

1. SPECULÀRIA, Heister. VENUS'S LOOKING-GLASS.

Calyx 5- (or 3-4) lobed. Corolla wheel-shaped, 5-lobed. Stamens 5, separate; the membranaceous hairy filaments shorter than the anthers. Stigmas 3. Capsule prismatic or elongated-oblong, 3-celled, opening by 3 small lateral valves. — Low annuals, with axillary blue or purplish flowers, in American species dimorphous, the earlier being cleistogamous. (Name from *Speculum Veneris*, the early name of the common European species.)

1. *S. perfoliata*, A. DC. Somewhat hairy (3-20' high); leaves roundish or ovate, clasping by the heart-shaped base, toothed; flowers sessile, solitary or 2-3 together in the axils, only the upper or later ones having a conspicuous and expanding corolla; capsule oblong, short, straight, opening rather below the middle; seeds lenticular. — Sterile open ground; common. May-Aug.

2. *S. leptocarpa*, Gray. Minutely hirsute or nearly glabrous (6-12' high); leaves lanceolate, with flowers closely sessile in their axils; calyx-lobes of lower flowers 3; capsule nearly cylindrical (6-9" long, 1" thick), inclined to curve, opening by one or two uplifted valves near the summit; seeds oblong. — W. Mo. and Ark. to Col. and W. Tex. Expanded corolla 6-9" wide.

2. CAMPANULA, Tourn. BELLFLOWER.

Calyx 5-cleft. Corolla generally bell-shaped, 5-lobed. Stamens 5, separate; the filaments broad and membranaceous at the base. Stigmas and cells of the capsule 3 in our species, the short pod opening on the sides by as many valves or holes. — Herbs, with terminal or axillary flowers; in summer. (A diminutive of the Italian *campana*, a bell, from the shape of the corolla.)

* Style straight; openings of capsule below the middle.

+ Coarse pubescent many-flowered European species, sparingly naturalized; perennial.

C. rapunculoides, L. Smoothish, slender, erect; stem-leaves ovate-lanceolate, pointed, the lower long-petioled and heart-shaped; flowers nodding, single in the axil of bracts, forming racemes; corolla oblong, 1' long. — Roadsides and fields, Canada and N. Eng. to Penn.

C. glomerata, L. (CLUSTERED B.) Somewhat hairy, stout and erect, 1° high; stem-leaves oblong or lanceolate, cordate-clasping; flowers sessile, clustered in the upper axils, forming a leafy head; corolla open-bell-shaped, 1' long. — Roadsides, E. Mass.

+ Slender perennials, mostly glabrous; flowers one or few, on slender peduncles.

1. *C. rotundifolia*, L. (HAREBELL.) Slender, branching (5-12' high), 1-10-flowered; root-leaves round-heart-shaped or ovate, mostly toothed or crenate, long-petioled, early withering away; stem-leaves numerous, linear or narrowly lanceolate, entire, smooth; calyx-lobes awl-shaped, from $\frac{1}{4}$ to $\frac{3}{8}$ the length of the bright-blue corolla (which is 6-9" long); capsule nodding. — Rocky shaded banks, throughout the northern part of our range, and southward in the mountains. — A delicate and pretty species, but with a most inappropriate name, since the round root-leaves are rarely obvious. (Eu.)

Var. *arctica*, Lange. Stems more upright and rather rigid; lowest leaves spatulate; the very slender calyx-lobes soon spreading or deflexed; corolla $\frac{3}{8}$ -1' long. (*C. rotundifolia*, var. *linifolia*, of Man.) — Shores of the Great Lakes, and northward. (Eu.)

Var. *velutina*, DC., has the whole herbage canescently pubescent. — Sand-hills of Burt Lake, Mich. (*E. J. Hill*).

2. *C. aparinoides*, Pursh. (MARSH BELLFLOWER.) Stem simple and slender, weak (8-20' high), few-flowered, somewhat 3-angled, rough backward on the angles, as are the slightly toothed edges and midrib of the linear-lanceolate leaves; peduncles diverging, slender; lobes of the calyx triangular, half the length of the bell-shaped nearly white corolla; capsule erect. — Wet grassy grounds, throughout our range. With somewhat the habit of a *Galium*.

3. *C. divaricata*, Michx. Very smooth; stem loosely branched (1-3° high); leaves oblong-lanceolate, pointed at both ends, coarsely and sharply toothed; flowers numerous on the branches of the large compound panicle; calyx-lobes awl-shaped, about half the length of the pale-blue small corolla (3" long); style exserted. — Dry woods and rocks, mountains of Va., E. Ky., and southward.

** Style declined and upwardly curved, much longer than the rotate corolla; openings of the capsule close to the summit; inflorescence spicate.

4. *C. americana*, L. (TALL BELLFLOWER.) Annual; stem mostly simple (3-6° high); leaves ovate and ovate-lanceolate, taper-pointed, serrate, mostly on margined petioles, thin, somewhat hairy (2½-6' long); spike 1-2° long; corolla light blue, 1' broad. — Moist rich soil, western N. Y. to Minn., south to Ga. and Ark.

ORDER 58. ERICACEÆ. (HEATH FAMILY.)

Shrubs, sometimes herbs, with the flowers regular or nearly so; stamens as many or twice as many as the 4-5-lobed or 4-5-petalled corolla, free from but inserted with it; anthers 2-celled, commonly appendaged, or opening by terminal chinks or pores, introrse (except in Suborder 3); style 1; ovary 3-10-celled. Pollen compound, of 4 united grains (except in Suborder 4). Seeds small, anatropous. Embryo small, or sometimes minute, in fleshy albumen. — A large family, very various in many of the characters, comprising four well-marked suborders, as follows: —

SUBORDER I. *Vaccinieæ*. (WHORTLEBERRY FAMILY.) Calyx-tube adherent to the ovary, which forms an edible berry or berry-like fruit, crowned with the short calyx-teeth. Anther-cells opening at the apex. — Shrubs or somewhat woody plants, with scaly buds.

1. *Gaylussacia*. Ovary 10-celled, with a single ovule in each cell. Fruit a berried drupe with 10 small seed-like nutlets.
2. *Vaccinium*. Berry 4-5-celled (or imperfectly 8-10-celled by false partitions), many-seeded. Anther-cells tapering upward into a tube.
3. *Chloenes*. Berry 4-celled, many-seeded, its summit free. Anther-cells not prolonged into a tube, but each 2-pointed. Slender trailing evergreen.

SUBORDER II. *Ericineæ*. (HEATH FAMILY proper.) Calyx free from the ovary. Corolla gamopetalous, rarely polypetalous, hypogynous. — Shrubs or small trees.

Tribe I. *ARBUTEÆ*. Fruit indehiscent, a berry or drupe. Corolla deciduous.

4. *Arctostaphylos*. Corolla urn-shaped. Drupe berry-like, 5-10-seeded.

Tribe II. ANDROMEDEÆ. Fruit a loculicidal capsule (berry-like in n. 6). Corolla deciduous.

* Anther-cells opening through their whole length, not appendaged.

5. **Epigæa.** Corolla salver-shaped. Calyx of 5 separate dry and pointed sepals.

** Anther-cells opening only at the top. Corolla not salver-shaped.

+ Calyx becoming enlarged and berry-like in fruit.

6. **Gaultheria.** Calyx 5-cleft, in fruit enclosing the capsule. Anthers 4-awned at top.

+ + Calyx dry, not becoming fleshy after flowering.

+ + Corolla urceolate to cylindrical, 5-toothed; not heath-like.

7. **Andromeda.** Calyx valvate and very early open, naked. Capsule globular. Seeds mostly hanging on the central placenta.

8. **Oxydendrum.** Calyx short, early open, naked. Capsule oblong-pyramidal. Seeds all ascending. A small tree.

9. **Leucothoe.** Calyx slightly or much imbricated, naked or bibracteate. Corolla cylindrical. Capsule depressed, 5-lobed, the valves entire.

10. **Cassandra.** Calyx of rigid imbricated ovate sepals, bibracteate. Corolla cylindrical. Capsule splitting when ripe into an outer and inner layer, the inner of 10 valves.

+ + Corolla campanulate, 4-5-lobed or -parted; heath-like, with acrose imbricated leaves.

11. **Cassiope.** Calyx of ovate imbricated sepals. Capsule globular-ovoid, 4-5-valved, the valves 2-cleft.

Tribe III. ERICEÆ. Corolla persistent, becoming scarious. Capsule septicidal.

12. **Calluna.** Corolla bell-shaped, 4-parted. Leaves minute, opposite, imbricate.

Tribe IV. RHODODENDREÆ. Fruit a septicidal capsule. Corolla deciduous.

* Anther-cells opening by a hole or chink at the top.

+ Flowers not from scaly buds; the bracts leaf-like or coriaceous.

13. **Bryanthus.** Corolla ovate or urn-shaped. Leaves narrow and heath-like.

14. **Kalmia.** Corolla broadly bell-shaped or wheel-shaped, with 10 pouches receiving as many anthers. Leaves oblong or linear.

+ + Flowers developed from large scaly buds, the scales or bracts caducous.

15. **Menziesia.** Corolla globular-bell-shaped, 4-toothed. Stamens 8. Leaves deciduous.

16. **Rhododendron.** Flowers usually 5-merous. Corolla bell-shaped or funnel-form, lobed or parted, often somewhat irregular. Leaves deciduous or evergreen.

17. **Ledum.** Corolla regular, all 5 petals nearly separate. Stamens 5-10. Leaves evergreen.

** Anther-cells opening lengthwise. Leaves evergreen. Bud-scales firm and persistent.

18. **Leiophyllum.** Corolla of 5 separate petals. Stamens 10, exserted.

19. **Loiseleuria.** Corolla deeply 5-cleft. Stamens 5, included.

SUBORDER III. PYROLEÆ. (PYROLA FAMILY.) Calyx free from the ovary. Corolla polypetalous. Anthers extrorse in the bud, opening by pores at the base (inverted in the flower). Seeds with a loose and translucent cellular coat much larger than the nucleus.

Tribe I. CLETHREÆ. Shrubs or trees, with deciduous foliage (in ours). Pollen-grains simple. Capsule 3-celled.

20. **Clethra.** Sepals and petals 5. Stamens 10. Style 3-cleft at the apex.

Tribe II. PYROLEÆ. Herbs or nearly so, with evergreen foliage. Pollen-grains compound. Capsule 5- (rarely 4-) celled.

21. **Chimaphila.** Stems leafy. Flowers corymbd or umbelled. Petals widely spreading. Style very short and top-shaped. Valves of the capsule smooth on the edges.

22. **Moneses.** Scape 1-flowered. Petals widely spreading. Style straight, exserted; stigma 5-rayed. Valves of the capsule smooth on the edges.

23. **Pyrola.** Acaulescent. Flowers in a raceme. Petals not widely spreading. Filaments awl-shaped. Style long. Valves of the capsule cobwebby on the edges.

SUBORDER IV. Monotropeæ. (INDIAN-PIPE FAMILY.) Flowers nearly as in Suborders 2 or 3, but the plants herbaceous, root-parasitic, entirely destitute of green foliage, and with the aspect of Beech-drops. Seeds as in Suborder 3.

* Corolla monopetalous; anthers 2-celled.

24. **Pterospora.** Corolla ovate, 5-toothed; anthers 2-awned on the back, opening lengthwise.

25. **Schweinitzia.** Corolla broadly bell-shaped, 5-lobed; anthers opening at the top.

** Corolla of 4 or 5 separate petals; calyx imperfect or bract-like.

26. **Monotropa.** Petals narrow. Anthers kidney-shaped, opening across the top.

1. GAYLUSSÁCIA, HBK. HUCKLEBERRY.

Corolla tubular, ovoid, or bell-shaped; the border 5-cleft. Stamens 10; anthers awnless; the cells tapering upward into more or less of a tube, opening by a chink at the end. Fruit a berry-like drupe, containing 10 seed-like nutlets. — Branching shrubs, with the aspect of *Vaccinium*, commonly sprinkled with resinous dots; the flowers (white tinged with purple or red) in lateral and bracted racemes. (Named for the distinguished chemist, *Gay-Lussac*.)

* Leaves thick and evergreen, somewhat serrate, not resinous-dotted.

1. **G. brachycera**, Gray. (BOX-HUCKLEBERRY.) Very smooth (1° high); leaves oval, finely crenate-toothed; racemes short and nearly sessile; pedicels very short; corolla cylindrical-bell-shaped. — Wooded hills, Perry Co., Penn., to Del. and Va. May. — Leaves resembling those of the Box.

** Leaves deciduous, entire, sprinkled more or less with resinous or waxy atoms.

2. **G. dumosa**, Torr. & Gray. (DWARF HUCKLEBERRY.) Somewhat hairy and glandular, low (1-5° high from a creeping base), bushy; leaves ob-ovate-oblong, mucronate, green both sides, rather thick and shining when old; racemes elongated; bracts leaf-like, oval, persistent, as long as the pedicels; ovary bristly or glandular; corolla bell-shaped; fruit black (insipid). — Var. *HIRTÉLLA* has the young branchlets, racemes, and often the leaves hairy. — Sandy swamps, Newf., along the coast to Fla. and La.; the var. chiefly southward. June.

3. **G. frondosa**, Torr. & Gray. (BLUE TANGLE. DANGLEBERRY.) Smooth (3-6° high); branches slender and divergent; leaves obovate-oblong, blunt, pale, glaucous beneath; racemes slender, loose, bracts oblong or linear, deciduous, shorter than the slender drooping pedicels; corolla globular-bell-shaped; fruit dark blue with a white bloom (sweet and edible). — Low copses, coast of N. Eng. and mountains of Penn. to Ky., south to La. and Fla. May, June.

4. **G. resinosa**, Torr. & Gray. (BLACK HUCKLEBERRY.) Much branched, rigid, slightly pubescent when young (1-3° high); leaves oval, oblong-ovate, or oblong, thickly clothed and at first clammy, as well as the flowers, with shining resinous globules; racemes short, clustered, one-sided; pedicels about the length of the flowers; bracts and bractlets (reddish) small and deciduous; corolla ovoid-conical, or at length cylindrical with an open mouth; fruit black, without bloom (pleasant, very rarely white). — Rocky woodlands and swamps, Newf. to Minn., south to N. Ga. May, June. — The common *Huckleberry* of the markets.

2. **VACCINIUM**, L. BLUEBERRY. BILBERRY. CRANBERRY.

Corolla various in shape; the limb 4-5-cleft, revolute. Stamens 8 or 10; anthers sometimes 2-awned on the back; the cells separate and prolonged upward into a tube, opening by a hole at the apex. Berry 4-5-celled, many-seeded, or sometimes 8-10-celled by a false partition stretching from the back of each cell to the placenta. — Shrubs with solitary, clustered, or racemed flowers; the corolla white or reddish. (Ancient Latin name, of obscure derivation.)

§ 1. **BATODÉNDRON**. Corolla open-campanulate, 5-lobed; anthers with long tubes, and 2-awned on the back; berry (hardly edible) spuriously 10-celled; leaves deciduous but firm; flowers solitary or in leafy-bracted racemes, slender-pedicelled.

1. **V. arboreum**, Marshall. (FARKLE-BERRY.) Tall (6-25° high), smoothish; leaves obovate to oblong, entire or denticulate, mucronate, bright green, shining above, at the south evergreen; corolla white; anthers included; berries black, globose, small, many-seeded. — Sandy soil, S. Ill. to Tex., Fla., and N. C.

2. **V. stamineum**, L. (DEERBERRY. SQUAW HUCKLEBERRY.) Diffusely branched (2-3° high), somewhat pubescent; leaves ovate or oval, pale, glaucous or whitish underneath; corolla greenish-white or purplish; anthers much exerted; berries greenish or yellowish, globular or pear-shaped, large, few-seeded. — Dry woods, Maine to Minn., south to Fla. and La.

§ 2. **CYANOCÓCCUS**. (BLUEBERRIES.) Corolla cylindraceous to campanulate, 5-toothed; filaments hairy; anthers included, awnless; berry (sweet and edible) blue or black with bloom, completely or incompletely 10-celled; flowers in fascicles or short racemes, short-pedicelled, appearing from large scaly buds with or before the leaves.

* Corolla cylindraceous when developed.

3. **V. virgatum**, Ait. Low, more or less pubescent; leaves ovate-oblong to cuneate-lanceolate, usually acute and minutely serrulate, thinnish, shining at least above; flower-clusters sometimes virgate on naked branches; corolla rose-color; berry black. — In swamps, south of our range, but represented by

Var. **tenellum**, Gray. Low form, mostly small-leaved, with smaller nearly white flowers in shorter or closer clusters. — Va. to Ark., and southward.

** Corolla shorter and broader. (BLUEBERRIES or BLUE HUCKLEBERRIES.)

4. **V. Pennsylvanicum**, Lam. (DWARF BLUEBERRY.) Dwarf (6-15' high), smooth, with green warty stems and branches; leaves lanceolate or oblong, distinctly serrulate with bristle-pointed teeth, smooth and shining both sides (or sometimes downy on the midrib underneath); corolla short, cylindrical-bell-shaped; berries bluish-black and glaucous. — Dry hills, N. J. to Ill., north to Newf. and Sask. The lowest and earliest ripened of the blueberries. — Var. **angustifolium**, Gray; a dwarfer high-mountain or northern form, with narrower lanceolate leaves. — White Mts. of N. H., Newf., and far northward.

5. **V. Canadense**, Kalm. Low (1-2° high); leaves oblong-lanceolate or elliptical, entire, downy both sides, as well as the crowded branchlets; corolla shorter; otherwise as the last. — Swamps or moist woods, N. New Eng. to mountains of Penn., Ill., Minn., and northward.

6. **V. vacillans**, Solander. (LOW BLUEBERRY.) Low (1-2½° high), glabrous, with yellowish-green branchlets; leaves obovate or oval, very pale or dull, glaucous, at least underneath, minutely ciliolate-serrulate or entire; corolla between bell-shaped and cylindraceous, the mouth somewhat contracted. — Dry places, especially in sandy soil, New Eng. to Mich. and Iowa, south to N. C. and Mo. — Berries ripening later than those of n. 4.

7. **V. corymbosum**, L. (COMMON or SWAMP-BLUEBERRY.) Tall (5-10° high); leaves ovate, oval, oblong, or elliptical-lanceolate; corolla varying from turgid-ovate and cylindrical-urn-shaped to oblong-cylindrical, 3-4" long. — Swamps and low thickets, throughout our range and southward. This yields the common blueberry or blue huckleberry of the latter part of the season. The typical form has leaves with naked entire margins, and may be pubescent or glabrous (var. **glabrum**, Gray, Man.) Numerous gradations unite the following varieties: —

Var. **amœnum**, Gray. Leaves bristly-ciliate, shining above, green both sides, beneath somewhat pubescent on the veins. — Middle Atlantic States.

Var. **pallidum**, Gray. Leaves mostly glabrous, pale or whitish, glaucous especially underneath, serrulate with bristly teeth. — Common in the Alleghanies southward, mostly on the higher ridges.

Var. **atrococcum**, Gray. The most distinct form; leaves entire, downy or woolly underneath even when old, as also the branchlets; berries smaller, black, without bloom. — New Eng. to Penn.

§ 3. **VACCINIUM** proper. (BILBERRIES.) Corolla ovate to globular, 4-5-toothed; filaments glabrous; anthers 2-awned on the back, included; berry 4-5-celled; leaves deciduous; flowers on drooping pedicels, solitary or few together, appearing with or after the leaves; mostly glabrous.

* Parts of the flower mostly in fours; stamens 8.

8. **V. uliginosum**, L. (BOG BILBERRY.) Low and spreading (4'-2° high), tufted; leaves entire, dull, obovate or oblong, pale and slightly pubescent underneath; flowers single or 2-3 together from a scaly bud, almost sessile; corolla short, urn-shaped; berries black with a bloom, sweet. — Alpine tops of the high mountains of N. Eng. and N. Y., shore of L. Superior, and northwestward. (Eu.)

** Parts of the flower in fives; stamens 10; leaves membranaceous; flowers solitary on short axillary peduncles, nodding.

9. **V. cæspitosum**, Michx. Dwarf (3-6' high), tufted; leaves obovate, narrowed at the base, smooth and shining, serrate; corolla oblong, slightly urn-shaped; berries blue. — Alpine region of the White Mts., and high northward. — Var. **cuneifolium**, Nutt., is a foot high or less, bushy, with cuneate-spatulate leaves rounded at the apex, passing in one form to spatulate-lanceolate and acute. — Shores of L. Superior and westward.

10. **V. myrtilloides**, Hook. More erect, 1-5° high; branchlets somewhat angled; leaves mostly ovate and acute or pointed, sharply and closely serrulate, bright green, nearly smooth; border of the calyx almost entire; corolla depressed-globular, rather large; berries large, black, rather acid. — Damp woods, shores of L. Superior, and northwestward. May, June. — Pedicels 3-6" long, drooping in flower, erect in fruit.

11. *V. ovalifolium*, Smith. Straggling, 2-12° high; leaves elliptical, obtuse, nearly entire, pale, mostly glaucous beneath, smooth; corolla ovoid; berries blue. — Peat-bogs, shores of L. Superior, and northwestward. May.

§ 4. *VITIS-IDÆA*. Corolla, berry, etc., as in § 3; filaments hairy; anthers awnless; leaves coriaceous and persistent; flowers in clusters from separate buds, 4-merous (in our species); mostly glabrous; leaves 3-6" long.

12. *V. Vitis-Idæa*, L. (COWBERRY. MOUNTAIN CRANBERRY. FOX-BERRY.) Low (6-10' high); branches erect from tufted creeping stems; leaves obovate with revolute margins, dark green, smooth and shining above, dotted with blackish bristly points underneath; corolla bell-shaped, 4-cleft; berries dark red, acid and rather bitter, edible when cooked. Coast and mountains of N. Eng. to N. shore of L. Superior, and far northward. June. (Eu.)

§ 5. *OXYCÓCCUS*. Corolla deeply 4-parted or -cleft, with linear reflexed lobes; anthers exerted, awnless, with very long terminal tubes; berry 4-celled; flowers axillary or terminal, nodding on long filiform pedicels.

* Stem upright and leaves deciduous, as in common Blueberries; flowers axillary and solitary; corolla deeply 4-cleft; berries light red, turning purple, insipid.

13. *V. erythrocárron*, Michx. Smooth, divergently branched (1-4° high); leaves oblong-lanceolate, taper-pointed, bristly serrate, thin. — Damp woods, higher Alleghanies, Va. to Ga. July.

* * Stems very slender, creeping or trailing; leaves small, entire, whitened beneath, evergreen; pedicels erect, the pale rose-colored flower nodding; corolla 4-parted; berries red, acid. — CRANBERRIES.

14. *V. Oxycóccus*, L. (SMALL CRANBERRY.) Stems very slender (4-9' long); leaves ovate, acute, with strongly revolute margins (2-3" long); pedicels 1-4, terminal; filaments fully $\frac{1}{2}$ as long as the anthers. — Peat-bogs, N. Eng. and Penn. to Minn., and northward. June. — Berry 3-4" broad, often speckled with white when young; seldom gathered for market. (Eu., Asia.)

15. *V. macrocárron*, Ait. (LARGE OR AMERICAN CRANBERRY.) Stems elongated (1-4° long), the flowering branches ascending; leaves oblong, obtuse, less revolute (4-6" long); pedicels several, becoming lateral; filaments scarcely one third the length of the anthers. — Peat-bogs, N. C. to Minn., and everywhere northward, but scarcely westward. June. — Berry $\frac{1}{2}$ -1' long.

3. *CHIÓGENES*, Salisb. CREEPING SNOWBERRY.

Calyx-tube adherent to the ovary; limb 4-parted, persistent. Corolla bell-shaped, deeply 4-cleft. Stamens 8, included, inserted on an 8-toothed disk, filaments very short and broad; anther-cells ovate-oblong, separate, not awned on the back, but each minutely 2-pointed at the apex, and opening by a large chink down to the middle. Berry white, globular, rather dry, 4-celled, many-seeded. — A trailing and creeping evergreen, with very slender and scarcely woody stems, and small Thyme-like, ovate and pointed leaves on short petioles, with revolute margins, smooth above, the lower surface and the branches beset with rigid rusty bristles. Flowers very small, solitary in the axils, on short nodding peduncles, with 2 large bractlets under the calyx. (Name from *χιών*, snow, and *γένος*, offspring, in allusion to the snow-white berries.)

1. *C. serpyllifolia*, Salisb. Leaves 3-4" long; berries 3" broad, bright white. (*C. hispidula*, Torr. & Gray.) — Peat-bogs, and mossy woods, N. J. and Penn. to Minn., and northward; also southward in the Alleghanies to N. C. May. — Plant with the aromatic flavor of Gaultheria or Sweet Birch.

4. *ARCTOSTÁPHYLOS*, Adans. BEARBERRY.

Corolla ovate and urn-shaped, with a short revolute 5-toothed limb. Stamens 10, included; anthers with 2 reflexed awns on the back near the apex, opening by terminal pores. Drupe berry-like, with 5-10 seed-like nutlets. — Shrubs, with alternate leaves, and scaly-bracted nearly white flowers in terminal racemes or clusters. Fruit austere. (Name composed of *ἄρκτος*, a bear, and *σταφυλή*, a grape or berry, the Greek of the popular name.)

1. *A. Ūva-ŭrsi*, Spreng. (BEARBERRY.) Trailing; leaves thick and evergreen, obovate or spatulate, entire, smooth; fruit red. — Rocks and bare hills, N. J. and Penn. to Mo., and far north and westward. May. (Eu., Asia.)

2. *A. alpina*, Spreng. (ALPINE BEARBERRY.) Dwarf, tufted and depressed; leaves deciduous, serrate, wrinkled with strong netted veins, obovate; fruit black. — Alpine summits in N. Eng., and high northward. (Arctic-alpine around the world.)

5. *EPIGÆA*, L. GROUND LAUREL. TRAILING ARBUTUS.

Corolla salver-form; the tube hairy inside, as long as the ovate-lanceolate pointed and scale-like nearly distinct sepals. Stamens 10, with slender filaments; anthers oblong, awnless, opening lengthwise. Style slender, its apex (as in *Pyrola*) forming a sort of ring or collar around and partly adnate to the 5 little lobes of the stigma. Capsule depressed-globular, 5-lobed, 5-celled, many-seeded. — A prostrate or trailing scarcely shrubby plant, bristly with rusty hairs, with evergreen and reticulated rounded and heart-shaped alternate leaves, on slender petioles, and with rose-colored flowers in small axillary clusters, from scaly bracts. (Name composed of *ἐπί*, upon, and *γῆ*, the earth, from the trailing growth.)

1. *E. repens*, L. — Sandy woods, or in rocky soil, especially in the shade of pines, Newf. to Minn., south to Fla., and Ky. — Flowers appearing in early spring, exhaling a rich spicy fragrance, dimorphous as to style and stamens and subdioecious. In New England called MAYFLOWER.

6. *GAULTHERIA*, Kalm. AROMATIC WINTERGREEN.

Corolla cylindrical-ovoid or a little urn-shaped, 5-toothed. Stamens 10, included; anther-cells each 2-awned at the summit, opening by a terminal pore. Capsule depressed, 5-lobed, 5-celled, 5-valved, many-seeded, enclosed when ripe by the calyx, which thickens and turns fleshy, so as to appear as a globular red berry! — Shrubs, or almost herbaceous plants, with alternate evergreen leaves and axillary (nearly white) flowers; pedicels with 2 bractlets. (Dedicated by Kalm to "Dr. Gaulthier," of Quebec.)

1. *G. procumbens*, L. (CREEPING WINTERGREEN.) Stems slender and extensively creeping on or below the surface; the flowering branches ascending, leafy at the summit (3-5' high); leaves obovate or oval, obscurely serrate; flowers few, mostly single in the axils, nodding. — Cool damp woods,

mostly in the shade of evergreens, Maine to Minn., and southward to N. Ga.; also far northward. July. — The bright red berries (formed of the calyx) and the foliage have the well-known spicy-aromatic flavor of the Sweet Birch. Usually called *Wintergreen*, or sometimes in the interior *Tea-berry*. Eastward it is often called *Checkerberry* or *Partridge-berry* (names also applied to *Mitchella*, the latter especially so), also *Boxberry*.

7. ANDRÓMEDA, L.

Calyx without bractlets, of 5 nearly or partly distinct sepals, valvate in the bud, but very soon separate or open. Corolla urceolate (in ours), 5-toothed. Stamens 10; anthers fixed near the middle, the cells opening by a terminal pore. Capsule globular, 5-celled, 5-valved; the many-seeded placenta borne on the summit or middle of the columella. Seeds pendulous or spreading. — Shrubs, with umbelled, clustered, or paniced and racemed (mostly white) flowers. (Fancifully named by Linnæus in allusion to the fable of *Andromeda*.)

* Anthers awned; capsule more or less globose; leaves thick and evergreen.

1. *A. polifolia*, L. Glabrous, 6–18' high; leaves linear to lanceolate-oblong, strongly revolute, white beneath; flowers in terminal umbels; pedicels from axils of persistent scaly bracts; each anther-cell with a slender terminal ascending awn. — Wet bogs, N. J. and Penn. to Minn., and northward.

2. *A. floribunda*, Pursh. Very leafy, 2–6' high; young branchlets, etc., strigose-hairy; leaves lanceolate-oblong, acute or acuminate, ciliate-serrulate, glandular-dotted beneath (2' long); racemes crowded in short terminal panicles, densely flowered; each anther-cell with a slender deflexed awn on the back. — Moist hillsides, in the Alleghanies from Va. to Ga.

** Anthers awnless; capsule 5-angled, with a thickened ridge at the dorsal sutures; leaves thinnish and deciduous.

3. *A. Mariāna*, L. (STAGGER-BUSH.) Mostly glabrous, 2–4' high, leaves oblong or oval (1–3' long); fascicles of nodding flowers racemose on naked shoots; filaments 2-toothed near the apex; capsule ovate-pyramidal, truncate at the contracted apex. — Low grounds, R.I. to Fla.; also in Tenn. and Ark. Foliage said to poison lambs and calves.

4. *A. ligustrina*, Muhl. Minutely pubescent, 3–10' high; leaves ovate to lanceolate-oblong (1–2' long), serrulate or entire; racemes crowded in naked or leafy panicles; filaments flat, not appendaged; capsule globular. — Wet grounds, Canada to Fla. and Ark. — Var. *PUBESCENS*, Gray, is a form with dense soft pubescence. — Va. to Ga.

8. OXYDÉNDRUM, DC. SORREL-TREE. SOUR-WOOD.

Calyx without bractlets, of 5 almost distinct sepals, valvate in the bud. Corolla ovate, 5-toothed, puberulent. Stamens 10; anthers fixed near the base, linear, awnless, the cells tapering upward and opening by a long chink. Capsule oblong-pyramidal, 5-celled, 5-valved; the many-seeded placenta at the base of the cells. Seeds all ascending, slender, the thin and loose reticulated coat extended at both ends into awl-shaped appendages. — A tree with deciduous, oblong-lanceolate, pointed, soon smooth, serrulate leaves, on slender petioles, and white flowers in long one-sided racemes clustered in an open pan-

icle, terminating the branches of the season. Bracts and bractlets minute, deciduous. Foliage acid (whence the name, from *ὄξυς*, *sour*, and *δένδρον*, *tree*.)

1. *O. arboreum*, DC. Tree 15–40' high; leaves in size and shape like those of the peach. — Rich woods, from Penn. to Ind., and southward, mostly along the Alleghanies, to Fla. June, July.

9. LEUCÓTHOË, Don.

Calyx of 5 nearly distinct sepals, imbricated in the bud. Corolla ovate or cylindraceous, 5-toothed. Stamens 10; anthers naked, or the cells with 1 or 2 erect awns at the apex, opening by a pore. Capsule depressed, more or less 5-lobed, 5-celled, 5-valved, the sutures not thickened; valves entire; the many-seeded placenta borne on the summit of the short columella. Seeds mostly pendulous. — Shrubs with petioled and serrulate leaves, and white scaly-bracted flowers in dense axillary or terminal spiked racemes. (A mythological name.)

* Anthers awnless; stigma 5-rayed; racemes sessile, dense, with persistent bracts, in the axils of thick and shining evergreen leaves; calyx not bracteolate.

1. *L. axillaris*, Don. Leaves lanceolate-oblong or oval, abruptly pointed or acute, somewhat spinulose-serrulate, on very short petioles; sepals broadly ovate. — Low grounds, Va. to Fla. and Ala. Feb. – April. — Shrub 2–4' high.

2. *L. Catesbæi*, Gray. Leaves ovate-lanceolate, taper-pointed, serrulate with ciliate-spinulose appressed teeth, conspicuously petioled (3–6' long); sepals ovate-oblong, often acute. — Moist banks of streams, Va. to Ga. along the mountains. May. — Shrub 2–4' high, with long spreading or recurved branches. Flowers exhaling the unpleasant scent of Chestnut-blossoms.

** Anthers awned; stigma simple; flowers very short-pedicelled, in long one-sided racemes mostly terminating the branches; bracts deciduous; leaves membranaceous and deciduous, serrulate; calyx bibracteolate.

3. *L. recurva*, Buckley. Branches and racemes recurved-spreading; leaves lanceolate or ovate, taper-pointed; sepals ovate; anther-cells 1-awned; pod 5-lobed; seeds flat and cellular-winged. — Dry hills, Alleghanies of Va. to Ala. April. — Lower and more straggling than the next.

4. *L. racemosa*, Gray. Branches and racemes mostly erect; leaves oblong or oval-lanceolate, acute; sepals ovate-lanceolate; anther-cells each 2-awned; pod not lobed; seeds angled and wingless. — Moist thickets, Mass. to Fla. and La., near the coast. May, June. — Shrub 4–10' high. Corolla cylindrical.

10. CASSÁNDRA, Don. LEATHER-LEAF.

Calyx of 5 distinct rigid ovate and acute sepals, imbricated in the bud, and with a pair of similar bractlets. Corolla cylindrical-oblong, 5-toothed. Stamens 10; anther-cells tapering into a tubular beak, and opening by a pore at the apex, awnless. Capsule depressed, 5-celled, many-seeded; the pericarp of 2 layers, the outer 5-valved, the cartilaginous inner layer at length 10-valved. Seeds flattened, wingless. — Low and much branched shrubs, with nearly evergreen and coriaceous leaves, which are scurfy, especially underneath. Flowers white, in the axils of the upper small leaves, forming small 1-sided leafy racemes. (*Cassandra*, a daughter of Priam and Hecuba.)