

§ 2. *Lip barely saccate below, tapering and its sides involute above; anther ovate, long-pointed, borne on the base of the very short column, which is continued above the stigma into a conspicuous tapering awl-shaped gland-bearing beak.*

3. *G. Menziesii*, Lindl. Leaves ovate-oblong, acute (2-3' long), less white-reticulated than the preceding, some not at all so; scape 9-12' high; flowers rather numerous in a looser often 1-sided spike; flower-buds less pubescent, elongated-ovate and pointed; lip with the saccate-conduplicate lower portion gradually tapering into the narrow barely spreading summit. — Woods, Gaspe and Tadousac, L. Can. (*J. A. Allen, Goodale*); Crawford, N. H. (*Miss Minns*); western N. Y. to Minn., and westward. July.

11. EPIPACTIS, Haller.

Sepals and petals nearly equal, spreading. Lip free, deeply concave at base, narrowly constricted and somewhat jointed in the middle, the upper portion dilated and petaloid. Column short, erect. Anther sessile behind the broad truncate stigma, on a slender-jointed base; pollen-masses coarsely granular, becoming attached to the gland capping the small rounded beak of the stigma. — Stem leafy, with racemed flowers, conspicuous bracts, and ovaries reflexed at maturity. (The ancient Greek name of a plant.)

1. *E. Helleborine*, Crantz. Stems 1-2° high; leaves broadly ovate (2-3' long), pointed, plicate, the upper narrower; raceme pubescent, 30-50-flowered, 1-sided; flowers varying from light greenish-yellow to dark purple; sepals ovate-lanceolate, 3-4" long; petals rather smaller; lip ovate, pointed above, with a dark centre. (*E. latifolia, All.*) — Near Syracuse and Buffalo, N. Y.; the only known stations. (Eu.)

12. ARETHUSA, Gronov.

Flower ringent; the lanceolate sepals and petals nearly alike, united at base, ascending and arching over the column. Lip dilated and recurved-spreading toward the summit; very slightly gibbous at base. Column adherent to the lip below, petal-like, dilated at the apex. Anther lid-like, terminal, of 2 approximate cells; pollen-masses powdery-granular, 2 in each cell. — Beautiful low herbs, consisting of a sheathed scape from a globular solid bulb, terminated usually by a single large rose-purple flower. Leaf solitary, linear, nerved, hidden in the sheaths of the scape, protruding after flowering. (Dedicated to the nymph *Arethusa*.)

1. *A. bulbosa*, L. Flower single (rarely 2), erect (1-2' long), with an entire lip recurved at the apex and bearded-crested down the face. — Bogs, Newf. to the mountains of N. C., west to Ind. and Minn.

13. CALOPOGON, R. Br.

Flower with the ovary or stalk not twisting, therefore presenting its lip on the upper or inner side. Sepals and petals nearly alike, lance-ovate, spreading, distinct. Lip spreading, distant from the column, raised on a narrowed base or stalk, dilated at the summit, strongly bearded along the upper side. Column free, slender, winged at the apex. Anther terminal and lid-like, sessile; pollen-masses 4 (two in each cell), of soft powdery grains, lightly connected by deli-

cate threads. — Scape from a small solid bulb, sheathed below by the base of the grass-like leaf, naked above, bearing several large flowers. Bracts minute. (Name composed of *καλός*, beautiful, and *πόγων*, beard, from the bearded lip.)

1. *C. pulchellus*, R. Br. Leaf linear; scape about 1° high, 2-6-flowered; flowers 1' broad, pink-purple; lip as if hinged at the insertion, beautifully bearded toward the dilated summit with white, yellow, and purple club-shaped hairs. — Bogs, Newf. to Fla., west to Minn. and Mo.

14. POGONIA, Juss.

Flower irregular, the sepals and petals separate. Lip crested or 3-lobed. Column free, elongated, club-shaped, wingless. Anther terminal and lid-like, stalked; pollen-masses 2 (one in each cell), powdery-granular. (*Πογωνίας bearded*, from the lip of some of the original species.)

§ 1. *Sepals and petals nearly equal and alike, pale rose-color, sometimes white.*

1. *P. ophioglossoides*, Nutt. Root of thick fibres; stem (6-9' high) bearing a single oval or lance-oblong leaf near the middle and a smaller one or bract near the terminal flower, rarely one or two others with a flower in the axil; flower 1' long, sweet-scented; lip spatulate, appressed below to the column, beard-crested and fringed. — Bogs, Newf. to Fla., west to N. Ind. and Minn. June, July. (Japan.)

2. *P. pendula*, Lindl. Stem (3-8' high) from oblong tubers, bearing 3 to 7 alternate ovate-clasping very small (3-6") leaves, the upper 1-4 with drooping flowers in their axils on slender pedicels; perianth $\frac{1}{4}$ ' long, narrow; lip spatulate, somewhat 3-lobed, roughish or crisped above, crestless. — Damp woods, N. Eng. to Fla., west to Wisc. and Mo.

§ 2. *Sepals linear, dingy or brownish, longer and much narrower than the erect or connivent petals; lip 3-lobed at the apex, crested down the middle, beardless; flowers solitary (or rarely a pair), terminal; root a cluster of fibres.*

3. *P. divaricata*, R. Br. Stem (1-2° high) bearing a lanceolate leaf in the middle, and a leafy bract next the flower, which is recurved on the ovary; but the sepals ascending or diverging, spatulate-linear, longer than the lanceolate-spatulate pointed and flesh-colored petals, these about 1-1 $\frac{1}{2}$ ' long. — Wet pine-barrens, N. J. to Fla. June, July.

4. *P. verticillata*, Nutt. Stem (6-12' high) naked, except some small scales at the base and a whorl of mostly 5 obovate or obovate-oblong sessile leaves at the summit; flower dusky purplish, on a peduncle longer than the ovary and capsule; sepals more than twice the length of the petals, narrowly linear, spreading from a mostly erect base (1 $\frac{1}{2}$ -2' long); lip with a narrow crest down the middle. — Low woods, N. Eng. to Fla., west to Ind. and Wisc.; rather rare, especially eastward. May, June. Glauous when young. Fruit-stalk erect, about 1 $\frac{1}{2}$ ' long, more than half the length of the leaves.

5. *P. affinis*, Austin. Somewhat smaller than the preceding; leaves paler and rather narrower; flowers (not rarely in pairs) yellowish or greenish; peduncle much shorter than the ovary and capsule; sepals but little longer than the petals, tapering to the base; lip crested over the whole face and on the middle of the lobes. — Low woods, S. W. Conn., S. New York, and N. New Jersey; rare.

15. *ORCHIS*, L.

Flower ringent; the sepals and petals nearly equal. Lip turned downward, coalescing with the base of the column, spurred below. Anther-cells contiguous and parallel. Pollen cohering in numerous coarse waxy grains, which are collected on a cobweb-like elastic tissue into 2 large masses (one filling each anther-cell) borne on a slender stalk, the base of which is attached to a gland or sticky disk of the stigma, the two glands contained in a common little pouch or hooded fold, placed just above the orifice of the spur. Flowers showy, in a spike. — Our species with low scape-like stems, with 1 or 2 leaves at base, from fleshy-fibrous roots. (*Op̄is*, the ancient name.)

1. *O. spectabilis*, L. (SHOWY ORCHIS.) Root of thick fleshy fibres, producing 2 oblong-obovate shining leaves (3–6' long), and a few-flowered 4 angled scape (4–7' high); bracts leaf-like, lanceolate; sepals and petals all lightly united to form the vaulted galea or upper lip, pink-purple, the ovate undivided lip white. — Rich woods, N. Brunswick to Ga., west to Minn. and Mo. May.

2. *O. rotundifolia*, Pursh. Stem naked above, 1-leaved at base (5–9' high), from a slender creeping rootstock; leaf varying from almost orbicular to oblong (1½–3' long); flowers rose-purple, the lip white and spotted with purple, 3-lobed, and the larger middle lobe dilated and 2-lobed or strongly notched at the summit (4–6" long), exceeding the ovate-oblong petals and sepals, and the slender depending spur. (*Habenaria rotundifolia*, Richardson.) — Damp woods and bogs, N. Maine to Vt., N. Y., Minn., and northward.

16. *HABENARIA*, Willd. REIN-ORCHIS.

Glands or viscid disks (to which the pollen-masses are attached) naked and exposed, separate, sometimes widely so (becoming attached, some to the proboscis, others to the face or head of insects feeding upon the nectar of the spur, the pollen thus carried from one blossom to another); otherwise nearly as in true *Orchis*; the lateral sepals, however, mostly spreading. (Name from *habena*, a thong or rein, in allusion to the shape of the lip or spur of some species.)

§ 1. *GYMNADENIA*. Cells of the anther parallel and approximate, their glands therefore contiguous. (Appendages of the stigma in our species two or three and much developed, oblong or club-shaped.)

1. *H. tridentata*, Hook. Stem slender (6–12' high), with a single oblong or oblanceolate obtuse leaf below, and 2 or 3 small ones like bracts above; spike 6–12-flowered, oblong; flowers greenish or whitish, very small; lip wedge-oblong, truncate, and with 3 short teeth at the apex; the slender and slightly club-shaped spur curved upward, longer than the ovary. — Wet woods, N. Eng. to Minn. and Ind., and south in the mountains to N. C. June, July. — Root of few fleshy fibres. Appendages of the stigma three, oblong-club-shaped, one outside each orbicular gland and one between them, rising as high as the anther-cell, their cellular viscid summits receiving pollen in the unopened flower, and penetrated by pollen-tubes!

2. *H. integra*, Spreng. Root of very fleshy fibres (or some of them tuber-like); stem several-leaved (15' high), the 1 or 2 lower leaves elongated, oblong-lanceolate, acute, the others becoming smaller and bract-like; spike densely many-flowered, oblong-cylindrical; flowers orange-yellow, small; lip

ovate, entire or slightly crenulate or wavy, shorter than the awl-shaped descending spur. — Wet pine-barrens, N. J. to Fla. July. — Appendages of the stigma two, lateral, oblong, fleshy; beak or middle appendage narrow.

3. *H. nivea*, Spreng. Stem slender, 1–1½° high, many-leaved, the 1 or 2 lower leaves lance-linear and 4–8' long, the others small and bract-like; spike cylindrical, loosely many-flowered; flowers white, small; petals and entire lip linear-oblong; spur thread-shaped, ascending, as long as the white ovary, which is not twisted. — Pine-barren swamps, S. Del. to Fla. Aug.

§ 2. *PERULARIA*. Cells of the anther nearly parallel, the valves of each extended at base so as to form the sides of a deep oblong groove or cavity, which is lined by the dilated orbicular and incurved gland. (Flowers small, greenish, slender-spurred.)

4. *H. viridescens*, Spreng. Leaves ovate-oblong or oblong-lanceolate, the uppermost linear-lanceolate and pointed, passing into the bracts of the elongated raceme; petals ovate; flowers dull green; lip furnished with a tooth on each side and a strong nasal protuberance in the middle of the base, oblong, truncate-obtuse, about the length of the sepals, half the length of the slender club-shaped spur. — Wet places, common; N. Eng. to Fla., west to Minn. and Mo. June, July. — Stem 10–20' high; the spike at first dense, with the bracts longer than the flowers, at length elongated and often loose, the upper bracts shorter than the flowers, which are quite small, and with scarcely a tinge of yellow, drying brownish.

§ 3. *PLATANTHÈRA*. Cells of the anther sometimes parallel, more commonly divergent, so that their tapering bases and the exposed glands are more or less distant. (Root a cluster of fleshy fibres, or tuberous-thickened.)

* Flowers greenish or white, small, numerous in a close spike; spur not longer than the entire or merely notched narrow lip; anther-cells almost parallel, wholly adnate; stem leafy.

— Spur short and sac-like; the 3 sepals and 2 narrow petals erect; glands small, rather widely separated.

5. *H. bracteata*, R. Br. Stem 6–12' high; lower leaves obovate, the upper oblong and gradually reduced to lanceolate acute bracts 2–4 times the length of the green flowers; spike 10–30-flowered; lip oblong-linear or slightly spatulate, truncate and 2–3-toothed or lobed at the tip, more than twice the length of the white spur. (*H. viridis*, var. *bracteata*, Reichenb.) — Damp woods and meadows, N. Eng. to Minn., Iowa, Ind., south in the mountains to N. C., and far northward.

— Spur slender, incurved, about equalling the entire lip; lateral sepals spreading.

6. *H. hyperborea*, R. Br. Stem very leafy (6'–2° high); leaves lanceolate, erect; spike dense (2–15' long); lower bracts lanceolate, longer than the (greenish) flowers; lip and petals lanceolate, somewhat equal, the latter spreading from the base; anther somewhat overhanging the transversely dilated stigma; glands orbicular; stalk of the pollen-masses very slender and weak. — Peat bogs and wet cold woods, N. Eng. to N. Y., S. Ill., Iowa, and northward. June, July. (Eu.)

7. *H. dilatata*, Gray. Resembles n. 6, but usually more slender, with narrower commonly linear leaves; flowers white; lip lanceolate from a rhom-

boidal-dilated base, entire, its base with the bases of the petals and sepals erect-connivent, above spreading; anther-cells almost parallel; *glands approximate*, large and strap-shaped, vertical, nearly as long as the pollen-mass and its short flat stalk together; stigma narrow; a trowel-shaped conspicuous beak between the bases of the anther-cells. — Cold bogs, Conn. to N. Y., Mich., Minn., and northward.

* * Flowers greenish or white, 5–15 in a loose spike, rather large for the size of the plant; scape or stem naked above, 1-leaved at base (5–9' high); spur not longer than the lip; anther-cells wholly adnate, arcuate and widely separated.

8. *H. obtusata*, Richardson. Leaf obovate or spatulate-oblong; upper sepal very broad and rounded, the others and the petals lance-oblong; lip entire, linear or lanceolate, deflexed (3" long), about the length of the tapering and curving spur. — Cold peat bogs, Maine and N. New Eng. (Mt. Wachusett, Mass.), to Minn. and northward. (Eu.)

* * * Flowers white or greenish, numerous in a loose spike, on a naked scape, 2-leaved at base; spur longer than the narrow entire lip; anther-cells widely diverging, their narrowed beak-like bases projecting forward; stalk of the pollen-mass laterally affixed to the back of the orbicular gland, the viscous face of which looks obliquely inward.

9. *H. Hookeri*, Torr. Leaves orbicular, spreading (3–4' broad); scape mostly naked ($\frac{1}{2}$ –1° high), bearing 10–20 upright sessile yellowish-green flowers in a strict spike; sepals ovate-lanceolate; lip lanceolate, pointed, incurved, longer than the lance-awl-shaped petals; spur slender, acute, about the length of the ovary (nearly 1' long). — Damp woods and borders of swamps, N. Scotia to N. J., west to Minn. and Iowa. — Var. *OBLONGIFOLIA*, Paine, has oblong leaves (3–5' by $1\frac{1}{2}$ –2'). N. Y. and Can.

10. *H. orbiculata*, Torr. Leaves very large (4–8' wide), orbicular, spreading flat on the ground, shining above, silvery beneath; scape bracted (1–2° high), bearing many spreading greenish-white flowers in a loose raceme; upper sepal orbicular, the lateral ovate; lip narrowly linear and slightly spatulate, obtuse, drooping, nearly thrice the length of the oblong-lanceolate and falcate obtuse petals; spur curved, slender (about $1\frac{1}{2}$ ' long), gradually thickened toward the blunt apex, twice the length of the ovary; anther-cells strongly projecting at the free beak-like base (the glands nearly $\frac{1}{2}$ ' apart). — Rich woods (especially coniferous), Newf. to Penn. and in the mountains to N. C., west to Mich. and Minn.

* * * * (FRINGED ORCHIS.) Flowers several or many in an open spike, with mostly foliaceous bracts; stem (rather tall) leafy; spur thread-shaped or scarcely club-shaped, longer than the fringed, cleft, or dissected lip; anther-cells widely separated and usually diverging, their narrow beak-like bases, supported by the arms of the stigma, strongly projecting forward or partly upward.

← Lip pectinately fringed but undivided; flowers golden yellow or white; anther-cells widely divergent, the orbicular glands as if raised on a tentacle projecting far forward or slightly inward; ovary long, tapering to the summit.

11. *H. cristata*, R. Br. Lower leaves lanceolate, elongated; the upper gradually reduced to sharp-pointed bracts, nearly the length of the crowded

(yellow) flowers; spike oblong or cylindrical; petals rounded, crenate; lip ovate, with a lacerate-fringed margin, scarcely shorter than the slender obtuse incurved spur, which is not half the length of the ovary. — Bogs, N. J. to Fla. July. Flowers very much smaller than in the next.

12. *H. ciliaris*, R. Br. (YELLOW FRINGED-ORCHIS.) Stem $1\frac{1}{2}$ –2° high; leaves oblong or lanceolate; the upper passing into pointed bracts, which are shorter than the ovaries; spike oblong, rather closely many-flowered; flowers bright orange-yellow; lateral sepal rounded, reflexed; petals linear, cut-fringed, at the apex; lip oblong (6" long), about half the length of the spur, furnished with a very long and copious capillary fringe. — Wet sandy places, N. Eng. to Fla. and Tex., west to Mich. and Ind. Our most handsome species.

13. *H. blephariglottis*, Torr. (WHITE FRINGED-ORCHIS.) Stem 1° high; leaves, etc., as in the last; flowers white, rather smaller; petals spatulate, usually slightly cut or toothed at the apex; lip ovate- or lanceolate-oblong, with the irregular capillary fringe of the margins usually shorter than its disk, one third the length of the spur. — Peat bogs and borders of ponds, Newf. to N. J., west to Mich. and Minn. July. — Var. *HOLOPÉTALA*, Torr., has narrower petals with the toothing obsolete, and the lip less fringed.

← (GREENISH FRINGED-ORCHIS.) Lip 3-parted above the stalk-like base, the divisions cut into capillary fringes; flowers greenish- or yellowish-white; anther-cells not very divergent, the beaked bases projecting forward; the large glands oval or lanceolate, nearly facing each other; ovary short-tapering above; spurs long, clavate.

14. *H. leucophæa*, Gray. Stem 2–4° high; leaves oblong-lanceolate; the bracts similar, rather shorter than the (large, fragrant) flowers; spike commonly elongated, loose; petals obovate, minutely cut-toothed; divisions of the lip (7–10" long) broadly wedge-shaped or fan-shaped, many-cleft to the middle into a copious thread-like fringe; spur longer than the ovary (1– $1\frac{1}{2}$ ' long); glands transversely oval. — Moist meadows, western N. Y. to Ky., Mo., and Minn. July.

15. *H. lacera*, R. Br. (RAGGED FRINGED-ORCHIS.) Leaves oblong or lanceolate; raceme loosely many-flowered; petals oblong-linear, entire; divisions of the lip narrow, deeply parted into a few long nearly capillary lobes; spur about the length of the ovary; glands oblong-linear, as long as the stalk of the pollen-mass. — Bogs and moist thickets, N. Scotia to N. C. and Ga., west to Minn. and Mo.; common. July.

← ← (PURPLE FRINGED-ORCHIS.) Lip fan-shaped, 3-parted above the stalk-like base, the divisions erosely fringed; flowers purple; anther-cells widely separated, little divergent, the orbicular glands oblique; ovary contracted only at the summit; the long curving spur somewhat clavate.

16. *H. psycodes*, Gray. Leaves oblong or lanceolate, the uppermost passing into linear-lanceolate bracts; raceme cylindrical, densely many-flowered; lower sepals round-oval, obtuse; petals wedge-obovate or spatulate, denticulate above; divisions of the spreading lip broadly wedge-shaped, many-cleft into a short fringe. — Wet meadows and bogs, common; Newf. to N. C., west to Ind. and Minn. July, Aug. — Flowers short-pedicelled, crowded in a spike of 4–10' in length, small, but very handsome, fragrant; lip short-stalked,

barely $\frac{1}{2}$ ' broad and not so long; the middle lobe broadest and more closely fringed, but not so deeply cleft as the lateral ones.

17. *H. fimbriata*, R. Br. Lower leaves oval or oblong, the upper few, passing into lanceolate bracts; spike or raceme oblong, loosely-flowered; lower sepals ovate, acute; petals oblong, toothed down the sides; divisions of the pendent large lip ($\frac{1}{2}$ –1' broad) fan-shaped, more fringed. — Wet meadows, N. Scotia to N. J. and N. C., west to Mich. June. — Flowers fewer (lilac-purple), 3 or 4 times larger than those of the preceding.

18. *H. peramœna*, Gray. Lower leaves oblong-ovate, the upper lanceolate; spike oblong or cylindrical, densely flowered; lower sepals round-ovate; petals rounded-obovate, raised on a claw; divisions of the large lip very broadly wedge-shaped, irregularly eroded-toothed at the broadly dilated summit, the lateral ones truncate, the middle one 2-lobed. — Moist meadows and banks, Penn. and N. J. to Ill., and south in the mountains. Aug. — Flowers large and showy (violet-purple); the lip paler and 8–10" long, variably toothed, but not fringed.

17. **CYPRIPIEDUM**, L. LADY'S SLIPPER. MOCCASON-FLOWER.

Sepals spreading; all three distinct, or in most cases two of them united into one under the lip. Petals spreading, resembling the sepals but usually narrower. Lip a large inflated sac. Column declined; on each side a fertile stamen, with its short filament bearing a 2-celled anther; the pollen loose and pulpy or powdery-granular; on the upper side a dilated-triangular, petal-like but thickish body, which answers to the fertile stamen of other Orchids, and covers the summit of the style; stigma terminal, broad, obscurely 3-lobed, moist and roughish (not smooth and viscid as in the rest of the order). Pollen in most of our species, especially in n. 6, exposed by the conversion of the face of the anther into a viscid, varnish-like film, which adheres to whatever touches it, carrying away some of the pollen. — Root of many tufted fibres. Leaves large, many-nerved and plaited, sheathing at the base. Flowers solitary or few, large and showy. (Name composed of *Kύπρις*, Venus, and *πόδιον*, a sock or buskin, i. e. *Venus's Slipper*.)

§ 1. The three sepals separate; stem leafy; flower solitary, drooping.

1. *C. arietinum*, R. Br. (RAM'S-HEAD L.) Stem slender (6–10' high); upper sepal ovate-lanceolate, pointed; the 2 lower and the petals linear and nearly alike (greenish-brown), rather longer than the red and whitish veiny lip (6" long), which is somewhat pubescent, especially within, and prolonged at the apex into a short blunt conical point; leaves 3 or 4, elliptical-lanceolate, nearly smooth. — Cold swamps and damp woods, Maine to N. Y., Mich. and Minn., and northward.

§ 2. Two of the sepals united into one under the lip.

* Stem leafy to the top, 1–3-flowered; lip slipper-shaped or roundish, much inflated, horizontal, and with a rounded open orifice.

+ Sepals and linear wavy-twisted petals brownish, pointed, longer than the lip.

2. *C. candidum*, Muhl. (SMALL WHITE LADY'S SLIPPER.) Slightly pubescent, 1-flowered; leaves lance-oblong, acute; petals and sepals greenish, purple-spotted; sepals ovate-lanceolate; lip (not 1' long) white, striped with

purple inside, flattish laterally, convex above; sterile stamen lanceolate. — Bogs, N. Y. and Penn. to Minn., Mo., and Ky.; rare. May, June.

3. *C. parviflorum*, Salisb. (SMALLER YELLOW L.) Stem 1–2° high leaves oval, pointed; sepals ovate or ovate-lanceolate; lip flattish from above, bright yellow (1' long or less); sterile stamen triangular. — Bogs and low woods, Newf. to Ga., west to Minn. and E. Kan. May, June. — Flowers fragrant; sepals and petals more brown-purple than in the next, into which it seems to pass.

4. *C. pubescens*, Willd. (LARGER YELLOW L.) Stem 2° high, pubescent, as are the broadly oval acute leaves; sepals elongated-lanceolate; lip flattened laterally, very convex and gibbous above, $1\frac{1}{2}$ –2' long, pale yellow. — Bogs and low woods; same range as the last.

+ + Sepals and petals plane, rounded, white, not longer than the lip.

5. *C. spectabile*, Salisb. (SHOWY L.) Downy, 2° high; leaves ovate, pointed; sepals round-ovate or orbicular, rather longer than the oblong petals; lip much inflated, white, pink-purple in front ($1\frac{1}{2}$ long); sterile stamen heart-ovate. — Peat-bogs, Maine and W. New Eng. to Minn. and Mo., and south in the mountains to N. C. July. — The most beautiful of the genus.

* * Scape naked, 2-leaved at base, 1-flowered; sepals and petals greenish, shorter than the drooping lip, which has a closed fissure down its whole length in front.

6. *C. acule*, Ait. (STEMLESS L.) Downy; leaves oblong; scape 8–12' high, with a green bract at top; sepals oblong-lanceolate, pointed, nearly as long as the linear petals; lip obovoid or oblong, rose-purple (rarely white), nearly 2' long, veiny; sterile stamen rhomboid. — Dry or moist woods; Newf. to N. C., west to N. Ind., Mich., and Minn. May, June.

ORDER 111. **BROMELIACEÆ**. (PINE-APPLE FAMILY.)

Herbs (or scarcely woody plants, nearly all tropical), the greater part epiphytes, with persistent dry or fleshy and channelled crowded leaves, sheathing at the base, usually covered with scurf; 6-androus; the 6-cleft perianth adherent to the ovary in the PINE-APPLE, etc., or free from it in

1. **TILLANDSIA**, L. LONG MOSS.

Perianth plainly double, 6-parted; the 3 outer divisions (sepals) membranaceous; the 3 inner (petals) colored; all connivent below into a tube, spreading above, lanceolate. Stamens 6, hypogynous! or the alternate ones cohering with the base of the petals; anthers introrse. Ovary free; style thread-shaped; stigmas 3. Capsule cartilaginous, 3-celled, loculicidally 3-valved; the valves splitting into an inner and an outer layer. Seeds several or many in each cell, anatropous, club-shaped, pointed, raised on a long hairy-tufted stalk, like a coma. Embryo small, at the base of copious albumen. — Scurfy-leaved epiphytes. (Named for Prof. Tillands of Abo.)

1. *T. usneoides*, L. (COMMON LONG MOSS or BLACK MOSS.) Stems thread-shaped, branching, pendulous; leaves thread-shaped; peduncle short, 1-flowered; flower yellow. — East Shore, Va., south to Fla., and westward; growing on the branches of trees, forming long hanging tufts.