems are angled. Blue flowers produce a dry pulpy berry.

Flowers from July to September.

Fallow soils around old gardens with high fertility. An annual weed that probably doesn't overwinter here.

Formerly collected at Halifax, Windsor and Cambridge.

NS to ON, variously south to CO and FL.

***Physalis* L.**
ground-cherry

Diversity of *Physalis* species is highest in the Americas, although some of the 90 species included are cosmopolitan. Generally herbaceous, all have solitary axillary flowers on drooping pedicels. The five-lobed calyx expands with maturity, marked by veins and loosely enclosing the fruit. The corolla is yellow and may be spotted, entire to the summit or with five lobes. The pulpy berry contains many seeds.

***Physalis heterophylla* Nees**
Ground-cherry; coqueret hétérophylle



Photo by Reta Cook

Weakly erect or sprawling, this plant is softly pubescent. Leaves broadly ovate or nearly deltate; their margins are irregular. Both the flowers and the bristly fruit are yellow.

Flowers during July and August.

Associated with orchards or other cultivated land.

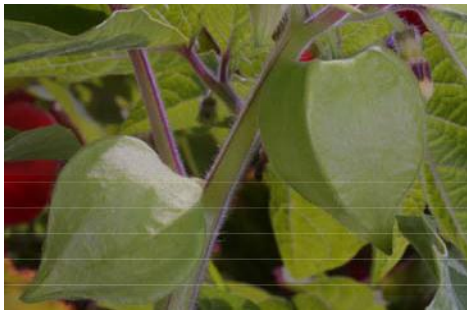
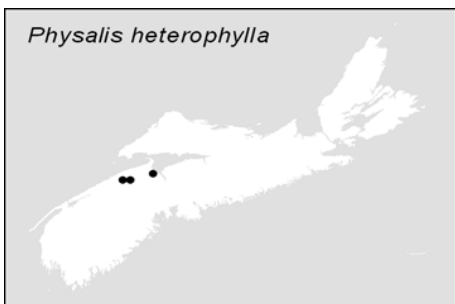


Photo by Martin Thomas

Persisting in the Annapolis Valley; previously collected from Halifax and Truro.

Ranges from NS to ON and south to AZ, TX and FL.



***Solanum* L.**
nightshade

Upwards of 2000 species of *Solanum* have been described. The genus is cosmopolitan, although diversity is greatest in the tropics. Potato, tomato and eggplant are well-known crops obtained from species within. Flowers are axillary, corollas rotate or salverform. Anthers unite around the style. Fruit is a berry, containing many seeds, most are poisonous.

Key to species

- A. Stems climbing; flowers blue or violet. *Solanum dulcamara*
- aa. Stems erect or diffuse, not vining; flowers white. B
 - B. Calyx tightly embracing the lower half of the fruit; fruit yellow or green; stems with spreading pubescence. *S. physalifolium*
 - bb. Calyx not hugging the fruit; fruit black; stems glabrous, or with appressed pubescence. C
 - C. Flowers 5–7 in a raceme; berries globose and dull black. *S. nigrum*
 - cc. Flowers up to 6 in an umbel; berries shiny purplish black. *S. ptycanthum*

Solanum dulcamara* L.*Bittersweet; morelle douce-a mère**

A distinctive vine and quite recognizable. Puberulent, the vine bears broadly deltate leaves, often incised at the base to form two ovate lobes. Flowers bluish purple, with yellow centres. Fruits ovoid and bright red when ripe and inedible. Both this var. *dulcamara*, and var. *villosissimum* Desv. with pubescent leaves are known from NS.

Flowers from mid-May to September.

Often seen in thickets, on intervalles, along roadsides and waste soils. Climbs over fences walls and other plants.

Throughout the province. Tendency to spread and become weedy in urban areas.

NS to ON; SK and BC south to GA and CA. From Eurasia.

Solanum nigrum* L.*Black Nightshade; morelle noire**

An erect plant or weakly so, reaching 50cm in height. Green stems are glabrous although they may be angular. Leaves are ovate, up to 5cm across and 8 cm long. They may be blackened or purple and irregular along the edges. White flowers with yellow centres are borne 5–7 in a raceme. Fruit is dull black, about 12mm in diameter.

Flowers to be expected May until October.

Generally grows in rocky, dry open habitats, forested or thickets, even in cultivated fields.

Found throughout and on Sable Island.

A Eurasian introduction, found across Canada to AK, south along the west coast and the east coast of the continent.

***Solanum physalifolium* Rusby**
(=*Solanum sarrachoides* Sendt.)

Hairy Nightshade; morelle à feuilles de coqueret

It is distinctive in the degree of dense pubescence. Petioles are winged, bearing ovate serrate leaves. Corolla is white with the stellate centre yellow and purple. Calyx lobes are snug against the yellow or green berries, separating this species from *S. nigrum*.

Weedy species of gardens and other fertile soils nearby.

Locally abundant: Bridgewater, Halifax and Hilden, Colchester Co. Reported recently from Aylesford.

Ranges from NF to AK, south to CA, TX and NC.

***Solanum ptycanthum* Dolan**
morelle noire de l'Est

More robust than the previous species, reaching 1m in height. Leaves larger (9cm wide and 10cm long). Stems may be purplish in colour. The inflorescence is an umbel of up to six white flowers. Fruits are shiny purple-black, 7–9mm in diameter, soon falling from the plant.

Reported from Cape Breton I. and at Guysborough Co. but there are no collections in local herbaria.

Ranges from NF to AB south to the Gulf States.