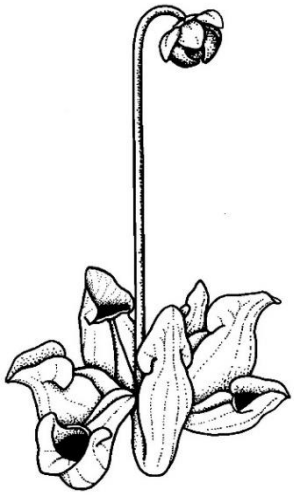

Sarracenia

Newsletter of the Wildflower Society of Newfoundland and Labrador

Volume 24, Number 3 **Fall 2022**

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Special Issue:

The “Berries” of Newfoundland and Labrador. Many variations on a juicy theme!

Contents

Vaccinium angustifolium - Lowbush Blueberry - Flowers and “False Berries”

Editor's Column

As Fall approaches, and the days shorten, it seems an appropriate time to offer a **Special Issue on "Berries"**!

To this end, I've dusted off, and completely renovated, an old computer file that has been "kicking around on my hard drive" since I wrote it in 2008! I hope that the result will be both interesting, and useful.

Thanks to both Richard and Glenda for their excellent contributions on the *last page* of this issue.

The Sarracenia needs content!

Below is an ongoing appeal for article-contributions from members:

The production of a newsletter like the Sarracenia requires a continuous flow of good quality "content".

While many past Sarracenia contributions have tended a little toward "the scientific side" — probably discouraging the submission of more "popular" pieces by at least some "general members" — there doesn't seem to be any good reason why a healthy portion of future contributions can't be a wee bit more easy-going and "grass-roots", in the interest of satisfying the full range of interests and aesthetic sensibilities of our greater membership. Ideally, of course, there should be some sort of balance between the two.

Suggested contributions might include, at least in part, a number of *shorter* (even just "half-page") pieces on:

- general news and information/notes/comments
- special botanical places/secret spots
- field trip reports — both new and historical
- new discoveries/new distributions
- associated flora and fauna (eg. pollinators)
- philosophical musings/artistic offerings
- edible plants/recipes?

Simple contributions of interesting photographs, with explanatory captions, will also be welcomed. The possibilities are endless. Don't be shy! It's *your* newsletter! "Everybody has skills"!

John Maunder: Editor
Please send all contributions to the newsletter to:
jem@nl.rogers.com

The Executive

The Wildflower Society of Newfoundland & Labrador
https://www.wildflowersocietynl.ca/

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Basic Links

Nova Scotia Wild Flora Society http://nswildflora.ca/ Our sister group "next door". Of particular interest is their archive of PowerPoint and Zoom presentations available at: http://nswildflora.ca/programme/videos-of-presentations/ and also at: http://nswildflora.ca/programme/videos-of-presentations/powerpoints-of-presentations/ [click the *titles* to launch].

The Digital Flora of Newfoundland and Labrador https://www.digitalnaturalhistory.com/flora.htm (This website is presently undergoing a complete upgrade!)

Flora of Newfoundland and Labrador by Susan and Bill Meades https://newfoundland-labradorflora.ca/. Includes the most authoritative checklist of the Province's vascular plants https://newfoundland-labradorflora.ca/checklist/

"Limestone Barrens ... Ours to Protect" https://limestonebarrens.ca/ A Newfoundland website that is a multi-layered goldmine of information. Includes many excellent links, particularly on the pages https://limestonebarrens.ca/Resources.htm and https://limestonebarrens.ca/EarlyStudies.htm

Bunchberry *Cornus canadensis* - Who knew they were “hairy”?

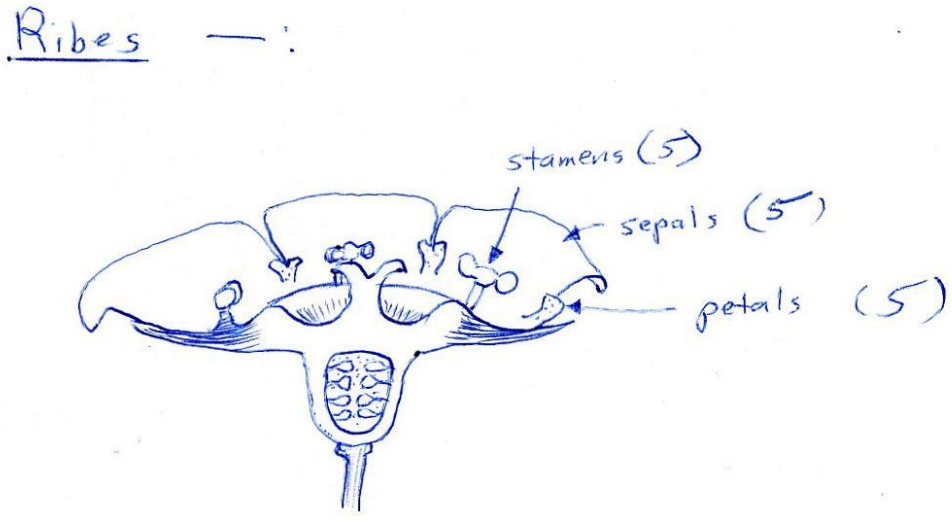
What’s a “berry”?

The answer sounds pretty simple … but it’s really not!

In a popular sense, a “berry” is any rounded, fleshy, flower- or cone-produced “**fruit**” that contains seeds.

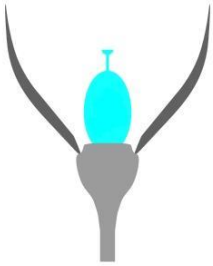
However, in a scientific sense, there are actually many quite distinct types of “berry” or “berry-like fruit”.

Everything starts with the structure of the flower, and how the relevant flower parts mature into a “fruit”.



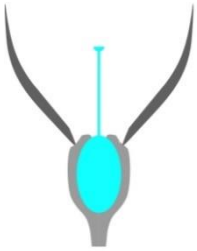
[A sketch from one of my old lab notebooks, made while I was taking a wonderful plant taxonomy course (Biology 311) from Dr. David Murray, at Memorial University, way back in 1967-1968! If my memory serves me correctly, the basic sketch was redrawn from “Figure 158 Bc” in Lawrence, G.H.M. 1951. Taxonomy of Vascular Plants. MacMillan. New York. xiii + 823 pp.]

The first thing to determine is whether a flower's ovary is "superior" or "inferior", or "something in between".



Superior Ovary

The "ovary" [blue] sits atop a "receptacle" [grey], *above* the insertion of the sepals, petals and stamens [black] [the stamens, petals, and sepals are therefore "hypogynous" – i.e., attached *below* the ovary]



Inferior Ovary

The "ovary" [blue] is enclosed within a closely adhering, cup-like "flower tube" (= "hypanthium") derived from the fused *bases* of the sepals, petals and stamens [the "free" *upper parts* of the stamens, petals, and sepals are therefore "epigynous" – i.e., attached *above* the ovary]

Half-inferior Ovary

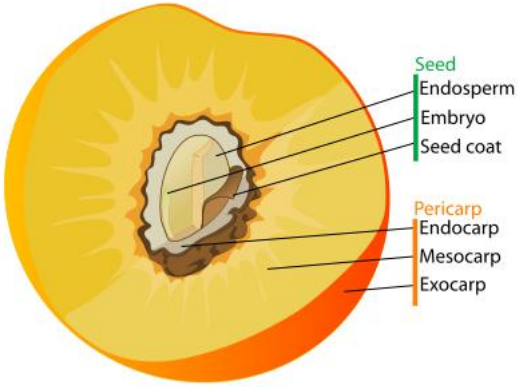
Much like an Inferior Ovary, but the cup-like "flower tube" (= "hypanthium") does not closely adhere to the ovary [the stamens, petals, and sepals are therefore "perigynous" - arrayed *around* the ovary, on the "free" lip" of the "hypanthium"] An uncommon form.

[Note: In practice, there are many variations on this simple theme, which is often quite tricky to apply!]

The second thing to determine is the nature of each of the three layers that make up the fleshy part of the fruit that surrounds the seed, or seeds - the "pericarp":

The three layers of the pericarp:

[a] endocarp – the inner layer, immediately surrounding the seed
[b] the mesocarp, the middle, usually fleshy layer
[c] the exocarp – the outer layer, or "skin".



[Public Domain - http://en.wikipedia.org/wiki/File:Drupe_fruit_diagram-en.svg]

By considering [a] the three basic "ovary configurations", and [b] the "nature" of the three "pericarp" layers (see the several illustrations above), perceptive readers should be able to correctly identify at least the more conventional "berry types" that occur naturally in Newfoundland and Labrador.

Dissecting "berries"

In the guide to the "berries" that immediately follows, you will notice a number of images of dissected "berries". I heartily encourage readers to try some "berry" dissections of their own. It's quite eye-opening and, in most cases, relatively easy.

However, some "berries" are easier to dissect than others. Some are too hard. Others are too soft. Some have arrays of seeds that need to be lined-up, relative to the plane of the cutting blade. And, negotiating around "stones" can be tricky. More than likely, a few berries will be spoiled before a good result is achieved.

A simple, old-fashioned, razor blade, with one sharp side, works best (try an art supply store). Or try an X-acto knife with a new blade. Be careful, of course!

SIMPLE FRUITS

1. True Berry [superior ovary - hypogynous]:

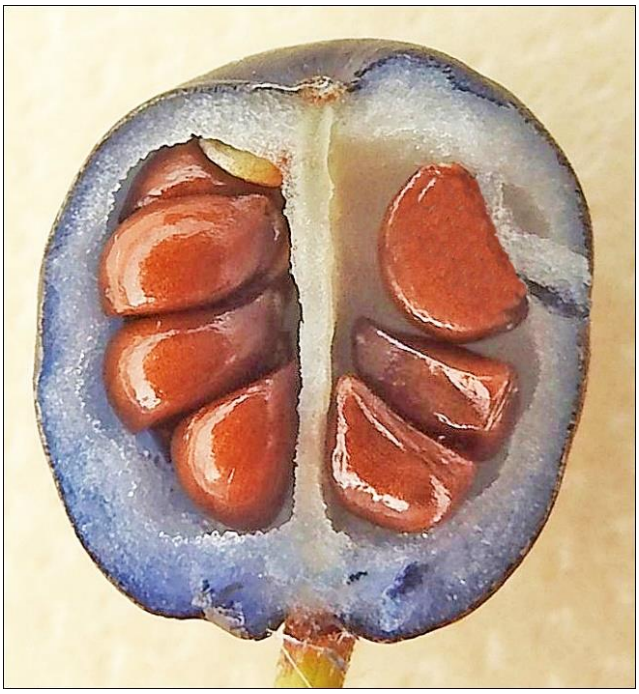
A “true berry” is a simple, multi-seeded fruit produced from a single *superior* ovary. It is characterized by a soft (and sometimes fleshy) endocarp, a (usually) fleshy edible mesocarp, and a (usually) thin exocarp.

Remnants of the flower petals and sepals are attached to the base of the fruit [hypogynous].

In Newfoundland and Labrador, “true berries” are the fruit of: wild lily-of-the-valley, false solomon's-seal, corn lily, twistedstalk, baneberry and nightshade.

Other examples of true berries include: grapes, tomatoes and chili peppers.

”Citrus fruits, such as oranges, kumquats or lemons, are modified “true berries”. They have a fleshy edible endocarp, a somewhat fibrous mesocarp, and a tough exocarp or “rind”, and are radially-partitioned. They are often called "hesperidia" (singular, “hesperidium”).



True Berry [superior ovary] – a vertical section
Clintonia borealis - Cornlily, Poisonberry
Pouch Cove. Edge of woods. August 29, 2022.

True Berry [superior ovary]
Maianthemum stellatum - Starry False Solomon's-seal
Newtown. Coastal meadow. July 23, 2006.

True Berry [superior ovary]
Actaea rubra subsp. *rubra* - Red Baneberry
Trail to Western Brook Beach. Woods. August 1, 2019.

True Berry [superior ovary]
Streptopus amplexifolius - White Mandarin, Claspingleaf Twistedstalk. Gambo. David Smallwood Provincial Park. Damp, mixed woods. July 21, 2006.

True Berry [superior ovary]
Solanum dulcamara - Bittersweet Nightshade, Norris Point Dump. Just outside fence. August 4, 2005.

2. Simple False Berry [inferior ovary - epigynous]:

A "simple false berry" is a multi-seeded fruit produced from a single *inferior* ovary that is *enveloped by* an *adhering*, edible, cup-like "flower-tube" (= "hypanthium"). See the dissected example in the next column.

Remnants of the flower petals and sepals are attached to the top of the fruit [epigynous].

In Newfoundland and Labrador, "simple false berries" are the fruit of: snowberry, blueberry, bilberry, cranberry and partridgeberry.

The fruit of cucumbers, watermelons, and even bananas, are modified false berries. They have a fleshy pericarp, and a hard or leathery rind that is formed from the hypanthium, and are called "pepoes" (singular, "pepo").

Simple False Berry [inferior ovary] – a vertical section
Vaccinium angustifolium - Lowbush Blueberry
Flatrock, "The Beamer". August 30, 2022.

Simple False Berry [inferior ovary]
Vaccinium angustifolium - Lowbush Blueberry
Pouch Cove. East Coast Trail.
September 24, 2002.

Simple False Berry [inferior ovary]
Vaccinium macrocarpon - Large Cranberry
Flatrock. Redhead Road. Open coastal heath.
September 28, 2004.

Simple False Berry [inferior ovary]
Symphoricarpos albus var. *albus* - Snowberry
St. John's. Waterford Bridge Road. General Protestant Cemetery. Shaded, older section of cemetery.
October 2, 2001.

3. A variation on Simple False Berry [inferior ovary – raised hypanthium rim present - epigynous]:

Technically, this fruit does *not* possess a "half-inferior ovary" - See my ball-point pen sketch on page 3, above.

In Newfoundland and Labrador, this "variation" is the fruit of: currant and gooseberry.

A variation on Simple False Berry [inferior ovary – raised hypanthium rim present - epigynous]
Ribes glandulosum - Skunk Currant
Pouch Cove. Open, mixed woods. June 21, 2002.

A variation on Simple False Berry [inferior ovary – raised hypanthium rim present - epigynous]
Ribes hirtellum - Smooth Gooseberry
Pouch Cove. August 22, 2009.

4. Fused False Berry [fused inferior ovaries]:

A "fused false berry" is a multi-seeded fruit, produced from the fusion of (usually) two inferior ovaries [epigynous]. Sometimes called a "bibacca".

Flowers of a Fused False Berry [fused inferior ovaries]
Lonicera villosa - Mountain Fly-honeysuckle
Pouch Cove. Coastal heath. June 8, 2002.
[Note the fused inferior ovary lying beneath the two flowers]

Fused False Berry [fused inferior ovaries]
Lonicera villosa - Mountain Fly-honeysuckle
Pouch Cove. Coastal heath. August 5, 2007.
[Note the two "eyes", each having recently borne a "flower".]

In Newfoundland and Labrador, "fused false berries" are the fruit of: fly-honeysuckle and (?) two-eyed berry.

Fused False "Berry" [fused inferior ovaries]

[Included here, but arguably a fused 8-seeded "drupe"]

[Top] double flowers still in bud
[Bottom] double berry after the flowers have dropped

Mitchella repens - Two-eyed Berry, Partridgeberry [called that in mainland Canada, but not in Newfoundland]
North of Doyles Junction on Trans Canada Highway. Near the wooded edges of a blanket bog. July 11, 2007.

Anecdote:

The Two-eyed Berry is quite rare in Newfoundland, being found only along the Island's south coast from just east of Grand Bank to the Codroy Valley. It is also found on the nearby French Island of Miquelon. This author first saw the plant in 2007. It was lurking in shallow, wet, ATV tracks [!], at the blanket bog site described above. Many thanks to WFS member Henry Mann for knowing where it was, and for pointing it out.

5. True Drupe [superior ovary] **-** including "pyrenes" (= "berry-like drupes"):

A "drupe" is generally described as a simple one-seeded fruit, produced from a single superior ovary which has a hard "endocarp" that forms a "stone", a (usually) fleshy edible mesocarp, and a thin exocarp. However, some drupes have multiple stones and are *sometimes* called "pyrenes" (*which can be confusing because the stones themselves are sometimes also called "pyrenes"*).

[To keep things simple, in the present document, the two "drupe-types" have been treated together, with comments. See, for details, "The List", later, below]

Remnants of petals and sepals are attached to the base of the fruit [hypogynous].

True Drupe [superior ovary] [one "stone"]

Top: straight-on view of a very flat "stone".
Bottom: edge-on view of the cut-through "stone".

Viburnum trilobum - Highbush Cranberry.
Urban garden. Pouch Cove. September 5, 2020.

True Drupe [superior ovary] [one "stone"]
Viburnum trilobum - Highbush Cranberry
Rocky Harbour Pond. August 18, 2017.

True Drupe [superior ovary] [4 stones = "pyrenes"]
Ilex verticillata – Winterberry Holly
Seal Cove River, Conception Bay. Rocky ground near river. October 26, 2001.

True Drupe [superior ovary] [multiple stones = "pyrene"]
Arctous alpina - Alpine Bearberry
Caribou Island, Battle Harbour. Arctic-alpine heath.
July 30, 2003.

True Drupe [superior ovary] [multiple stones = "pyrene"]
Empetrum eamsii ["red form"] – Pink Crowberry
Shea Heights, St. John's, near communications towers.
Open heath. August 24, 2007.

Anecdote

Four of the five "species" of crowberry (*Empetrum*) occur in North America. One more "species" (*E. rubrum* - Red Crowberry) occurs in southern South America, the Falkland Islands, and on remote Tristan da Cunha and Gough Islands. An interesting link regarding the latter: https://www.pnas.org/doi/pdf/10.1073/pnas.1012249108

St. John's, Newfoundland, may be the only place in the World where all four North American "species" occur "within line-of-sight" of each other! [1] Shea Heights (near the communications towers): Black Crowberry (*E. nigrum* ssp. *nigrum*), Pink Crowberry (*E. eamsii*), Purple Crowberry (*E. atropurpureum*); [2] Nagles Hill (above golf course): *E. atropurpureum, E. nigrum* ssp. *nigrum,* Hermaphrodite Crowberry (*E. nigrum* ssp. *hermaphroditum*). Some of the Pink Crowberries on Shea Heights are unusually **red**, and appear to be "genetically interesting"!

True Drupe [with a superior ovary and a waxy surface]
Morella pensylvanica - Northern Bayberry, Candleberry
Crouse Point, Molliers. Open coastal barrens. Gravelly heath. September 21, 2002.

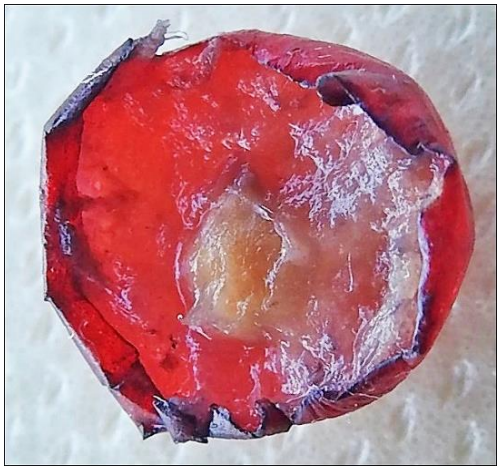
In Newfoundland and Labrador, "true drupes" are the fruit of: holly, bearberry, crowberry, bayberry, buckthorn, cherry, elderberry and viburnum.

A *few* other examples of one-seeded drupes include peaches, plums, apricots, nectarines, mangoes, olives, the fruit of most palms (including date, oil, and coconut [even though the fruit of the latter has a mesocarp that is fibrous and dry], and pistachio).

6. False Drupe [inferior ovary] – including "pyrenes" (= "berry-like drupes"):

A simple "false drupe" may be described as a one-seeded fruit, produced from a single *inferior* ovary, and characterized by a hard endocarp that forms a "stone", a fleshy edible mesocarp, and a thin exocarp. However, some "false drupes" have multiple stones and may, sometimes, also be called "pyrenes".

Remnants of petals and sepals are attached to the top of the fruit [epigynous].



False Drupe [inferior ovary] – a vertical section showing one of two "stones" (= "pyrenes")
Cornus suecica - Swedish Bunchberry
Flatrock, "The Beamer". August 30, 2022.

False Drupe [inferior ovary] [multiple "stones" = "pyrenes"]
Aralia hispida - Bristly Sarsaparilla
Pouch Cove. Cameron Place (extension). Edge of coniferous woods. October 12, 2002.

False Drupe [inferior ovary] [10 "stones" = "pyrenes"]
Gaylussacia bigeloviana - Dwarf Huckleberry
Crouse Point, Molliers. Exposed coastal heath. Gravelly. September 21, 2002.

In Newfoundland and Labrador "false drupes" are the fruit of: sarsaparilla, dogwood and bunchberry.

7. Drupaceous Fruit [half-inferior ovary]

This "drupaceous fruit" is composed of a single, dry achene (i.e., seed) *enveloped* by a persistent, fleshy, *non*-adhering, cup-like "hypanthium".

Drupaceous Fruit [half-inferior ovary]
Shepherdia canadensis - Soapberry, Buffalo Berry
Trail to Western Brook Beach, woods. Aug. 1, 2019.

Remnants of petals and sepals only *appear* to be attached to the top of the fruit [perigynous].

In Newfoundland and Labrador, “drupaceous fruit” are the fruit of: soapberry.

8. Pseudodrupe [inferior ovary]:

A false-drupe-like fruit that has a hard mesocarp, and an exocarp that is leathery or fleshy

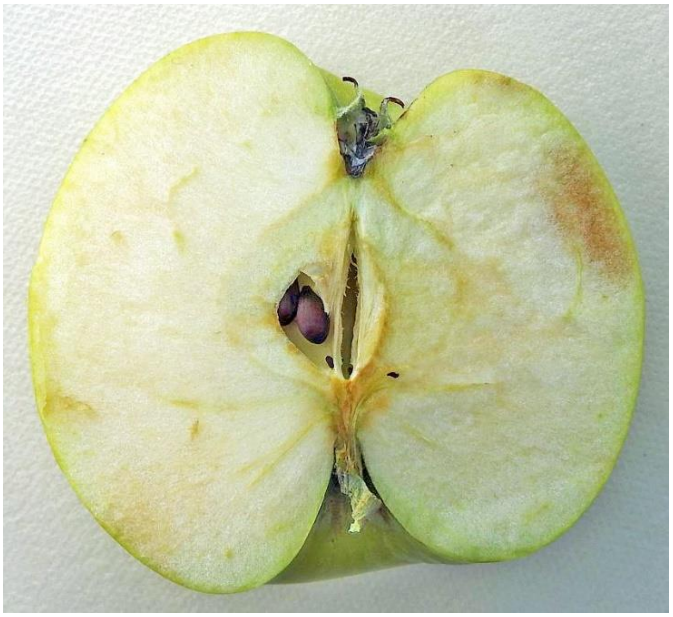
Pseudodrupe [inferior ovary]
Geocaulon lividum - Northern Comandra
Deadman’s Bay Beach. July 23, 2006.

In Newfoundland and Labrador, “pseudodrupes” are the fruit of: toadflax and comandra.

9. Pome [inferior ovary]:

A “pome” is somewhat like a false berry, but the inferior ovary has a cartilaginous, leathery or papery endocarp (eg., an “apple core”). The edible, enveloping, adhering “flower-tube” or “hypanthium” is usually somewhat dense and fibrous. An “accessory fruit” (see page 14).

Remnants of petals and sepals are attached to the “top” (i.e., terminal end) of the fruit [epigynous].



Pome [inferior ovary]
Malus pumila - “Golden Delicious” Common Apple
Supermarket!

Pome [inferior ovary]
Malus pumila – Common Apple
Naturalized. NW Shore of Cupids Pond, Cupids.
September 22, 2009.

In Newfoundland and Labrador, “pomes” are the fruit of: apple, chuckley pear, chokeberry, hawthorn and mountain ash.

Pome [inferior ovary]
Crataegus macrosperma - Big-fruit Hawthorn
Grand Falls. Rocky Brook. July 28, 2006.

Pome [inferior ovary]
Sorbus decora - Showy Mountain Ash
Brigus. "Wilcox Gardens". July 27, 2001.

Pome [inferior ovary]
Amelanchier sp. - Chuckley Pear
Upper Motion, Clarke's Beach. June 30, 2007.

Pome [inferior ovary]
Aronia ×*prunifolia* - Purple Chokeberry
Gambo. Saltmarsh. Wet shrubbery. October 10, 2006.

COMPOUND FRUITS - having multiple pistils, aggregated together upon an expanded or enclosing receptacle.

10. Drupecetum (Raspberry-like Fruit):

A raspberry-like "aggregate fruit" that is produced from a tenuously-attached aggregation of small edible drupes (ie. "drupelets") arrayed upon the surface of a short, conical receptacle (or "torus"). Also, a "drupetum".

Remnants of petals and sepals are attached to the base of the fruit.

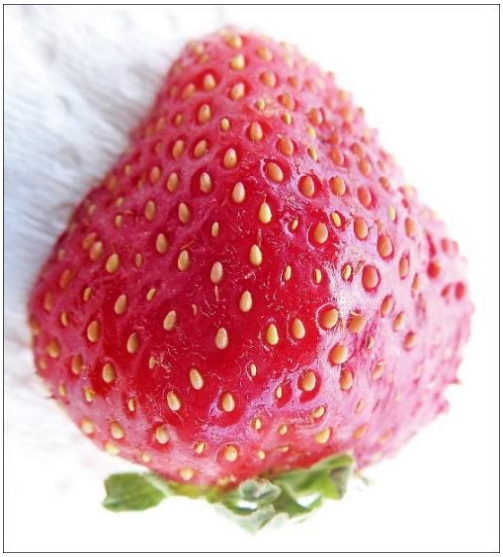
In Newfoundland and Labrador, "drupeceta" are the fruit of: all "raspberry-like fruit".

Drupecetum (raspberry-like "aggregate fruit")
Rubus cf. ×*recurvicaulis* - Arching Dewberry
North River, Conception Bay. October 9, 2005.

11. Pseudocarp ("Strawberry-like Fruit"):

A "pseudocarp" is a multi-seeded "accessory fruit" in which virtually none of the edible flesh is derived from the floral ovaries.

Multiple ovaries are arrayed upon the *surface* of a fleshy receptacle that gradually expands into a "conical dome". These ovaries mature into tiny hard fruit called "achenes".



Pseudocarp
Fragaria × *ananassa* – Cultivated Strawberry
Supermarket!

In Newfoundland and Labrador, "pseudocarps" are the fruit of: strawberry.

12. Hip:

A "hip" is also a multi-seeded, "accessory fruit". Like in strawberries, none of the edible flesh is derived from the floral ovaries. A relatively small number of ovaries are arrayed upon the *inner* surface of a cup-like structure (receptacle cup below/short hypanthium above), where they mature into relatively hard, somewhat dry, seeds.

Note that the summit of a "hip" is "open" - there being a significant "passageway" between the "seed chamber" and "the outside air" (although this "passageway" is usually somewhat obscured by the remains of numerous stamens).

A hip is somewhat equivalent to a "turned inside-out strawberry"!

Hip - cross-section.
Rosa rugosa – Japanese Rose.
Flatrock. August 27, 2022.

In Newfoundland and Labrador, "hips" are the fruit of: rose.

“BERRY-LIKE FRUITS” - Not berries at all!

13. Capsular Fruit [a fruit “capsule” surrounded by a persistent, fleshy calyx (derived from sepals)]:

Capsular Fruit
Gaultheria procumbens – Eastern Teaberry
Rose Blanche Lighthouse Trail.
Heath along path. July 13, 2018.

Capsular Fruit
Gaultheria hispida – Manna-tea Berry, Capillaire Berry
Cripple Cove Trail, Cape St. Francis section of the East Coast Trail. Coniferous woods. August 2001.

In Newfoundland and Labrador, “capsular fruit” are the fruit of: tea-berry.

14. Berry-like Cones - “strobilus” type:

Juniper “berries” are actually modified cones, made up of unusually fleshy, merged, scales. Inside there are usually three hard seeds, or “pits”.

Berry-like Cones - “strobilus” type
Juniperus communis var. *depressa* – Common Ground Juniper
Pouch Cove. Meetinghouse Road. Mixed shrubbery along a dirt track. April 29, 2005.

Berry-like Cones - “strobilus” type. Of the very similar *Juniperus horizontalis* – Horizontal Juniper
Witless Bay, Mickeleen's Path. Coastal heath. August 8, 2005.

Three dissections of Common Ground Juniper “Cones”.
Flatrock, August 27, 2022.

Side view

One of the pits

Top view

In Newfoundland and Labrador, “berry-like cones” are the fruit of: juniper and yew.

15. Berry-like Cones - “arillus” type

The single, mature seed is hard, slightly flattened, and surrounded by a fleshy, red, cup-shaped “aril”, which is open at one end)

Berry-like Cone – “arillus” type

Taxus canadensis – Canada Yew
Paradise. Neil's Pond Trail. Mixed woods. September 27, 2009.

How many “berry” producing species do we have in Newfoundland and Labrador? And, what are they?

You may be astounded to know that, in Newfoundland and Labrador, about 105-108 different species of native or naturalized vascular plants produce “berries”, or “berry-like fruit”!

A tally of the types of “berries” or “berry-like fruit” in question reveals that: 17-19 are pomes, 17 are true drupes, 12 are simple false berries, 11 are drupeceta (“raspberry-like fruits”), 9 are true berries, 9 are simple false drupes, 9 are hips, 6 are a variation on single false berries, 3 are pseudocarps (“strawberry-like fruits”), 3-4 are berry-like cones, 2 are fused false berries, 2 are pseudodrupes, 2 are capsular fruits, and 1 is a drupaceous fruit!

……..

The List:

SIMPLE FRUITS

1. True Berry [superior ovary]:

Asparagaceae - Asparagus Family

Maianthemum canadense subsp. *canadense* - Wild Lily-of-the-valley, Canada Mayflower
Maianthemum racemosum - Feathery False Solomon’s Seal, False Spikenard
Maianthemum stellatum - Starry False Solomon's-seal
Maianthemum trifolium - Threeleaf False Solomon's-seal

Liliaceae - Lily Family

Clintonia borealis - Cornlily, Poisonberry (NF), Yellow Clintonia
Streptopus amplexifolius - White Mandarin, Claspingleaf Twistedstalk
Streptopus lanceolatus var. *lanceolatus* - Rose Mandarin, Sessileleaf Twistedstalk

Ranunculaceae – Buttercup Family

Actaea rubra subsp. *rubra* - Red Baneberry

Solanaceae - Nightshade Family

Solanum dulcamara - Bittersweet Nightshade, Climbing Nightshade

2. Simple False Berry [inferior ovary]:

Caprifoliaceae - Honeysuckle Family [in part]

Symphoricarpos albus var. *albus*– Snowberry

Ericaceae - Heath Family [in part]

Vaccinium angustifolium - Lowbush Blueberry
Vaccinium boreale - Northern Blueberry
Vaccinium caespitosum - Dwarf Bilberry
Vaccinium macrocarpon - Large Cranberry
Vaccinium microcarpum - Small Bog Cranberry
Vaccinium myrtilloides - Velvetleaf Blueberry
Vaccinium ovalifolium - Ovalleaf Bilberry
Vaccinium oxycoccus - Small Cranberry, Mashberry
Vaccinium uliginosum - Alpine Bilberry, Bog Bilberry
Vaccinium vitis-idaea subsp. *minus* – Partridgeberry [NF, LAB]
Vaccinium ×*nubigenum* - Newfoundland Bilberry

3. <u>A variation on Simple False Berry</u> [inferior ovary]:

Grossulariaceae - Currant Family

Ribes glandulosum - Skunk Currant
Ribes grossularia - European Gooseberry
Ribes hirtellum - Smooth Gooseberry
Ribes lacustre - Bristly Black Currant
Ribes oxyacanthoides var. *oxyacanthoides* - Canada Gooseberry, Northern Gooseberry, Bristly Wild Gooseberry
Ribes triste - Swamp Red Currant

4. <u>Fused False Berry</u> [fused inferior ovaries]

Caprifoliaceae - Honeysuckle Family [in part]

Lonicera villosa - Mountain Fly-honeysuckle

Rubiaceae – [included here, but, arguably, a fused 8-seeded "drupe" (= "pyrene") – see below]

Mitchella repens L. - Two-eyed Berry (NF), Partridgeberry (mainland Canada)

5. <u>True Drupe</u> [superior ovary] – including "pyrenes" (= "berry-like drupes"):

Aquifoliaceae – Holly Family

Ilex mucronata - Mountain Holly, Catberry [1 stone]
Ilex verticillata – Winterberry Holly [4 stones] – more properly a "pyrene" (= a "berry-like drupe")

Ericaceae - Heath Family – [in part] [multiple stones] - more properly "pyrenes" (= "berry-like drupes")

Arctostaphylos uva-ursi - Common Bearberry, Kinnikinnick
Arctous alpina - Alpine Bearberry
Arctous rubra - Red Bearberry
Empetrum atropurpureum - Purple Crowberry
Empetrum eamesii - Pink Crowberry

Empetrum nigrum subsp. *hermaphroditum* – Hermaphrodite Back Crowberry
Empetrum nigrum subsp. *nigrum* - Black Crowberry, Blackberry

Myricaceae - Wax-Myrtle Family:

Morella pensylvanica - Northern Bayberry, Candleberry [1-stone]

Rhamnaceae - Buckthorn Family

Endotropis alnifolia [= *Rhamnus alnifolia*] - Alderleaf Buckthorn [3-4 stones] - more properly a "pyrene" (= a "berry-like drupe")

Rosaceae – Rose Family [in part]

Prunus pensylvanica – Pin Cherry [1 stone]
Prunus virginiana var. *virginiana* – Choke Cherry [1 stone]

Viburnaceae - Viburnum Family

Sambucus racemosa - Red Elderberry [multi-stone] – more properly a "pyrene" (= a "berry-like drupe")
Viburnum edule - Squashberry (NF) [single stone]
Viburnum cassinoides - Northern Wild Raisin [single stone]
Viburnum trilobum - Highbush Cranberry [single stone]

6. <u>False Drupe</u> [inferior ovary] – including "pyrenes" (= "berry-like drupes"):

Araliaceae - Ginseng Family [5 stones] - more properly "pyrenes" (= "berry-like drupes")

Aralia hispida - Bristly Sarsaparilla
Aralia nudicaulis - Wild Sarsaparilla

Cornaceae - Dogwood Family [2-4 stones] - more properly "pyrenes" = "berry-like drupes"

Cornus alternifolia – Alternate-leaf Dogwood, Green Osier Dogwood
Cornus canadensis - Crackerberry (NF), Bunchberry
Cornus sericea [= *stolonifera*] - Red Osier Dogwood
Cornus suecica - Swedish Bunchberry
Cornus ×*lepagei* – Lepage's Hybrid Bunchberry

Ericaceae – Heath Family [in part] [10 (not 5) stones] - more properly "pyrenes" (= "berry-like drupes")

Gaylussacia baccata - Black Huckleberry
Gaylussacia bigeloviana [= *Gaylussacia dumosa*] - Dwarf Huckleberry

7. <u>Drupaceaus Fruit</u> [half-inferior ovary**]**:

Elaeagnaceae - Oleaster Family

Shepherdia canadensis - Soapberry, Buffalo Berry [1 hard "achene" (seed) – *not* a "stone"]

8. <u>Pseudodrupe</u> – [inferior ovary]:

Comandraceae - Comandra Family

Comandra umbellata subsp. *umbellata* - Star Toadflax, Bastard Toadflax
Geocaulon lividum - Northern Comandra

9. <u>Pome</u> – [inferior ovary]:

Rosaceae - Rose Family [in part]

Amelanchier bartramiana - Bartram's Chuckley Pear
"Amelanchier canadensis" - Canada Serviceberry [Not presently accepted by the VASCAN Database.]
Amelanchier fernaldii - Fernald's Chuckley Pear
[*Amelanchier gaspensis* - Gaspé Chuckley Pear. May occur at Grand Falls. Confirmation needed.]
Amelanchier interior - Wiegand's Chuckley Pear
Amelanchier intermedia - Intermediate Chuckley Pear
Amelanchier laevis - Smooth Chuckley Pear
Amelanchier spicata - Running Chuckley Pear
Amelanchier ×*neglecta* - Neglected Chuckley Pear, Overlooked Serviceberry
Aronia x*prunifolia* - Purple Chokeberry
Aronia melanocarpa - Black Chokeberry [Newfoundland occurrence questionable]
Crataegus chrysocarpa var. *chrysocarpa* - Fireberry Hawthorn, Roundleaf Hawthorn
Crataegus macrosperma - Bigfruit Hawthorn, Variable Thorn
Malus pumila - Common Apple
[*Sorbaronia* x*arsenii* – Arsene's Hybrid Mountain Ash] [Not presently accepted by the VASCAN Database.]
Sorbaronia x*jackii* – Jack's Hybrid Mountain Ash
Sorbus americana - American Mountain Ash, Dogberry
Sorbus aucuparia - European Mountain Ash, Rowan
Sorbus decora - Showy Mountain Ash

<u>COMPOUND FRUITS</u>

10. <u>Drupecetum</u> ("Raspberry-like Fruit"):

Rosaceae – Rose Family [in part]

Rubus arcticus subsp. *acaulis* - Plumboy (NF), Arctic Bramble
Rubus canadensis - Canada Blackberry, Smooth Blackberry
Rubus chamaemorus - Bakeapple (NF), Cloudberry
Rubus hispidus - Hispid Blackberry [Newfoundland occurrence uncertain]
Rubus idaeus subsp. *strigosus* - Wild Red Raspberry
Rubus pensilvanicus - Pennsylvania Blackberry
Rubus pubescens - Dewberry (NF), Dwarf Raspberry
Rubus setosus - Bristly Blackberry, Setose Blackberry
Rubus ×*crux* - Hybrid Blackberry [= *canadensis* var. *elegantulus*]
Rubus ×*paracaulis* - Hybrid Plumboy, Dwarf Whiteflower Raspberry
Rubus ×*recurvicaulis* - Arching Dewberry

11. <u>Pseudocarp</u> ("Strawberry-like Fruit"):

Rosaceae – Rose Family [in part]

Fragaria vesca subsp. *americana* - Woodland Strawberry
Fragaria virginiana subsp. *glauca* - Northern Wild Strawberry
Fragaria virginiana subsp. *virginiana* – Virginia Strawberry

12. <u>Hip:</u>

Rosaceae – Rose Family [in part]

Rosa canina - Dog Rose, Common Briar
Rosa cinnamomea - Cinnamon Rose
Rosa glauca - Glaucous Rose, Redleaf Rose
Rosa multifora - Multiflora Rose, Rambler Rose
Rosa nitida - Shining Rose, Northeastern Rose
Rosa rugosa - Shrub Rose
Rosa virginiana subsp. *minidentata* - Virginia Rose, Pasture Rose
Rosa virginiana - subsp. *virginiana* - Virginia Rose, Pasture Rose
Rosa ×*hodgdonii* - Hodgdon's Rose

<u>"BERRY-LIKE FRUITS"</u> – <u>not</u> berries at all!

13. <u>Capsular Fruit</u>:

Ericaceae - Heath Family [in part]

Gaultheria hispidula - Creeping Snowberry, Manna-tea Berry
Gaultheria procumbens – Teaberry, Checkerberry

14. <u>Berry-like Cones</u> ["strobilus" type]:

Cupressaceae - Cypress Family

Juniperus communis var. *depressa* [= *Juniperus canadensis*] - Depressed Common Juniper
[*Juniperus communis* var. montana [= *Juniperus saxatilis* = *Juniperus siberica*] – Mountain Common Juniper. Not presently accepted by the VASCAN Database.]
Juniperus horizontalis - Creeping Juniper

15. <u>Berry-like Cones</u>" ["arillus" type]:

Taxaceae – Yew Family

Taxus canadensis – Canada Yew

Which of our "berries" are edible, and which are poisonous?

Most are edible! This should not be surprising, since the whole idea of berries is to get eaten so that the seeds they contain get spread around!

However, there are exceptions to the rule. DO NOT eat any "berry" unless you know exactly what it is!

As "mushroom fanciers" sometimes say: "You can eat any mushroom, ONCE"!

There are, of course, a few "berries" to watch out for, including:

Baneberry – the fruit contains a toxic glycoside and a toxic lactone. [poison rating: medium]

Cherry – the seeds contain significant amounts of cyanogenic glycosides that release hydrogen cyanide when chewed, but the bitter taste usually discourages their consumption [poison rating: medium]

Elderberry - the seeds and unripe fruit contain alkaloid or cyanide-producing glycoside [poison rating: medium-minor]

Nightshade – the fruit contains toxic alkaloid [poison rating: medium-minor – however, immature fruits are more toxic than mature fruits]

Winterberry Holly – the fruit contains theobromine, an alkaloid almost identical to the caffeine in coffee [poison rating: apparently minor]

Mountain Ash - the seeds contain a certain amount of cyanogenic glycoside that release hydrogen cyanide when chewed, but, as with cherry seeds, the bitter taste usually discourages their consumption [poison rating: apparently minor]

Corn Lily – one of its common names - "Poisonberry" - may be somewhat overstated [poison rating: apparently minor]

[Note: this list is NOT either complete, or authoritative. To re-iterate, if you do not know, for sure, that a "berry" is safe to eat, do not eat it.]

Featured Link:

Why it's best not to pick partridgeberries and cranberries until after the first hard frost!

Check out a short three-page article I wrote for "The Osprey" [Fall 2009, Volume 40, number 4] under the banner: "Ask a Natural History Question": http://lib-lespaul.library.mun.ca/PDFs/osprey/V40-04-2009.pdf [scroll down to page 12]

If your browser is set to reject "http" vs. "https" URL's try: https://collections.mun.ca/digital/collection/osprey/id/6076/ >> Download >> All

The World's Best Pie Berry and an Illegal Haiku

Richard LeBlond

I propose that the partridgeberry (*Vaccinium vitis-idaea*) is the World's best pie berry, though it was partridgeberry pancakes in a Bonne Bay restaurant that inspired this rumination. The partridgeberry is related to blueberries and cranberries. Like the latter, it straggles over the ground. It is the same fruit known as lingon [berry] in Scandinavia, and cowberry or mountain-cranberry in northern New England.

The common name is further confused by another plant from eastern North America, *Mitchella repens*, which is also known as the partridgeberry. Not helping, the Québécois [at least in Bas-Saint-Laurent, Charlevoix and Saguenay-Lac-Saint-Jean] call the fruit pomme de terre, or apple of the earth. But pomme de terre is what the European French call the potato. This mess is a good example of why Latin names are used in science, though they have problems of their own.

According to the eighth edition of Gray's Manual of Botany, the Latin name *vitis-idaea* means "grape of Mt. Ida," a mountain on the Greek island of Crete. The berry apparently was known from there when it was given its scientific name by Linnaeus in 1753, but in today's eastern Europe it only makes it as far south as mountaintops in Macedonia, just north of Greece.

Gray's Manual, largely rewritten by Harvard's M.L. Fernald in 1950, also contains an accidental or "found" haiku in its description of the berry:

overwintering
and superior in taste
at melting of snow

Other than the line breaks, that is just as Fernald wrote it, complete with a "kigo", a word or phrase implying the season in traditional Japanese haiku. (Admittedly, this is an "illegal haiku", as it lacks a subject and makes no sense out of context.)

Our berry is smaller than the one found in Europe, and is known as variety *mìnus*. The smaller berry ranges from east Asia across subarctic North America to Greenland, and south to British Columbia, Minnesota, and northern New England. Its flavor is rich, tart and second to none as a pie berry, though the cranberry is nearly its equal. (The cranberry may be the most underutilized and underappreciated pie fruit in North America.)

The partridgeberry pancakes I had at a restaurant in Bonne Bay's Woody Point were certifiably dangerous, and I feared the longer I stayed in town, the larger I might get. The berries exploded with hot delicious tartness, a perfect adversary for the maple syrup.

A Triple Set of Blueberry Haikus

Glenda Quinn

Blue laden shrubs call
Sweet tiny orbs droop, begging
Hasten, jugs in hand.

Earth's blue gift spreading
Delight, taste tantalizing
Nature's wholesome gift

Blue blueberries fleeing
Rain and sun nurture 'til spent
Bounty ripe, be quick