

WEEDS OF THE NORTHEAST



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AIDS TO THEIR IDENTIFICATION
BY
BASAL-LEAF CHARACTERISTICS

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WEEDS OF THE NORTHEAST — AIDS TO THEIR IDENTIFICATION BY BASAL-LEAF CHARACTERISTICS

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The 340 weeds described and illustrated in this manual are all to be found in agricultural situations in the Northeastern States. A few of them are common only to the southern part of the region and a few others only to the northern part. The descriptions and drawings were made from plants which were for the most part collected by the authors.² In collecting this material all states in the Northeast were visited.

In the descriptions the use of botanical terms has been avoided in so far as possible. Those that are used are illustrated on Page 2 by drawings. The leaf illustrations are not drawn to any particular scale and are not necessarily proportionate to each other. For the grasses, the illustration shows only a section of the blade and sheath at their juncture. This method of weed identification by leaf characteristics was first proposed by the senior author.³

Using the Manual. In identifying any weed, a number of fresh plants should be examined. Select basal leaves of the shape that is most common on the plants. It is well to spread them out on a flat surface so that the shape and other characteristics can be readily determined. Turn to Page 3, Groups According to Leaf Characteristics. Starting with Group 1, proceed until a group is found that includes the shape of the leaf in hand. Where there are subgroups — A, B, C, etc.— check further details of the leaf with the subgroup descriptions until a matching one is found. Turn to the page where the weeds of this subgroup are illustrated and described. Compare the fresh leaf with the illustrations. After finding the illustration that seems to fit the leaf, check the description. Bear in mind that no two leaves are ever exactly alike. Some species vary considerably in shape and many also vary in hairiness. Some of these variations have been taken care of by separate illustrations of the same species in different groups and by showing the main varieties of

some of the species separately. The use of some imagination, however, is necessary in comparing leaves with illustrations. If the leaf cannot be found in what seems to be the proper group, try the group next closest in shape and description. A magnifier should always be used to check descriptions.

Common names of weeds vary considerably even in different localities in the same state. The names here used have been more or less arbitrarily selected but all are in general use. For many of the weeds additional common names have been listed in the index.

Scientific names of weeds are more uniform than common names but frequently vary with the authority. The authorities used in this manual are as follows:

Report of the Terminology Committee, Weed Society of America, in "Weeds," Vol. 14, No. 4, October, 1966.

"Manual of Grasses of the United States" by A. S. Hitchcock, revised by Agnes Chase, U.S. Dept. of Agriculture. Misc. Pub. 200, 1950.

"Gray's Manual of Botany," eighth edition, revised by M. L. Fernald, American Book Co., 1950.

"Manual of Vascular Plants of Northeastern United States and Adjacent Canada," by H. A. Gleason and A. Cronquist, Van Nostrand, 1963.

For seven-top turnip, "Manual of Cultivated Plants," by L. H. Bailey, MacMillan, 1949.

Positive identification of weeds may require the use of technical manuals that are beyond the scope of this publication. Help is readily available from most Agricultural Experiment Stations. When specimens are submitted for identification they should show all plant parts as well as different stages of development if feasible. Flowers and fruit are especially helpful. To prevent specimens from drying out they should be wrapped in plastic bags or rolled in sheets of plastic or foil. Do not add water.

1. Chairman, Emeritus; Department of Agronomy; and Assoc. Prof., Department of Plant Science, respectively; Univ. of Delaware.
2. The authors are indebted to Mrs. Nancy Slack, Department of Botany, Cornell University, Ithaca, New York, who supplied fresh specimens of a number of New York weeds.
3. 100 Weeds — Aids to Their Identification by Basal Leaf Characteristics, by C. E. Phillips, Misc. Paper No. 184, Delaware Agr. Expt. Station, Jan., 1954.
4. The authors wish to express their appreciation to Richard S. Lindsey, Baltimore, Maryland, who prepared the illustrations, and to students S. Derby Walker, Jr., and Bonnie Appleton for assistance with the manuscript.

LEAF SHAPES



linear



lanceolate



oblanceolate



spatulate



oblong



ovate



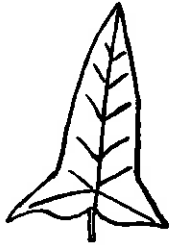
obovate



triangular



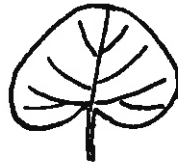
sagittate



hastate



roundish



reniform



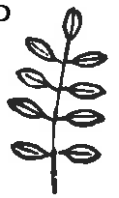
cordate



rhombic



palmate



pinnate

COMPOUND



pinnately lobed



dentate



crenate

LEAF MARGINS



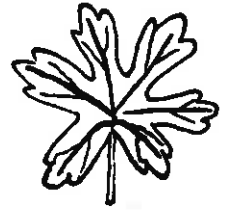
entire



serrate



sinuate



palmately lobed

LEAF TIPS



obtuse



acute



acuminate



apiculate



rounded

GRASS LEAVES



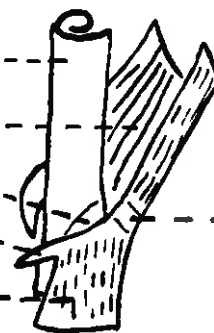
rolled leaf

blade

ligule

auricles

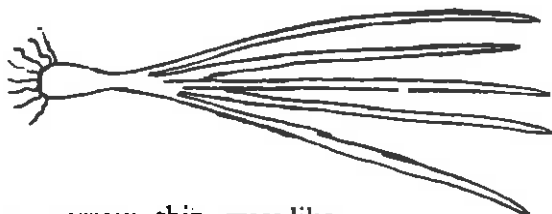
sheath



collar

GROUPS ACCORDING TO LEAF CHARACTERISTICS

	PAGE
1. Leaves apparently absent	6
2. Leaves awl-shaped or thread-like	6
3. Leaves long, slender, somewhat thickened, from a white underground bulb	7



4. Leaves long, narrow, thin, grass-like



- | | |
|--|----|
| A. Leaves 3-angled and arranged in 3 spirals at base | 7 |
| B. Leaves flat, ligule membranous, sheath round | 8 |
| C. Leaves flat, ligule membranous, sheath flattened | 9 |
| D. Leaves flat, ligule a fringe of hairs | 11 |
| E. Leaves flat, ligule absent | 13 |

5. Leaves linear



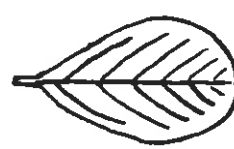
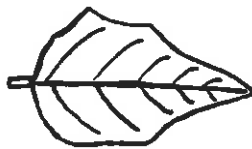
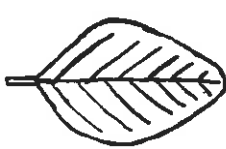
- | | |
|--|----|
| A. Generally less than 1½ in. long | 13 |
| B. Generally more than 1½ in. long | 14 |

6. Leaf blades lanceolate to oval, not generally half as wide as long

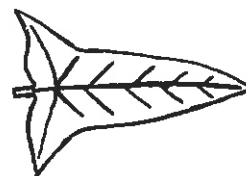
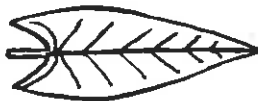
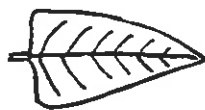


- | | |
|---|----|
| A. Less than 1½ in. long, smooth above | 17 |
| B. Less than 1½ in. long, rough or hairy above | 18 |
| C. More than 1½ in. long, not toothed; smooth above | 20 |

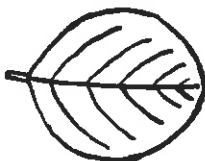
- D. More than 1½ in. long, not toothed; rough or hairy above
1. With distinct petiole 22
 2. Tapering to base (without distinct petiole) 26
- E. More than 1½ in. long, toothed, smooth above 28
- F. More than 1½ in. long, toothed, rough or hairy above
1. With distinct petiole 30
 2. Tapering to base (without distinct petiole) 35
7. Leaf blades ovate, generally more than half as wide as long



- A. Less than 1 in. long 38
 - B. More than 1 in. long, not toothed on margin 40
 - C. More than 1 in. long, toothed on margin, smooth above 42
 - D. More than 1 in. long, toothed on margin, rough or hairy above
 1. Petioles hairy or spiny 42
 2. Petioles not hairy or spiny 45
8. Leaf blades triangular, sagittate or hastate 47

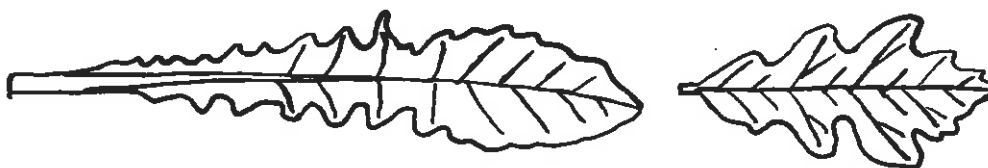


9. Leaf blades roundish, cordate or reniform



- A. Smooth above 48
- B. Rough or hairy above 50

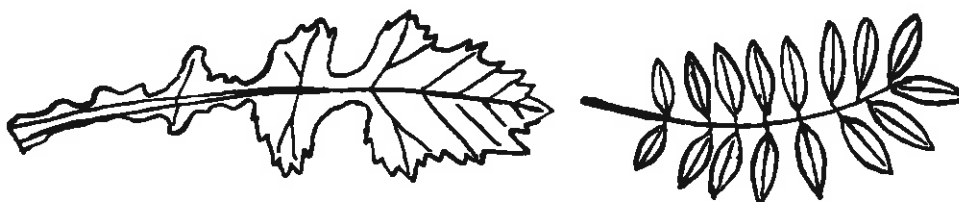
10. Leaves pinnately lobed, not generally cut to midrib



A. Smooth above 54

B. Rough or hairy above 56

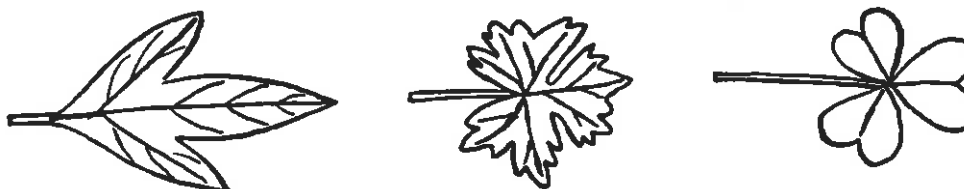
11. Leaves pinnately lobed or cleft or compound, usually cut to midrib or almost



A. Smooth above 58

B. Rough or hairy above 63

12. Leaves palmately parted or compound



A. Smooth above 68

B. Rough or hairy above 70

LEAF ILLUSTRATIONS AND DESCRIPTIONS

1. Leaves apparently absent

1. Leaves in the form of cup-shaped toothed sheaths at the joints of the sterile stems only.

Plant a perennial reproducing by spores and creeping rootstocks; stems hollow, joined, tough and wiry, and of two types: fertile, whitish and unbranched with a cone-like fruiting head (coming up early in spring); sterile, green with clusters of branches arising at the joints, generally about 10 to 20 in. high. Apr.-July.

Equisetum arvense L. — field horsetail

Leafless, bearing a few minute scales instead of leaves.

Plant a threadlike, twining stemmed parasite without chlorophyll.

2. A. Stems yellow or orange, slender to coarse. Flower 1/8 in. long, white, waxy; scales within corolla long and fringed. Parasitic on very many hosts. July-Oct.

Cuscuta gronovii Willd. — swamp dodder

3. B. Stems pale green, slender. Flower about 1/8 in. long, yellowish; scales within corolla tube two cleft with short marginal teeth. Parasitic on flax. June-Aug.

Cuscuta epilinum Weihe — flax dodder

4. C. Stems yellow or reddish, slender. Flower about 1/8 in. long, white or pinkish; scales within corolla toothed all around and curved inward. Parasitic on clover and

alfalfa. June-Oct.

Cuscuta epithymum Murr. — clover dodder

5. D. Stems pale yellow, very slender. Flower 1/16 to 1/12 in. long, white; scales within corolla oval, deeply fringed all around. Parasitic on clover, alfalfa, lespedeza and a number of uncultivated plants. June-Oct.

Cuscuta campestris Yunck. — field dodder

6. Leaves dry and scale-like, soon deciduous.

Plant prostrate to erect with flat, wide, jointed fleshy, spiny stems rooting freely at the joints. Flowers 2 to 3 in. across, yellow often with reddish center. Fruit pear-shaped, green to dull purple. June-July.

Opuntia humifusa Raf. — spreading prickly pear

2. Leaves awl-shaped or thread-like

7. Threadlike, 1/2 to 2 in. long, bright green, numerous, in whorls around each joint of the stem. Plant erect or ascending, branching at or near base; stems slender. Flowers about 1/4 in. across, in terminal clusters, white. May-Aug.

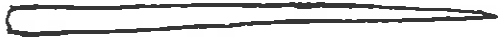
Spergula arvensis L. — corn spurry

8. Awl-shaped, 1/5 to 1 in. long, margins hairy.

Plant prostrate, spreading, branching, light green; stems 3 to 6 in. long. Flower minute, greenish. Mar.-Oct.

Scleranthus annuus L. — knawel

3. Leaves long, slender, somewhat thickened, from a white underground bulb



9. Slender, 4 to 10 in. long, nearly round, grooved above, hollow at least toward base, attached to lower half of stem, garlic odor and taste.

Plant erect; single stem from a white bulb, 1 to 3 ft. high. Bulb with a thin and membranous coat. Aerial bulblets in cluster at top of stem, oval and smooth with shiny covering. Flower on short stems above aerial bulblets, many, greenish, rose or white. Reproducing from seed, aerial bulblets and underground bulblets. June.

Allium vineale L. — wild garlic



10. Slender, 4 to 15 in. long, flat, arising from base of plant only, garlic odor and taste.

Plant 1 to 2 ft. high. Old bulb with a fibrous-matted coat. Flowers few or none. Otherwise similar to *A. vineale*. May-June.

Allium canadense L. — wild onion



11. Slender, 6 to 10 in. long, about 1/8 in. wide, light green or white midrib, somewhat fleshy, arising from base of plant, no garlic odor or taste.

Plant 4 to 12 in. high; stems leafless, from a bulb. Flower 1 to 1 1/4 in. across, waxy, white, greenish without. May-June.

Ornithogalum umbellatum L. — star-of-Bethlehem

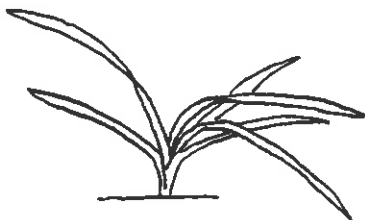


- 4A. Leaves long, narrow, thin, grass-like
3-angled and arranged in spirals of 3 at base

12. Grasslike 1/5 to 2/5 in. wide, 3-angled, closed sheaths, arranged in spirals of 3 at base, about as long as the 3-angled stem when mature.

Plant 8 to 36 in. high from tuberbearing weak stolons; stem 3-angled, yellowish. Flowers small, yellowish or yellowish-brown, arranged in narrow spikelets on an umbel-like inflorescence. Aug.-Oct.

Cyperus esculentus L. — yellow nutsedge



13. Grasslike, 1/8 to 1/4 in. wide, 3-angled, closed sheaths, arranged in spirals of 3 at base, shorter than 3-angled stem when mature.

Plant 4 to 24 in. high. Flowers dark chestnut-purple. Otherwise similar to *C. esculentus*. Aug.-Oct.

Cyperus rotundus L. — purple nutsedge

4B. Leaves long, narrow, thin, grass-like
flat, ligule membranous, sheath round

14. Leaves rolled; sheath round, split, usually hairy;
auricles slender; collar distinct, divided, oblique; ligule,
membranous, 1/50 to 1/25 in. long, toothed; blade 3 to
12 in. long, 1/8 to 2/5 in. wide, sharp-pointed, rough
above and generally hairy, smooth below.

Plant green or glaucous; stems erect or curved at base,
generally 20 to 40 in. tall; creeping yellowish rhizomes.
June-Aug.

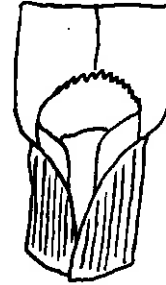
Agropyron repens (L.) Beauv. — quackgrass



15. Leaves rolled; sheath round, split, prominently
nerved; auricles absent; collar broad, divided; ligule
membranous, 1/16 to 1/10 in. long; blade 4 to 16 in.
long, 1/8 to 2/5 in. wide, flat, sharp-pointed; series of
corms below ground.

Plant erect, 3 to 5 ft. tall. June-July.

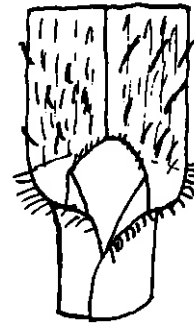
Arrhenatherum elatius L. var. *bulbosum* (Willd.) Spen-
ner — tuber oatgrass



16. Leaves rolled; sheath round, smooth or sometimes
hairy; auricles absent or very small; collar broad,
divided, often with long dense hairs on margin; ligule
membranous, 1/12 in. long, hairy at top; blade 2 to 8 in.
long, 1/8 to 1/3 in. wide, sparsely hairy at base, margins
rough, sweet scented.

Plant erect, tufted; stems slender, 12 to 24 in. high.
May-July.

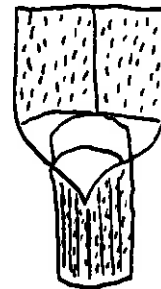
Anthoxanthum odoratum L. — sweet vernalgrass



17. Leaves rolled; sheath round, hairy, closed, promi-
nently veined; auricles absent; collar narrow, divided;
ligule membranous, 1/25 to 1/12 in. long; blade 4 to 8
in. long, 1/10 to 1/3 in. wide, long, sharp-pointed, hairy
above and below.

Plant erect; stems 12 to 24 in. high. June-July.

Bromus commutatus Schrad. — hairy chess

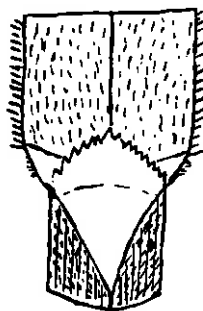


18. Leaves rolled; sheath round, closed, smooth; auri-
cles absent; collar broad, divided; ligule membranous,
1/8 in. long, toothed; blade 3 to 10 in. long, 1/10 to 1/4
in. wide, sharp-pointed, long white hairs above, short
white hairs below.

Plant erect; stems 12 to 24 in. high. July-Aug.

Bromus secalinus L. — cheat

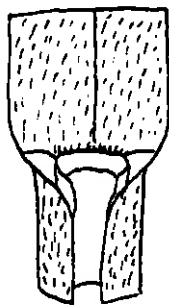




19. Leaves rolled; sheath round, keeled; softly hairy, prominently veined, split part way only; auricles absent; collar hairy, narrow, usually divided; ligule membranous, 1/16 to 1/8 in. long, torn or coarsely hairy at top; blade 2 to 5 in. long, 1/6 to 1/3 in. wide, flat, soft hairs above and below and on margin.

Plant erect or spreading, somewhat purplish tinged; stems to 24 in. high. May-July.

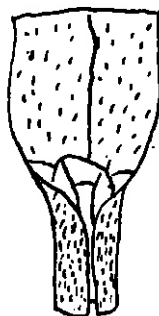
Bromus tectorum L. — downy brome



20. Leaves rolled; sheath round, pale green or pink-tinted at base, lower generally hairy, split; auricles absent or very small; collar broad, pale green sometimes purplish; ligule membranous, 1/50 to 1/25 in. long; blade 2 to 6 in. long, 1/12 to 1/4 in. wide, flat or U-shaped, light bluish green, hairy above, margins slightly rough.

Plant erect, densely tufted, 12 to 28 in. high; inconspicuous rhizomes. June-Aug.

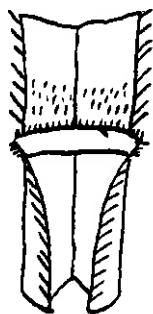
Hordeum jubatum L. — foxtail barley



21. Leaves rolled; sheath round, densely hairy, split; auricles absent; collar distinct, oblique; ligule membranous, 1/25 in. long; blade 1 to 3 in. long, 1/6 to 2/5 in. wide, flat, sparse very short hairs above.

Plant erect, tufted, 3 to 14 in. high. Late May-June.

Hordeum pusillum Nutt. — little barley

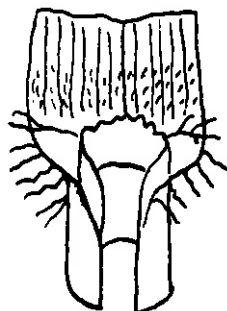


4C. Leaves long, narrow, thin, grass-like
Flat, ligule membranous, sheath flattened

22. Leaves folded; sheath much flattened, long hairy on margins; auricles absent; collar narrow, hairy or tufted at the edges, divided by the broad keeled midnerve; ligule membranous, hairy, 1/30 in. long; blade 6 to 16 in. long, 1/8 to 1/6 in. wide, flat, hairy near base above, margins hairy and rough.

Plant a coarse tufted perennial with solid stems 20 to 40 in. high. Sept.-Oct.

Andropogon virginicus L. — broomsedge



23. Leaves rolled; sheath flattened, smooth or basal ones sometimes sparsely hairy, split, tinted pink or purple; auricles absent; collar broad, few long hairs on margin, often divided; ligule membranous, 1/12 to 1/8 in. long; blade 1 to 4 in. long, 1/12 to 1/4 in. wide, flat, sparsely hairy at base above.

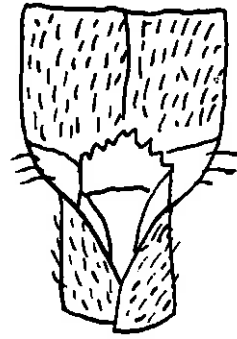
Plant erect or usually soon decumbent, branching, rooting at the nodes; stems to 16 in. long. Aug.-Oct.

Digitaria ischaemum (Schreb.) Muhl. — smooth crabgrass

24. Leaves rolled; sheath flattened, hairy, split; auricles absent; collar broad, divided; ligule membranous, 1/50 to 1/12 in. long, acute, toothed; blade 2 to 6 in. long, 1/6 to 2/5 in. wide, sharp-pointed, hairy above and below, midrib prominent below.

Plant branching and spreading, often purplish, rooting at the decumbent base; stems as much as 3 ft. long. Aug.-Oct.

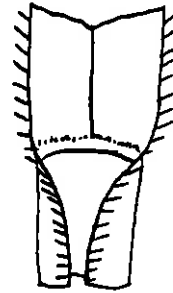
Digitaria sanguinalis (L.) Scop. — large crabgrass



25. Leaves folded; sheath flattened, split, hairy along margins; auricles absent; collar broad, continuous; ligule membranous, 1/25 in. long; blade 2 to 10 in. long, 1/8 to 1/3 in. wide, blunt, margins rough hairy.

Plant branching at base, ascending to prostrate; stems compressed, usually less than 20 in. long. June-Oct.

Eleusine indica (L.) Gaertn. — goosegrass



26. Leaves rolled; sheath flattened, white or pale with pink nerves, densely hairy; auricles absent; collar hairy; ligule membranous, 1/25 to 1/12 in. long, coarsely toothed; blade about 6 in. long, 1/6 to 1/3 in. wide, grayish velvety-hairy above and below.

Plant erect, grayish velvety-hairy, 12 to 24 in. high. June-July.

Holcus lanatus L. — velvetgrass



27. Leaves rolled; sheath flattened, split, smooth; auricles absent; collar wide, few hairs on margin, often divided; ligule membranous, about 1/50 in. long; blade 2 to 6 in. long, 1/6 to 2/5 in. wide, sharp pointed, rough above and below.

Plant branching, spreading and decumbent at base; stems wiry, rooting at lower nodes, to 18 in. long. Aug.-Sept.

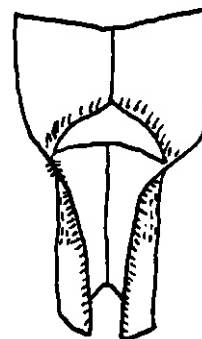
Muhlenbergia schreberi J. F. Grmel. — nimblewill



28. Leaves rolled; sheath flattened, hairy on margins and toward top; auricles absent; collar narrow, sparingly hairy at top; ligule membranous, 1/20 to 1/10 in. long, sharp pointed; blade 2 to 12 in. long, 1/8 to 2/5 in. wide, folded at base, flat above, smooth or sparingly hairy above, margins rough.

Plant erect or ascending, 16 to 36 in. high, usually with several leafy shoots at base. July-Oct.

Paspalum laeve Michx. — field paspalum

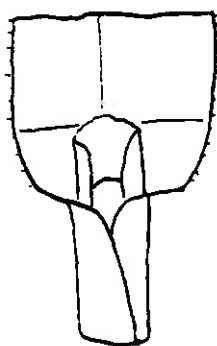




29. Leaves folded; sheath flattened, split part way only; auricles absent; collar distinct, V-shaped; ligule membranous, white, 1/25 to 1/8 in. long, acute; blade 1 to 3 in. long, 1/16 to 1/6 in. wide, flat or V-shaped at base, boat-shaped tip.

Plant erect or spreading, bright green, sometimes rooting at lower nodes, 2 to 8 in. high. April-May.

Poa annua L. — annual bluegrass

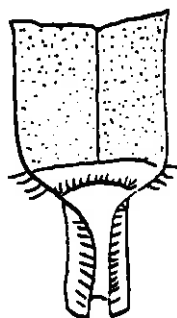


30. Leaves rolled; sheath flattened, hairy at nodes, split; auricles absent; collar broad, continuous; ligule membranous, 1/6 to 1/4 in. long; blade 6 to 20 in. long, 1/3 to 1 in. wide, sharp pointed, smooth or hairy at base above, margins rough.

Plant erect, from creeping scaly root-stocks, 2 to 6 ft. high. July-Sept.

Sorghum halepense (L.) Pers. — johnsongrass

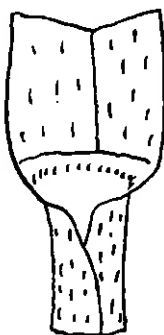
4D. Leaves long, narrow, thin, grass-like, flat, ligule a fringe of hairs



31. Leaves folded; sheath loose, flattened, shorter than internodes, margins hairy; auricles absent; collar broad, sparingly long hairy; ligule a fringe of hairs, about 1/25 in. long; blade to 4 in. long, 1/10 to 1/8 in. wide, rough above and on margin.

Plant much branched, ascending or spreading, 12 to 30 in. long. July-Aug.

Cenchrus pauciflorus Benth. — field sandbur



32. Leaves folded; sheath flattened, sparsely hairy; auricles absent; collar narrow, continuous; ligule a conspicuous ring of white hairs, 1/12 to 1/8 in. long; blade 4 to 8 in. long, 1/10 to 1/8 in. wide, sparingly hairy, sharp-pointed.

Plant erect or ascending, extensively creeping by scaly rhizomes or strong flat stolons; stems wiry, flattened, 4 to 16 in. high. July-Sept.

Cynodon dactylon (L.) Pers. — bermudagrass



33. Leaves folded; sheath round, usually long hairy, split with rough margins; auricles absent; collar narrow, long hairy on margins; ligule a fringe of hairs, to 1/25 in. long; blade 2 to 6 in. long, 1/12 to 1/8 in. wide, flat, generally sparsely long hairy but often smooth, upper surface dull green, lower bright green.

Plant erect, generally not more than 20 in. high; leaves at base of plant usually curled or flexuous. June-Aug.

Danthonia spicata (L.) Beauv. — poverty oatgrass

34. Leaves rolled; sheath slightly flattened, long hairy at top of split; auricles absent; collar narrow, conspicuous long hairs in front; ligule a fringe of hairs; blade $1/12$ to $1/4$ in. wide, dull and sometimes sparsely hairy above, glossy below.

Plant ascending or spreading, much branched at base and nodes, to 20 in. high, strong scented. June-Sept.

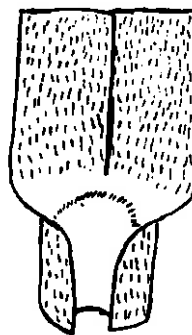
Eragrostis cilianensis (All.) Lutati — stinkgrass



35. Leaves rolled, sheath round, hairy, split, dull green often purple tinged; auricles absent; collar broad, sometimes indistinct, hairy; ligule a fringe of hairs, $1/25$ to $1/12$ in. long; blade 3 to 8 in. long, $1/3$ to $3/5$ in. wide, densely short hairy above and below, midrib prominent, margins rough.

Plant erect, somewhat branched; stems thick, to 3 ft. high. Aug.-Oct.

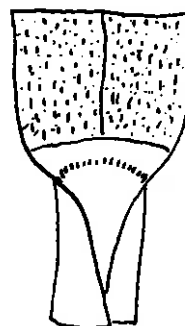
Panicum capillare L. — witchgrass



36. Leaves rolled; sheath slightly flattened, split, smooth; auricles absent; collar broad, continuous; ligule a dense fringe of hairs, $1/25$ to $1/12$ in. long; blade 4 to 20 in. long, $1/8$ to $3/4$ in. wide, sharp-pointed, rough and sometimes hairy above, glossy below with white midrib.

Plant ascending or spreading, freely branching; stems thick and flattened, to 6 ft. high. July-Sept.

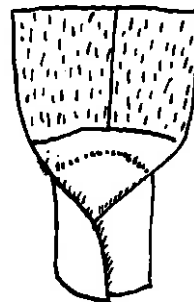
Panicum dichotomiflorum Michx. — fall panicum



37. Leaves rolled; sheath round or slightly flattened, split, hairy on margins; auricles absent; collar broad, continuous; ligule a fringe of short hairs; blade to 8 in. long, $1/6$ to $2/5$ in. wide, sharp pointed, midvein prominent, hairy above, margins rough.

Plant erect, to 5 ft. tall; head conspicuously nodding. June-Sept.

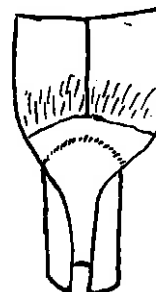
Setaria faberii Herrm. — giant foxtail

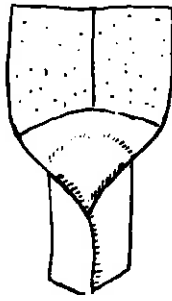


38. Leaves rolled; sheath much flattened, smooth, split; auricles absent; collar narrow, continuous; ligule a fringe of hairs, $1/25$ in. long or less; blade 2 to 12 in. long, $1/6$ to $2/5$ in. wide, sharp pointed, waxy film, long hairs near base above.

Plant erect, branching at base, 20 to 40 in. high. June-Oct.

Setaria glauca (L.) Beauv. — yellow foxtail

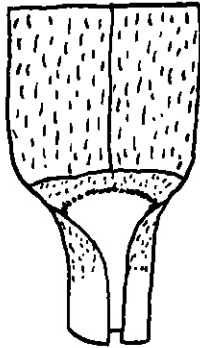




39. Leaves rolled; sheath round or slightly flattened, split, hairy on margins; auricles absent; collar broad, continuous; ligule a fringe of hairs, 1/25 to 1/12 in. long; blade to 8 in. long, 1/6 to 2/5 in. wide, sharp-pointed, midvein prominent, slightly rough above, margins rough.

Plant erect, branching at base, 8 to 35 in. high. May-Sept.

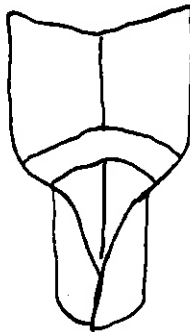
Setaria viridis (L.) Beauv. — green foxtail



40. Leaves rolled; sheath somewhat flattened, hairy near top of split; auricles absent; collar broad, hairy; ligule a minute fringe of hairs; blade to 8 in. long, 1/4 to 1/2 in. wide, hairy above, almost smooth below, margin slightly rough.

Plant erect, to 6 ft. high, panicle covered with a sticky oily black substance. Aug.-Oct.

Triodia flava (L.) Smyth — purpletop



4E. Leaves long, narrow, thin, grass-like, flat, ligule absent

41. Leaves rolled; sheath flattened, split, smooth; auricles absent; collar broad, continuous; ligule absent; blade 4 to 12 in. long, 1/3 to 3/5 in. wide, smooth, keeled.

Plant erect to decumbent, branching from base; stems thick and fleshy, to 4 1/2 ft. high. Aug.-Oct.

Echinochloa crusgalli (L.) Beauv. — barnyardgrass



5A. Leaves linear, generally less than 1 1/2 in. long

42. Linear or oblong, 2/5 to 1 in. long, powdery bloom and creased at midrib above, keeled below, rather thick.

Plant erect, 6 to 12 in. high; stems thickly clustered, scaly at base, juice milky; creeping rootstocks. Flower small, greenish or yellowish, having petals fused in the form of a cup, growing in a terminal whorl of yellowish floral bracts that turn purplish at maturity. May-Sept.

Euphorbia cyparissias L. — cypress spurge



43. Narrowly linear to lanceolate, 1/5 to 1 1/3 in. long, sharp-pointed, smooth above, granular below, thickish.

Plant 5 to 30 in. high; stems smooth, very slender. Flower 1/4 to 1/3 in. long, pale violet or lavender. May-Sept.

Linaria canadensis (L.) Dumont — oldfield toadflax

44. Linear, 1/4 to 1 in. long, sharply acuminate, very short rough hairy above and below and on margin, in whorls of 6 or 8.

Plant 8 to 30 in. high, creeping; stem very short-hairy or smooth, 4-sided. Flower minute, yellow. May-Sept.

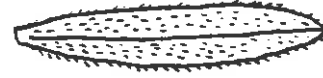
Galium verum L. — yellow bedstraw



45. Linear or lanceolate, 1/2 to 1 1/2 in. long, acute or obtuse, 1 nerved, rough above with sharp stiff hairs, whitish short hairy below, margin short hairy.

Plant 6 to 20 in. high; stem branching, densely rough-hairy. Flower 1/4 in. long, white. May-Aug.

Lithospermum arvense L. — corn gromwell



46. Linear to linear-lanceolate, 3/4 to 2 in. long, acute to acuminate, smooth with glistening granules above and below, base sometimes with a few hairs.

Plant 6 to 20 in. long; stem more or less prostrate, 4-angled. Flower 1/3 to 1/2 in. across, white. May-July.

Stellaria graminea L. — little starwort

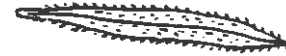


5B. Leaves linear, generally more than 1 1/2 in. long

47. Linear, 1 1/4 to 3 1/4 in. long, bristle-pointed, stiff hairy above, stiff clinging spines on midvein below and on margins, in whorls of 6 to 8.

Plant 2 to 5 ft. long; stem sharply 4-angled, weak, reclining, barbed on angles, hairy at joints. Flowers minute, white. May-Sept.

Galium aparine L. — catchweed bedstraw



48. Linear-lanceolate, 1/2 to 2 in. long, acute, bloom of minute granules above and below, widest at or above middle, thin.

Plant 8 to 24 in. high, erect; stem scaly at base, smooth above, juice milky; upper leaves on branches reniform cordate, acuminate, yellowish-green. Flowers small, greenish yellow. May-Sept.

Euphorbia esula L. — leafy spurge



49. Linear, 1 to 2 1/2 in. long, usually not more than 3/16 in. wide, acuminate, rough above and on margin.

Plant 1 to 2 1/2 ft. high; stems slender and stiff. Flowers bright purple, about 1 in. long. July-Sept.

Gerardia purpurea L. — purple gerardia





50. Linear lanceolate, to 1 1/2 in. long, 1/8 to 1/4 in. wide, bristle pointed, rounded or narrow at base; rough and short-hairy above, short-hairy below and on margin. Plant spreading; stem squarish, hairy. Flowers very small, pink or white. June-Oct.

Diodia teres Walt. — poorjoe



51. Linear, 1 to 4 in. long, acute, punctuate-dotted and rough above and below.

Plant erect, to 4 ft. high. Flowers small, dull white, crowded together. Aug.-Oct.

Eupatorium byssopifolium L. — hyssopleaved thoroughwort



52. Narrowly lanceolate, 1 to 4 in. long, serrate, acute, punctuate dotted and very short-hairy above, very short-hairy below and on margin.

Plant erect, to 4 ft. high. Flowers small, dull white, crowded together. Aug.-Sept.

Eupatorium byssopifolium L. var. *laciniatum* Gray — hyssopleaved thoroughwort



53. Linear, to 4 in. long, acute, smooth above and below, margin slightly rough.

Plant 2 to 5 ft. high, bushy. Flowers 1/4 to 1/2 in. across, white or pale violet. Mid-Aug.-Oct.

Aster vimineus Lam. — small white aster



54. Linear, 1 1/4 to 2 1/2 in. long, narrowed to a petiole-like base, powdery bloom below with midvein prominent, margins thickened.

Plant upright, slender, 1 to 2 ft. high. Flowers about 1 in. long, yellow and orange. June-Oct.

Linaria vulgaris Hill — yellow toadflax



55. Linear lanceolate, 1 to 3 in. long, 1/6 to 1/3 in. wide, acute to acuminate, very short hairs above, white woolly below with midrib prominent, fragrant.

Plant erect, generally 1 to 3 ft. high. Flowers tubular, densely crowded together, white. Aug.-Nov.

Gnaphalium obtusifolium L. — fragrant cudweed

56. Linear to lanceolate, 2 to 5 in. long, acute to acuminate, smooth above, white wooly hairs below.

Plant 1 to 3 ft. high; stem white wooly; upper leaves white wooly above. Flower 1/3 in. across, in clusters 2 to 8 in. across, white with yellowish center. July-Sept.

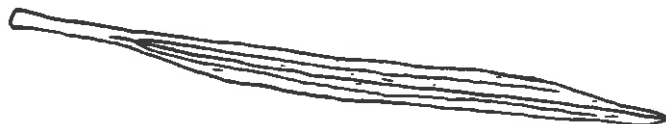
Anaphalis margaritacea (L.) C.B. Clarke — pearly everlasting



57. Linear, to 7 in. long, 3/8 in. or less wide, ribbed, narrowed to margined semi-clasping petioles, rather thick, loosely hairy or smooth above, long-hairy towards base below.

Plant with unbranched leafless stems with a spike-like head, narrow leaf-bracts giving the head a bristly appearance. June-Nov.

Plantago aristata Michx. — bracted plantain



58. Narrowly lanceolate, 1 to 6 in. long, 1/6 to 1/2 in. wide, 3 nerved, tapering to sharp point, very short hairs above and below, margin very short-hairy and rough.

Plants 2 to 4 ft. high. Flowers very small, fragrant, crowded together, yellow. Aug-Oct.

Solidago graminifolia (L.) Salis. var. *nuttallii* (Greene) Fern. — narrowleaf goldenrod



59. Linear, to about 5 in. long, sometimes with a few teeth, webby hairs above and below.

Plant upright, 8 to 48 in. high; stem somewhat angled and webby-hairy. Flower about 1 1/2 in. across, blue, purple or occasionally white. May-Sept.

Centaurea cyanus L. — cornflower



60. Linear to linear-lanceolate, 1 to 3 1/2 in. long, acute, smooth with granular bloom above and below.

Plant 8 to 30 in. high; stem slender, branching above, downy-hairy at nodes. Flower about 1/2 in. across, pink or rose, white spotted. May-July.

Dianthus armeria L. — Deptford pink



61. Linear or narrowly oblong, 1 to 3 in. long, rounded, smooth above and below, margin rough, faintly 3 nerved.

Plant 8 to 24 in. high; stem smooth, slender, branched at top. Flower about 1/2 in. across, 4 or 5 narrow white petals. June-Sept.

Aster solidagineus Michx. — whitetopped aster



- 6A. Leaves lanceolate to oval, blades not generally half as wide as long

Less than 1 1/2 in. long, smooth above

62. Narrowly oblanceolate to nearly linear, 2/5 to 4/5 in. long, acute or apiculate, 1 nerved, in whorls of 8 (sometimes 7, 9, or 10), smooth above and below, margin rough.



Plants 1 to 3 ft. long; stems 4-angled, weak, forming dense masses. Flowers very small, white. June-Aug.

Galium mollugo L. — yellow bedstraw

63. Lanceolate or oblanceolate, generally less than 1 1/2 inches long, thick, smooth with shining granules above and below, lighter colored below, margin short-hairy.



Plants 8 to 30 in. high; stem slender, sticky below joints. Flowers small, pink, open only in bright sunlight. May-Sept.

Silene antirrhina L. — sleepy catchfly

64. Elliptic to linear oblong, 4/5 to 1 1/5 in. long, rarely 2/5 in. wide, obtuse, smooth above with clear dots.



Plant 10 to 30 in. high; stiff stems. Flowers to 1 in. across, golden yellow. June-Sept.

Hypericum perforatum L. — St. Johnswort

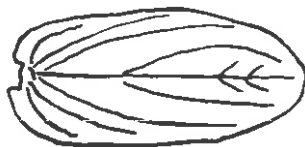
65. Lanceolate to ovate, 1/2 to 1 1/4 in. long, obtuse, smooth above and below.



Plants 6 to 30 in. long; stems weak, often reddish. Flowers 1/4 in. or less across, pale orange. July-Sept.

Hypericum mutilum L. — dwarf St. Johnswort

66. Oblong-elliptic to narrowly oblong-ovate, 1 to 2 in. long, more than 2/5 in. wide, smooth above and below, covered with numerous small black dots.



Plants 1 to 3 ft. high, sparingly branched; stems often reddish. Flowers 1/3 to 2/3 in. across, yellow marked with dark lines and spots. June-Sept.

Hypericum punctatum L. — spotted St. Johnswort

67. Lanceolate, 2/5 to 1 1/4 in. long, acute to obtuse, powdery bloom below, veinless or inconspicuously veined.



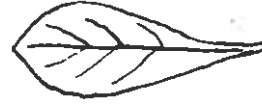
Plants 4 to 20 in. long, prostrate, branching, forming dense mats. Flowers very small, greenish to white. June-Nov.

Polygonum aviculare L. — prostrate knotweed

68. Narrowly to broadly spatulate, $\frac{2}{5}$ to $1\frac{1}{4}$ in. long, tapering to a scarcely noticeable petiole, dull and paler below, thick, in whorls of 3 to 8.

Plants to 12 in. long, prostrate, forming mats. Flowers very small, white. June-Nov.

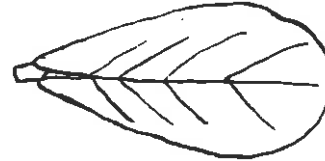
Mollugo verticillata L. — carpetweed



69. Obovate or wedge-shaped, $\frac{2}{5}$ to $1\frac{3}{4}$ in. long, obtuse or rounded, deeper green above, glistening granules below, thick, somewhat sorrel tasting.

Plants prostrate, 3 to 12 in. long, thick, often tinged with red. Flowers $\frac{1}{4}$ in. across, yellow, open only in sunshine. June-Nov.

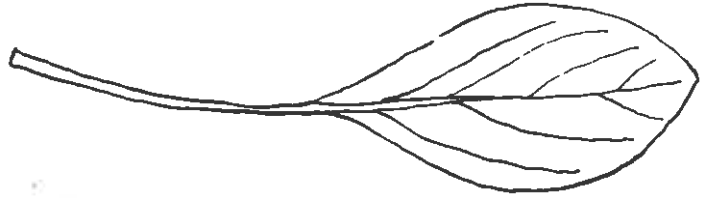
Portulaca oleracea L. — common purslane



70. Obovate to oblong, $\frac{1}{2}$ to 2 in. long, obtuse, smooth, pale green, long petiole.

Plant 1 to 3 ft. high, much branched; stems greenish white. Flowers very small, green. July-Oct.

Amaranthus albus L. — tumble pigweed



6B. Leaves lanceolate to oval, blades not generally half as wide as long

Less than $1\frac{1}{2}$ in. long, rough or hairy above

71. Lanceolate to oblong, about $\frac{3}{5}$ in. long, $\frac{1}{5}$ in. wide, rough and short-hairy above, short-hairy below, margin short-hairy and sometimes few toothed.

Plant slender, simple or branched with basal rosette of leaves, to about $1\frac{1}{2}$ ft. high. Flowers about $\frac{1}{2}$ in. across, white. March-June.

Arabidopsis thaliana (L.) Heynh. — mouseearcress

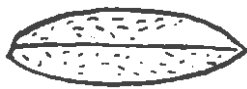


72. Oblanceolate or spatulate, to about $\frac{4}{5}$ in. long, acute, long-hairy above and below, margin hairy.

Plant to 5 or 6 in. high, all leaves in basal rosette. Flowers $\frac{1}{8}$ to $\frac{1}{6}$ in. across, white. March-early June.

Draba verna L. — whitlowwort





73. Oblong to spatulate, $2/5$ to 1 in. long, obtuse to rounded, dull and hairy above, hairy below, feebly veined.

Plants 6 to 18 in. high; stems weak, sticky-hairy. Flowers white with petals about $1/4$ in. long. Early spring-late summer.

Cerastium vulgatum L. — mouseear chickweed



74. Narrowly elliptic to oblong, 1 to $2 \frac{1}{2}$ in. long, acute, short hairy above and on midvein below, margin rough.

Plant spreading or prostrate; stems 8 to 30 in. long, short-hairy. Flower about $2/5$ in. long, white. June-Sept.

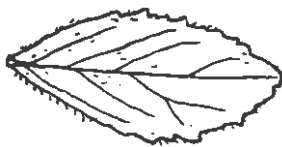
Diodia virginiana L. — Virginia buttonweed



75. Oblong to ovate-oblong, $1/2$ to $1 \frac{1}{4}$ in. long, about $1/2$ as wide as long, finely serrate, long-hairy and dark green and often with red spot above, long-hairy and pale below.

Plants 6 in. to 3 ft. high; stems erect and spreading, branching with milky juice. Flowers minute, white or reddish. June-Oct.

Euphorbia maculata L. — spotted spurge



76. Ovate to oblong, 1 to 2 in. long, obtuse to acute, dentate, short-hairy above and below and on margin.

Plant 1 to 3 ft. high; stem few-branched, sticky-soft-hairy. Flower $1/2$ to 1 in. long, bright blue. Aug.-Oct.

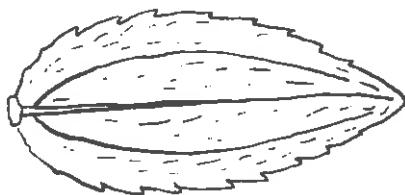
Lobelia puberula Michx. — downy lobelia



77. Lanceolate, $3/4$ to $1 \frac{1}{2}$ in. long, acute, sharply and minutely dentate, sparsely long-hairy above and on principal veins below.

Plants 1 to 2 ft. high, branched; stem very hairy. Flowers about 1 in. across, pale purple. Late June-early Sept.

Rhexia mariana L. — Maryland meadow-beauty



78. Ovate-lanceolate, leaves about $1 \frac{1}{2}$ in. long, acute, minutely dentate, sparsely long-hairy above and on principal veins below.

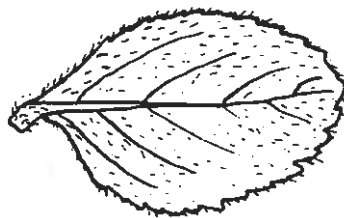
Plants 10 to 18 in. high; stem square, more or less hairy. Flowers 1 to $1 \frac{1}{2}$ in. across, bright purple. July-Sept.

Rhexia virginica L. — meadow-beauty

79. Ovate, 1 to 2 in. long, obtuse, serrate, soft short hairs above and below, margin hairy, petiole hairy.

Plant 3 to 10 in. long; stem softly hairy, reclining but with end ascending, rooting at nodes. Flower 1/6 to 1/4 in. across, pale blue striped with violet. May-Aug.

Veronica officinalis L. — common speedwell



6C. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, not toothed, smooth above

80. Oblong, 1 1/4 to 2 1/2 in. long, rounded, smooth above and below, dark green above, whitish bloom below.

Plant 1 to 3 ft. high; stems usually 5-branched above, juice milky. Flowers 1/4 in. across, white. June-Oct.

Euphorbia corollata L. — flowering spurge



81. Lanceolate to oblong, 1 1/2 to 3 1/2 in. long, acute, smooth above and below, in pairs.

Plant to 6 ft. or more long; stem climbing or trailing, broadly winged. Flower 3/4 to 1 in. long, purple, pink or white. June-Sept.

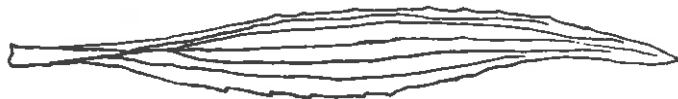
Lathyrus latifolius L. — everlasting pea



82. Narrowly lanceolate, to 10 in. long (including petiole), tapering to both ends, smooth above, 3 to 5 ribs projecting below, margin very indistinctly toothed.

Plants 1 to 3 ft. high, all leaves in basal rosette. Flowers in a spike. May-Oct.

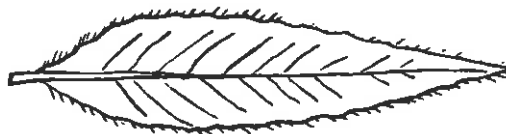
Plantago lanceolata L. — buckhorn plantain

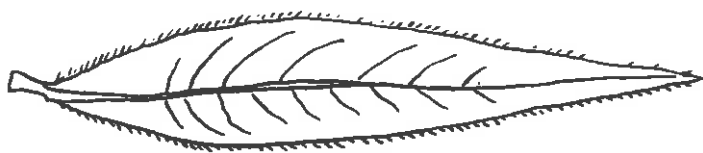


83. Lanceolate, to 4 in. long, acute, margin wavy and short-hairy, smooth above and below, thin, crisp, very peppery tasting.

Plant 1 to 2 ft. high, erect; stem reddish. Flowers small, in clusters, green. June-Oct.

Polygonum hydropiper L. — marshpepper smartweed

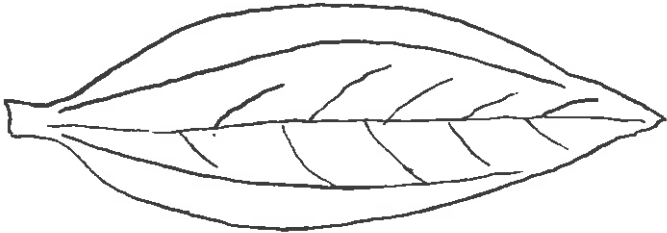




84. Lanceolate, 3 to 8 in. long, acute, smooth above and below, usually punctuate dotted, margin short-hairy, short petiole gradually broadened at base.

Plant to 3 ft. high. Flowers in clusters, white. July-Oct.

Polygonum punctatum Ell. — dotted smartweed



85. Elliptic-lanceolate to elliptic-ovate, 3 to 4 in. long, 3/4 to 1 1/2 in. wide, acute, smooth above and below, 3 nerved.

Plant 1 to 2 ft. high; stem stout, thick, jointed. Flowers 1 in. across, pink or white. July-Sept.

Saponaria officinalis L. — bouncingbet



86. Lanceolate, 1 to 3 in. long, acute, smooth above and below, midvein prominent below, other veins inconspicuous.

Plant about 2 ft. high. Flowers 1 in. across, white, with the calyx conspicuously bladdery-inflated. Apr.-Aug.

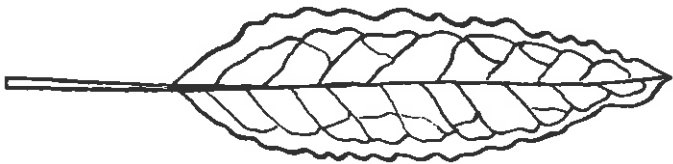
Silene cucubalus Wibel — bladder campion



87. Lanceolate, 1 1/2 to 4 in. long, acute, smooth above and below, margin rough, finely translucent, punctuate dotted, anise-scented when bruised.

Plants 2 to 4 ft. high; stems slender. Flowers golden yellow. Early July-Sept.

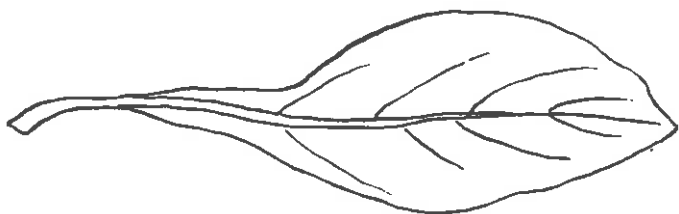
Solidago odora Ait. — sweet goldenrod



88. Lanceolate, 8 to 16 in. long, acute, granular bloom above, midrib and veins prominent below, margins minutely jagged and prominently curly and wavy, somewhat sour tasting.

Plants 1 to 3 1/2 ft. high. Flowers in clusters, dark green. June-Sept.

Rumex crispus L. — curly dock



89. Oblong-lanceolate to elliptic, to 9 in. long (including petiole), smooth above and below, midvein prominent below, petiole margined.

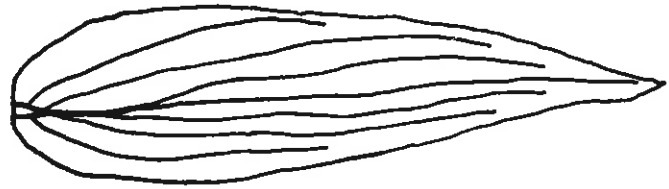
Plant to 4 1/2 ft. high; stems often purple and somewhat glaucous, smooth and shining. Flower 4/5 to 1 in. long, white or purple-tinged. May-July.

Penstemon digitalis Nutt. — digitalis penstemon

90. Lanceolate, 1 1/2 to 5 in. long, acute to acuminate, may be rough above, smooth below, margin rough, sheath clasping stem.

Plant erect or decumbent; stem smooth, rooting at lower nodes. Flower 2/5 to 3/5 in. long, violet blue. June-Oct.

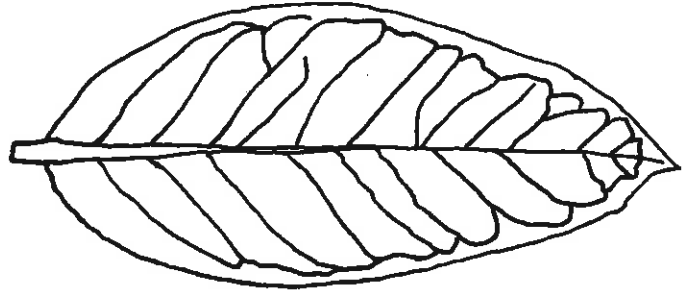
Commelina communis L. — dayflower



91. Ovate to lanceolate, 2 to 5 in. long, acute, smooth above, sparingly short-hairy below, juice milky.

Plant 1 to 5 ft. high; stem reddish. Flower 1/8 to 1/6 in. long, greenish white. June-Aug.

Apocynum cannabinum L. — hemp dogbane



6D1. Leaves lanceolate to oval, blades not generally half as wide as long

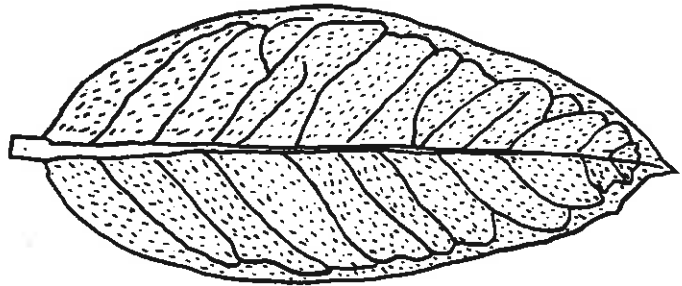
More than 1 1/2 in. long, not toothed, rough or hairy above

With distinct petiole

92. Ovate to lanceolate, 2 to 5 in. long, acute, short hairs above, dense whitish hairs below, short petiole, juice milky.

Plant 1 to 5 ft. high; stems reddish. Flower 1/8 to 1/6 in. long, greenish white. June-Aug.

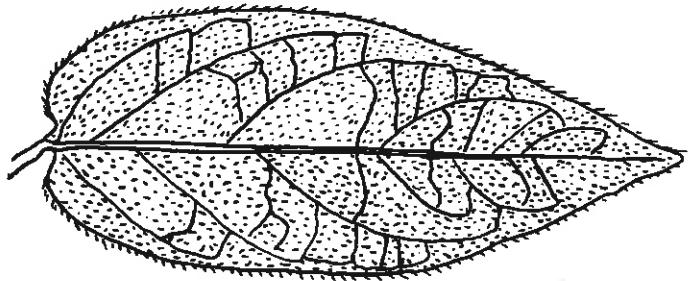
Apocynum cannabinum L. — hemp dogbane



93. Lanceolate, 2 1/2 to 5 in. long, acute, short-hairy above and below, margin short-hairy and turned down.

Plant 2 to 4 ft. high, branching; stems slender. Flowers 1/6 to 1/4 in. across, rose-purple. July-Sept.

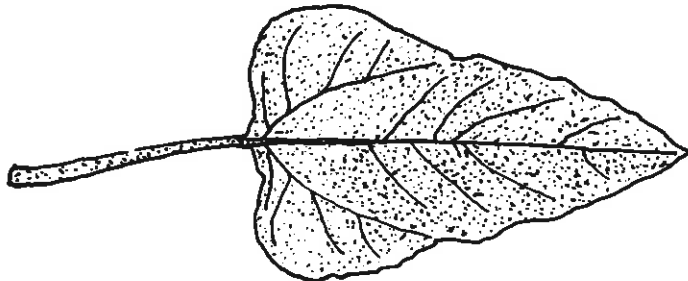
Asclepias incarnata L. — swamp milkweed

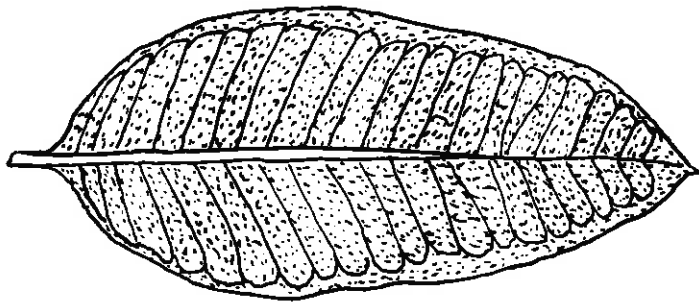


94. Ovate to obovate, 1 1/2 to 6 in. long, acute to obtuse, rough above and below and on petiole, margin rough and generally wavy.

Plant 6 in. to 6 ft. high; stem rough, generally branching. Flower 1 to 3 1/2 in. wide, petals yellow, center flat, reddish-purple. June-Oct.

Helianthus petiolaris Nutt. — prairie sunflower

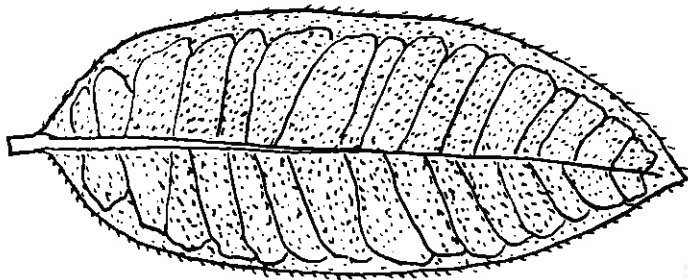




95. Elliptic to ovate-oblong, 4 to 6 in. long, obtuse or acute, apiculate, minutely hairy above, velvety-downy below, midrib very prominent below.

Plant 2 to 4 ft. high; stems stout, usually unbranched. Flowers 1/2 in. long, dark purple. Late May-July.

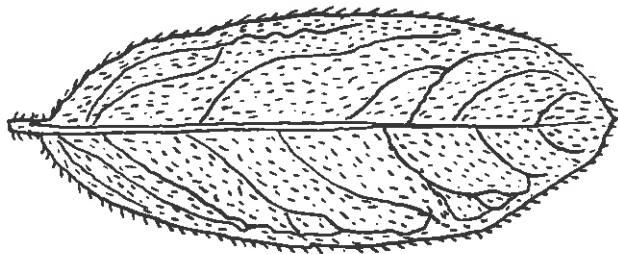
Asclepias purpurascens L. — purple milkweed



96. Narrowly to broadly elliptic or oblong, 4 to 6 in. long, acute, thick, very short hairs above, soft hairs below, short hairs on margin.

Plant 3 to 5 ft. high; stems stout, soft-downy above. Flower 1/4 to 1/3 in. long, fragrant, dull purplish. June-Aug.

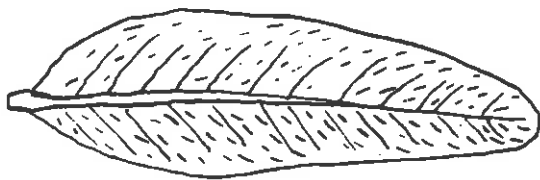
Asclepias syriaca L. — common milkweed



97. Lanceolate to oblanceolate, 2 to 4 in. long, acute, hairy above and below, hairy on margin, petiole hairy.

Plant 1 to 2 ft. high, branched; stem roughish-hairy, juice slightly milky. Flower 1/2 in. or more long, orange. June-Aug.

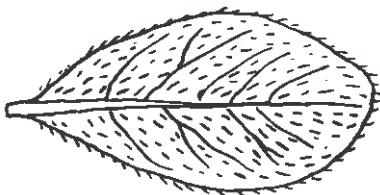
Asclepias tuberosa L. — butterfly milkweed



98. Oblong-obovate, 1 to 3 in. long, rounded, scattered hairs above and below, margin rough, midrib white above and below.

Plant about 30 in. high; stems slender, with slender rootstocks. Flower about 1/5 in. across, white. July-Sept.

Euphorbia apocynifolia Small — flowering spurge



99. Ovate to obovate, 1 to 2 1/2 in. long, rounded, hairy above and below and on margin, very short petiole, midvein prominent and whitish below.

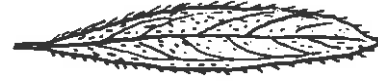
Plant 1 to 3 ft. high; stems usually branched above, bright green, juice milky. Flowers 1/4 in. across, white. April-Oct.

Euphorbia corollata L. — flowering spurge

100. Lanceolate or linear-lanceolate, 2 to 4 in. long, acute, short hairs above and below and on margins, short petiole.

Plant 2 to 3 ft. high, branching; stems smooth. Flower 1/2 to 1 in. across, light yellow. June-Sept.

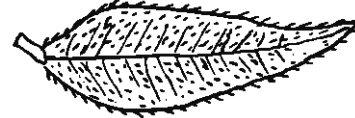
Ludwigia alternifolia L. — seedbox



101. Narrowly lanceolate, 1 to 5 in. long, acute, often with dark blotch near middle, short hairs above and below and on margin.

Plant to 2 ft. high; stems smooth, often purplish. Flowers small, in clusters 1/2 to 2 in. long, deep pink or purple. June-Oct.

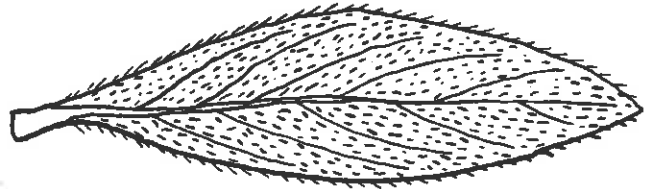
Polygonum persicaria L. — ladysthumb



102. Lanceolate, 2 to 4 in. long, acute, fine hairs above, webby hairs below, margin hairy.

Plants 2 to 5 ft. high; stems erect, fine-hairy, somewhat branching. Flower in spikes 4/5 to 1 1/2 in. long, silvery white, cottony. July-Sept.

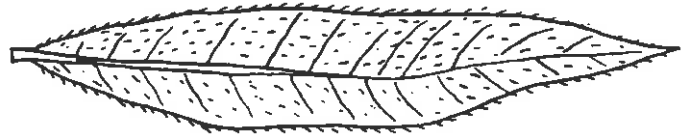
Froelichia floridana (Nutt.) Moq. — cottonwood



103. Lanceolate, to 9 in. long, acuminate, few short hairs above particularly near margin, midvein hairy below, margin short-hairy.

Plant 1 to 3 ft. high. Flowers small, in clusters 1 to 2 in. long, bright rose. Late May-Oct.

Polygonum pennsylvanicum L. — Pennsylvania smartweed

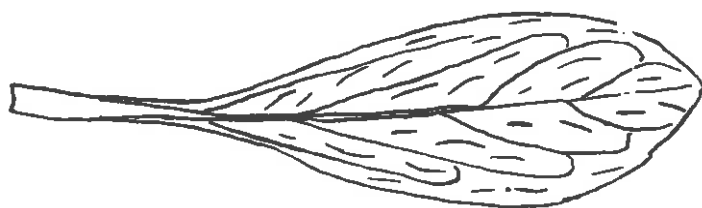


104. Oblanceolate to spatulate, 1 to 2 in. long, more or less webby hairs above, white webby hairs below, margin generally hairy, rounded with a spine-like tip.

Plant 8 to 12 in. high; stem white hairy; much reduced lanceolate leaves above. Flowers in round heads 1/4 to 1/3 in. across, soft, white. April-June.

Antennaria neglecta Greene — field pussytoes





105. Spatulate, to 7 in. long, acute, few scattered long hairs above, long matted woolly hairs below particularly at base.

Plant 1 to 2 1/2 ft. high; stems long white-hairy when young, smooth when old. Flowers 3/4 to 1 in. across, golden yellow. Aug.-Oct.

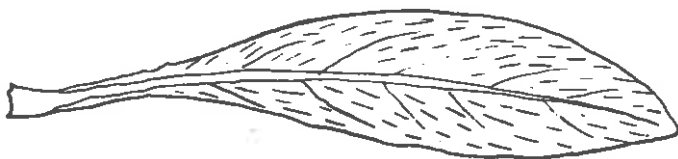
Chrysopsis mariana (L.) Ell. — Maryland golden aster



106. Oblanceolate to narrowly elliptic, 1 1/2 to 8 in. long, long bristly hairs above and below.

Plant 6 to 18 in. high; stem with short stiff black hairs, very few much reduced leaves. Flower 2/3 to 1 in. across. Orange or reddish orange. June-Sept.

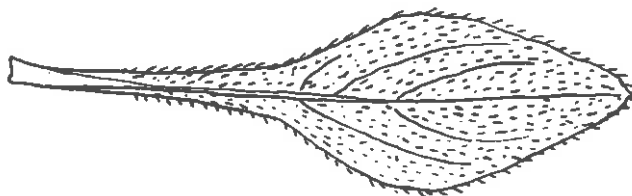
Hieracium aurantiacum L. — orange hawkweed



107. Narrowly oblong to lanceolate, 2 to 8 in. long, long hairs and rough above and below, midrib prominent below.

Plant 1 to 2 ft. high; stem hairy, slender rhizomes. Flower 3/4 in. across, yellow. June-Aug.

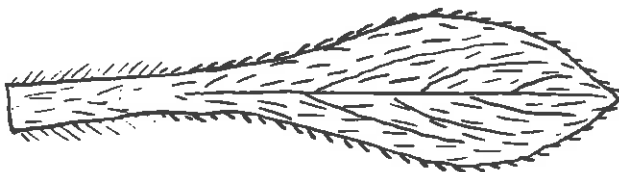
Hieracium pratense Tausch. — yellow hawkweed



108. Lanceolate to ovate, 1 1/2 to 4 in. long, acute, short hairs above and below and on margin, pale green.

Plant 1 to 2 ft. high; stem sticky-hairy. Flower 1 in. across, white. June-Sept.

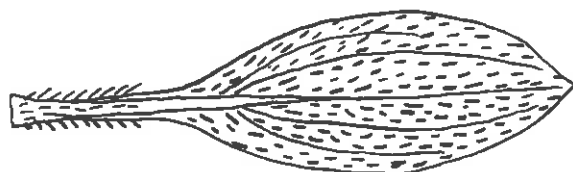
Lychnis alba Mill. — white cockle



109. Lanceolate or oblanceolate, 1 to 3 1/2 in. long, acute, hairy above and below and on margin, petiole long-hairy.

Plant 1 1/2 to 4 ft. high; stem hairy, upper half with forking erect branches. Flower about 1 in. across, white. June-Sept.

Silene dicbotoma Ehrh. — hairy catchfly



110. Oblanceolate to elliptic, 2 to 6 in. long, hairy above with depressed veins, glossy below and hairy on veins, tapering to margined hairy petiole.

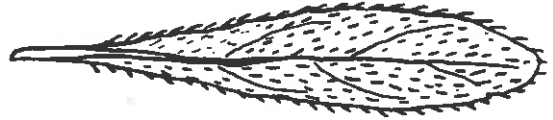
Plant 1 to 3 ft. high; stem bristly-hairy. Flower 2 to 4 in. across, orange-yellow. May-Oct.

Rudbeckia hirta L. — hairy coneflower

111. Lanceolate to oblanceolate, 1/2 to 3 in. long, acute to rounded, rough with star-shaped hairs above and below, margin short-hairy.

Plant 1 to 3 ft. high; stem much branched at top, hairy. Flower 1/4 to 1/3 in. across, white. June-Sept.

Berteroa incana (L.) DC. — hoary alyssum



112. Lanceolate, 2 to 6 in. long, acute, long-hairy above and below and on margin and petiole.

Plant 1 to 3 ft. high with many stems coming from base; stem erect, generally unbranched, rough bristly-hairy, brown dotted. Flower 2/3 to 1 in. long, bright blue. June-Sept.

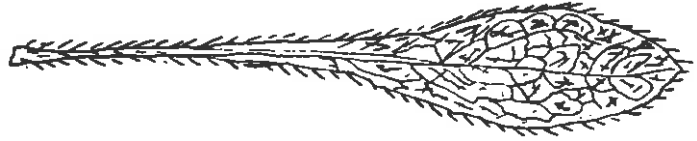
Echium vulgare L. — blue thistle



113. Lanceolate, to 6 in. long (including petiole), acute, sometimes sinuate or somewhat toothed, rough matted-hairy above and below, margin hairy, petiole hairy.

Plant 1 to 3 ft. high; stem simple or branched, rough-hairy; leaves above without petiole, sometimes toothed. Flower 1 to 1 1/2 in. across, rose-purple. June-Sept.

Centaurea jacea L. — brown knapweed



6D2. Leaves lanceolate to oval, blades not generally half as wide as long

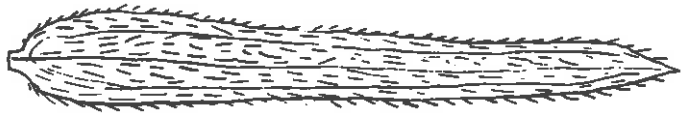
More than 1 1/2 in. long, not toothed, rough or hairy above

Tapering to base (without distinct petiole)

114. Linear-lanceolate, 2 to 4 1/2 in. long, acute, long hairy above and below, margin hairy, midvein prominent below.

Plant 1 to 3 ft. high; stem densely white-hairy. Flower 1 to 2 in. across, reddish purple. June-Sept.

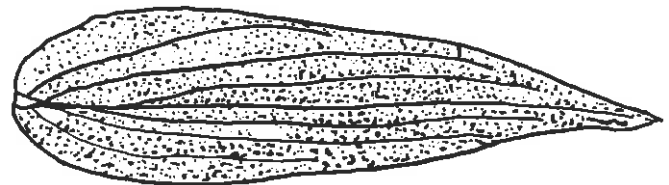
Agrostemma githago L. — corn cockle

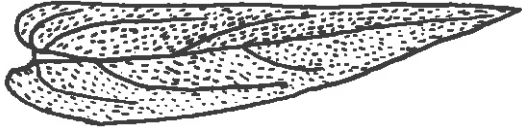


115. Lanceolate, 1 1/2 to 5 in. long, acute to acuminate, may be rough above, smooth below, margin rough, sheath clasping stem.

Plant erect or decumbent; stem smooth, rooting at lower nodes. Flower 2/5 to 3/5 in. long, violet blue. June-Oct.

Commelina communis L. — dayflower

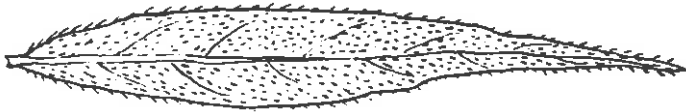




116. Lanceolate, 2 to 3 in. long, acuminate, minutely hairy above and below, margin rough.

Plant 2 to 4 ft. high; stem erect, very short-hairy at least above. Flower $\frac{1}{2}$ to $\frac{2}{3}$ in. across, in clusters 6 to 8 in. long, purple. June-Sept.

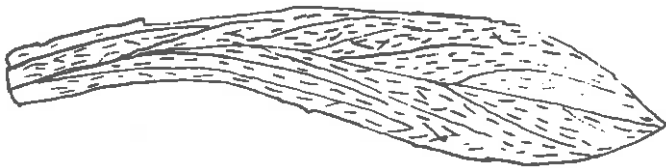
Lythrum salicaria L. — spiked loosestrife



117. Linear-lanceolate to lanceolate, 2 to 10 in. long, acuminate, short hairs above and below and on margin.

Plant 1 to 3 ft. high; stems swollen at nodes. Flowers small, in clusters 1 to 4 in. long, rose, white or greenish. July-Oct.

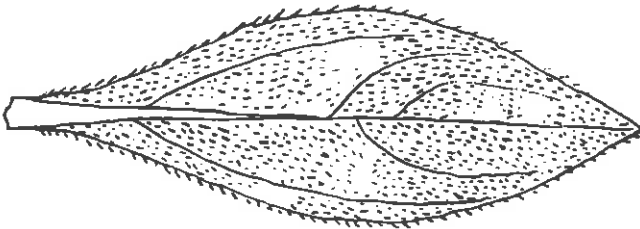
Polygonum lapathifolium L. — pale smartweed



118. Oblong-lanceolate, 2 to 4 in. long, acute, dense matted gray-hairy above and below.

Plant 16 to 32 in. high; stem erect, stout, rarely branched, matted gray-hairy. Flower about $1\frac{1}{2}$ to 2 in. across, red-purple. June-Aug.

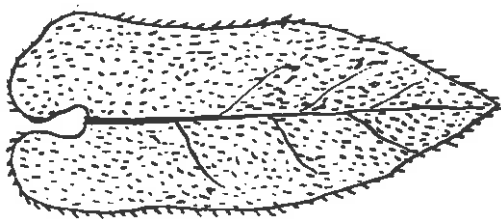
Lychnis coronaria (L.) Desr. — Mullein-pink



119. Lanceolate-ovate, 2 to 5 in. long, acute, short hairs above and below and on margin.

Plant 1 to 3 ft. high; stems sticky-hairy. Flower about 1 in. across, opening at dusk or on cloudy days, white or pinkish. July-Oct.

Silene noctiflora L. — nightflowering catchfly



120. Lanceolate, 1 to 5 in. long, acute, short hairs and rough above, short hairs below, margin hairy, base clasping around stem.

Plant 2 to 8 ft. high; stem stout, hairy branches sticky. Flower 1 to 2 in. across, violet, purplish or reddish. Aug.-Oct.

Aster novae-angliae L. — New England aster

121. Oblanceolate to spatulate, to 4 in. long, rounded, generally spine-tipped, very short-hairy above, matted white-hairy below, margin short white-hairy.

Plant 2 to 20 in. high; stems simple or sparingly forked, thinly woolly-hairy. Flower 1/6 to 1/4 in. long, light brown often tinged with pink or purple. May-Oct.

Gnaphalium purpureum L. — purple cudweed



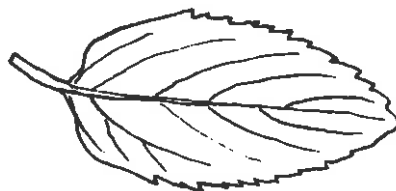
6E. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, toothed, smooth above

122. Lanceolate-ovate, 1 to 3 in. long, acute, sharply serrate, smooth above, few hairs on principal veins below, aromatic scented.

Plant 1 to 3 ft. high; stem 4-angled, purplish. Flowers in clusters 1 to 3 in long, pale lavender or pinkish. June-Sept.

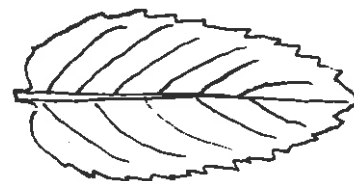
Mentha piperita L. — peppermint



123. Lanceolate-ovate, 3/4 to 2 in. long, smooth above and below, glandular dotted, sharply toothed, aromatic scented.

Plant 10 to 20 in. high, branching; stem 4-angled. Flowers in clusters 2 to 4 in. long, pale lavender or pinkish. July-Sept.

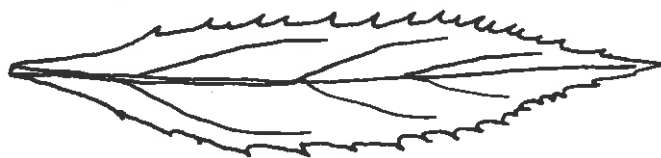
Mentha spicata L. — spearmint



124. Lanceolate, 2 to 5 1/2 in. long, acute to acuminate, very sharply serrate, firm, smooth above and below.

Plant 1 to 4 ft. high; stem stout, erect, smooth, grooved. Flower 1 in. long, in clusters to 8 in. long, purple or rose. June-Sept.

✓ *Physostegia virginiana* (L.) Benth. — false dragonhead

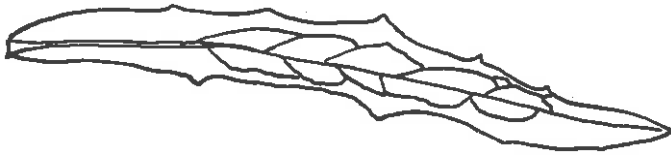


125. Oblanceolate, 2 to 12 in. long, generally smooth above and below, margin rough and short serrate-toothed, winged petiole generally with hairs.

Plant 1 1/2 to 4 ft. high; stems smooth and stiff. Flower heads 1/6 in. high, in clusters, golden yellow. June-Nov.

Solidago juncea Ait. — early goldenrod

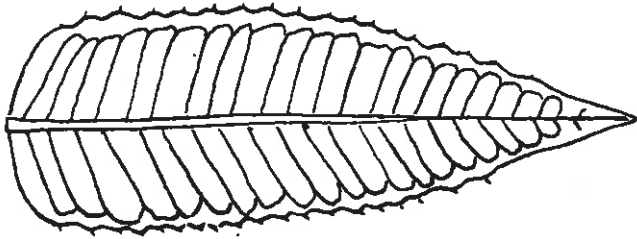




126. Lanceolate, 3 to 10 in. long, acuminate, few toothed, smooth above and below.

Plant 3 to 10 ft. high; stem stout. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

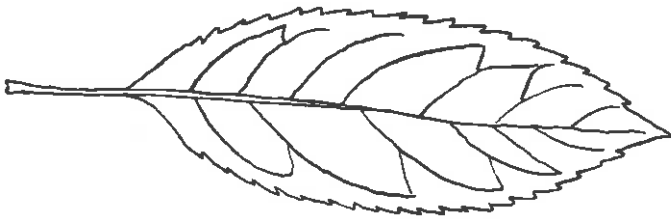
Lactuca canadensis L. — tall lettuce



127. Oblanceolate, to 12 in. long, acute, crenate, smooth with white midrib above, midrib prickly below, margin prickly.

Plant 3 to 6 ft. high; stems ridged. Flowers 1/8 to 1/2 in. long, in heads 3 to 4 in. long, pinkish purple or lilac. July-Sept.

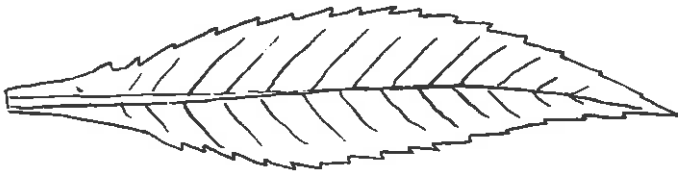
Dipsacus sylvestris Huds. — teasel



128. Lanceolate to elliptic, 4 to 8 in. long, serrate, smooth above, hairy below, net veined, all veins depressed above and prominent below, in whorls of 4's to 7's.

Plant 3 to 8 ft. high; stem stout, suffused with purple, smooth, hollow. Flowers in clusters 4 to 8 in. across, dull purple or pink. Aug.-Sept.

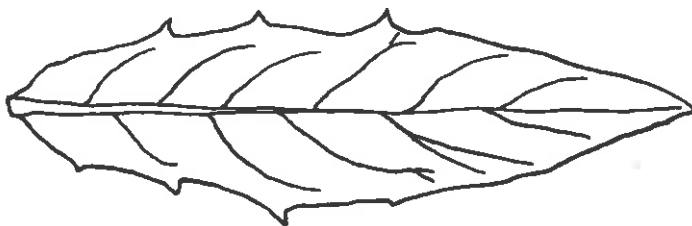
Eupatorium fistulosum Barratt. — joe pye weed



129. Linear-lanceolate, 3 to 6 in. long, coarsely serrate, acuminate, smooth above and below, margin rough.

Plants to 3 ft. high; stems pale green, smooth or slightly rough-hairy. Flowers 1/2 to 1 in. across, bright yellow. July-Oct.

Bidens cernua L. — nodding beggarticks



130. Lanceolate to narrowly ovate, 1 to 4 in. long, acute, dentate, mostly smooth above, somewhat hairy below at least on midrib.

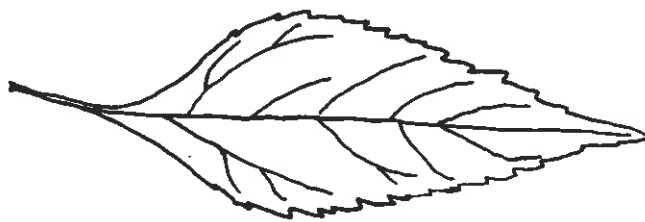
Plant 1 to 5 ft. high; stem leafy, hairy. Flower heads about 1 in. across, yellow. July-Oct.

Hieracium canadense Michx. var. *fasciculatum* (Pursh)
Fern. — Canada hawkweed

131. Lanceolate to ovate-lanceolate, 2 to 8 in. long, acute to acuminate, serrate, smooth to slightly rough above and below.

Plant to 6 ft. high; stem somewhat rough below, hairy above, generally purplish or purple spotted. Flowers small, in large flat-topped heads, purple. July-Oct.

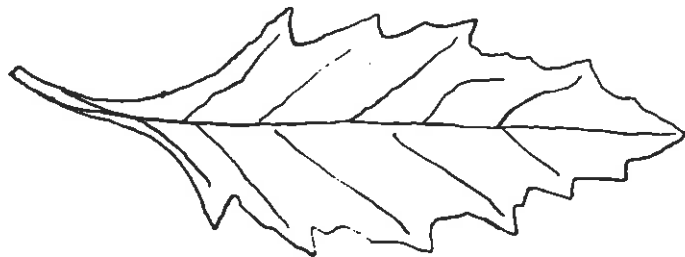
Eupatorium maculatum L. — joe pyeweed



132. Lanceolate to ovate, 1 to 5 in. long, coarsely toothed, acute, smooth above, midrib rough below, unpleasant aromatic odor when crushed.

Plants 2 to 4 1/2 ft. high, branching, very leafy. Flowers small, in clusters 1 to 18 in. long, green. July-Oct.

Chenopodium ambrosioides L. — mexican tea



133. Lanceolate, 1 to 2 in. long, sharply toothed, acute to rounded, smooth, sharply mustard tasting.

Plants 6 to 15 in. high; stems smooth or slightly downy. Flowers 1/16 to 1/12 in. across, white. May-Nov.

Lepidium virginicum L. — Virginia pepperweed



6F1. Leaves lanceolate to oval, blades not generally half as wide as long

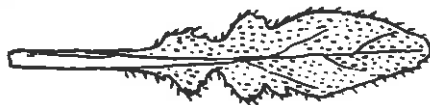
More than 1 1/2 in. long, toothed, rough or hairy above

With distinct petiole

134. Spatulate to lanceolate, 1 1/2 to 4 in. long, irregularly toothed or lobed, acute to obtuse, minutely downy above and below, margin short-hairy, mustard tasting.

Plant to 24 in. high, simple to freely branching, gray-green, minutely softly downy. Flowers 1/16 in. across, in clusters 2 to 4 in. long, white or creamy white. April-July.

Lepidium campestre (L.) R. Br. — field pepperweed

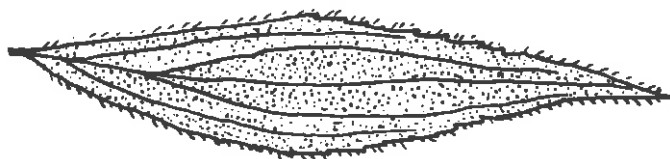


135. Lanceolate to linear, 1 to 4 in. long, few toothed, acute, coarsely hairy, above and below, margin short-hairy.

Plant to 7 ft. high; stems finely grooved, bristly-hairy. Flower heads 1/4 in. long, greenish white. June-Nov.

Erigeron canadensis L. — horseweed





136. Lanceolate, 3 to 6 in. long, acuminate, sharply serrate above the middle, rough above, short hairs below at least on midveins, margin short hairy.

Plant 3 to 8 ft. high; stem stout, hairy at least near top. Flower heads $\frac{1}{6}$ to $\frac{1}{4}$ in. high, golden yellow. Aug.-Oct.

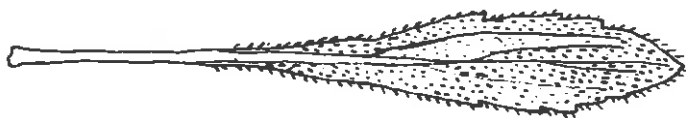
Solidago gigantea Ait. — giant goldenrod



137. Lanceolate, 2 to 5 in. long, acuminate, sharply serrate, short hairs above at least near base, short hairs below and on margin, petiole short hairy.

Plant $1\frac{1}{2}$ to 5 ft. high; stem hairy at least above. Flower 1 to $1\frac{1}{2}$ in. long, lavender, pink or white. June-Sept.

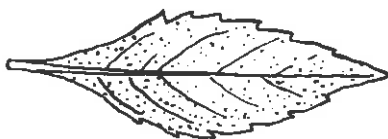
Monarda fistulosa L. — wild bergamot



138. Oblanceolate, leaf and petiole to 5 in. long, few-toothed, acute, short hairs above and below, margin short-hairy.

Plant to 3 ft. high; stem ridged, very sparsely short-hairy. Flower $\frac{1}{2}$ to $\frac{3}{4}$ in. across, white or pinkish. May-Nov.

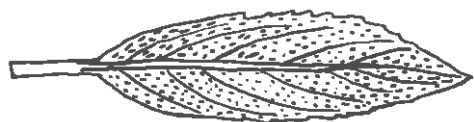
Erigeron strigosus Muhl. — rough fleabane



139. Lanceolate, 1 to 4 in. long, acute or acuminate, serrate, slightly rough above, very short-hairy below.

Plant to 2 ft. high; stems 4-sided, finely hairy; roots usually thickened into a tuber just below soil surface. Flower about $\frac{1}{12}$ in. across, white or pinkish. June-Oct.

Lycopus uniflorus Michx. — oneflower bugleweed



140. Lanceolate, 1 to 3 in. long, acute, shallowly serrate, short hairy and punctate dotted above, densely hairy below, margin rough.

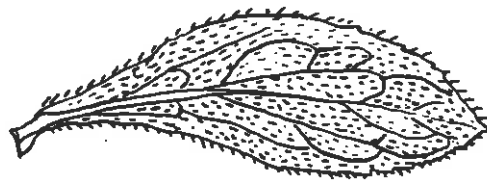
Plant 2 to 3 ft. high, densely downy-hairy. Flower about 1 in. long, yellowish with reddish dots. July-Oct.

Monarda punctata L. — spotted beebalm

141. Oblanceolate to lanceolate, 1 1/2 to 4 in. long, sharp spine tipped, slightly toothed, hairy above and below and on margin.

Plant to 3 ft. high; stems generally smooth sometimes hairy, spreading or ascending branches. Flower 1/3 to 1/2 in. across, white, rarely pinkish. Aug.-Nov.

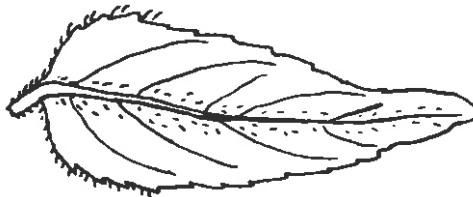
Aster pilosus Willd. — white heath aster



142. Ovate-oblong, 1 to 4 in. long, rounded at base, pinnately veined, irregularly dentate, acute, few short hairs near midrib above, short hairs on principal veins below, margin hairy near base, petiole hairy.

Plant to 2 ft. high; stem 4-angled, slightly hairy. Flowers in heads 2 to 4 in. long, violet or purplish. May-Oct.

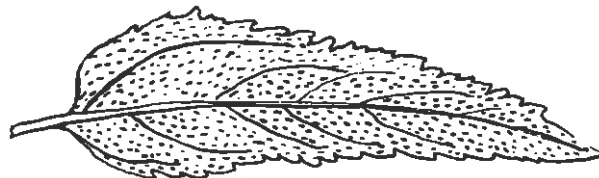
Prunella vulgaris L. — healall



143. Lanceolate to oblong-lanceolate, 2 to 7 in. long, acuminate, coarsely serrate, sometimes lobed at base, rough and short-hairy above, short-hairy and grayish green below, petiole grooved and rough.

Plant 3 to 7 ft. high; stems rough-hairy, grooved, 4-sided. Flower 1/6 to 1/4 in. across, violet blue. June-Sept.

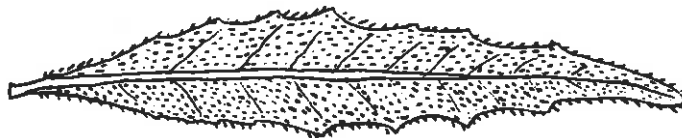
Verbena hastata L. — blue vervain



144. Lanceolate, 2 1/2 to 10 in. long, acute, irregularly toothed, short hairs above and below and on margin.

Plant to 3 ft. high; stem branched at top, hairy. Flower to 1/2 in. high, yellow. July-Sept.

Picris hieracioides L. — hawkweed oxtongue

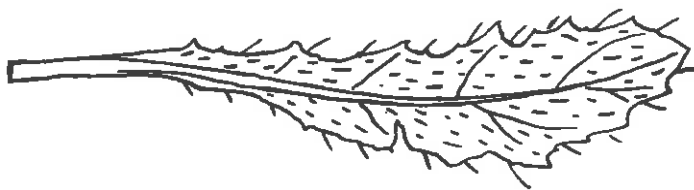


145. Oblanceolate to lanceolate, 3 to 10 in. long, acute to obtuse, sharp toothed, generally with sparse webby hairs above and below, bitter tasting, juice milky.

Plant 3 to 18 in. high; stem leafless; all leaves in basal rosette. Flower 1 to 2 in. across, deep golden yellow. Jan.-Dec.

Taraxacum officinale Weber — dandelion

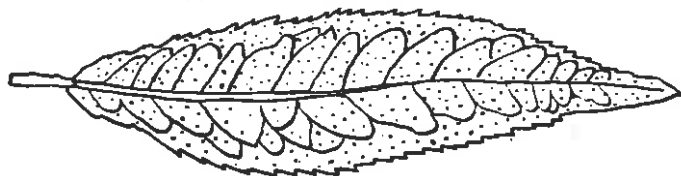




146. Oblong to lanceolate, 1 to 5 in. long, acute. coarsely toothed, sparsely hairy above and below, few long hairs on margin.

Plant 6 to 20 in. high; stem smooth above, sparingly downy below. Flower 1/12 in. across, in clusters 6 to 10 in. long, white. Jan.-Dec.

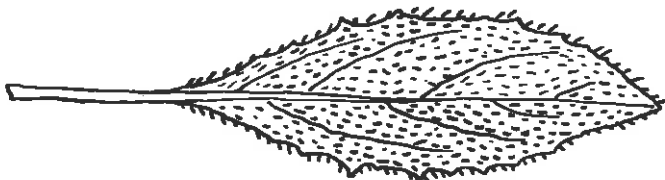
Capsella bursa-pastoris (L.) Medic. — shepherdspurse



147. Lanceolate, 3 to 10 in. long, acuminate, sharply serrate, slightly rough above, short-hairy below, midrib whitish and prominent below, margin rough.

Plants 3 to 9 ft. high; stem rough-hairy. Flowers 1/3 to 1/2 in. across, deep purple or violet. July-Sept.

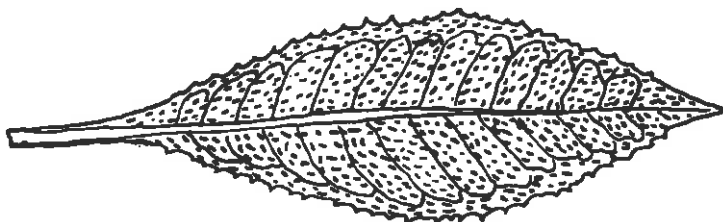
Vernonia noveboracensis (L.) Michx. — ironweed



148. Lanceolate to spatulate, 1 1/2 to 4 in. long, acute to obtuse, low irregularly dentate, very short soft-hairy above and below, margin short-hairy, peppery to taste.

Plant 1 to 1 1/2 ft. high; stem branching at top, whitish-hairy; upper leaves without petioles. Flower 1/4 to 1/3 in. across in flat-topped clusters, white. June-Aug.

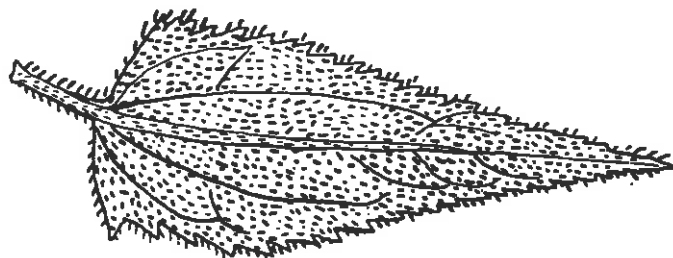
Cardaria draba (L.) Desv. — hoary cress



149. Lanceolate, 3 to 10 in. long, acute, shallowly dentate, very short-hairy above, hairy below, juice milky, bitter tasting.

Plant 1 to 3 ft. high; stem erect, branched, smooth, rigid. Flower 1 to 1 1/2 in. across, closed by noon, blue, occasionally pinkish or white. July-Oct.

Cichorium intybus L. — chicory



150. Lanceolate, 2 to 8 in. long, acuminate, serrate, very short-hairy above and below and on margin, petiole hairy.

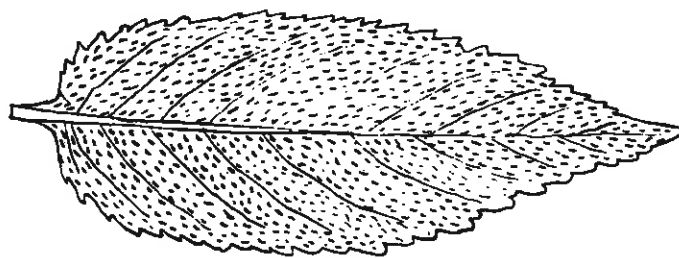
Plant erect, 3 to 6 ft. high; stem rough-hairy, bushy-branched above. Flower 1/10 to 1/7 in. long, in clusters, white. Aug.-Oct.

Eupatorium serotinum Michx. — late eupatorium

151. Broadly lanceolate to oblong, 2 to 5 in. long, acute or short acuminate, somewhat doubly crenate-serrate, white rough-hairy above, hairy below, petiole somewhat margined.

Plants 3 to 5 ft. high; stems 4-sided, usually finely rough-hairy. Flower minute, in clusters 4 to 6 in. long, white or pale blue. June-Sept.

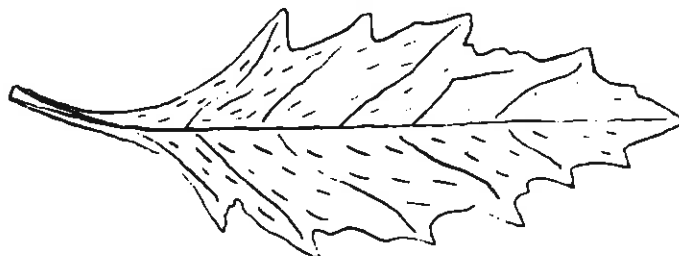
Verbena urticifolia L. — white vervain



152. Lanceolate to ovate, to 4 1/2 in. long, coarsely toothed, acute, slightly hairy above, rough below, unpleasant aromatic odor when crushed.

Plants 2 to 4 1/2 ft. high, branching, very leafy. Flowers small, in clusters 1 to 18 in. long, green. July-Oct.

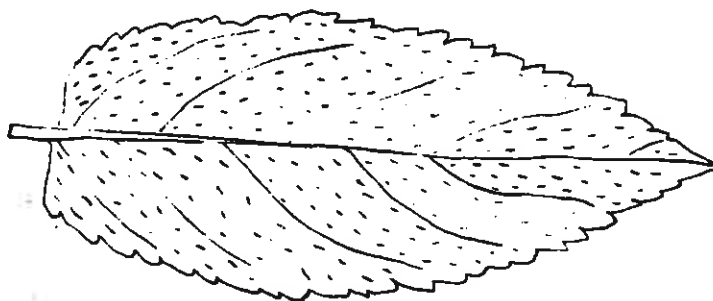
Chenopodium ambrosioides L. — mexican tea



153. Ovate-lanceolate, 2 to 5 in. long, crenately toothed, acute or acuminate, sparsely short-hairy above, short-hairy and lighter colored below.

Plants 1 to 2 ft. high; stem stout, 4-angled, sticky-hairy. Flower 1/2 to 5/6 in. long, purple, pink or creamy white. June-Sept.

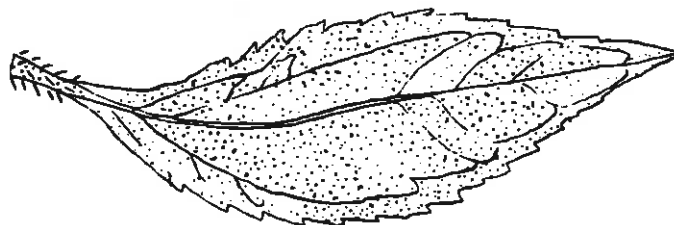
Teucrium canadense L. — American germander



154. Broadly lanceolate, 4 to 10 in. long, acuminate, serrate, rough above and below, petiole rough with stiff hairs.

Plant 3 to 10 ft. high; stout, erect, rough-hairy, usually branching above. Flower about 2 in. across, yellow. Aug.-Oct.

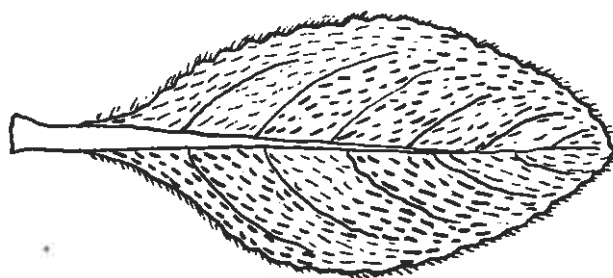
Helianthus tuberosus L. — Jerusalem artichoke

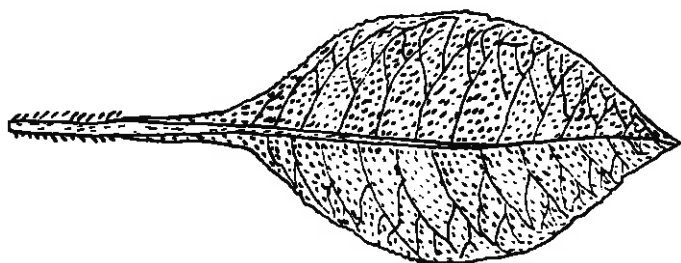


155. Oblong or oblanceolate, 4 to 12 in. long, shallow toothed, tapering to base, densely gray woolly-hairy above and below and on margin, thick, yellowish drab, petiole margined.

Plants 2 to 7 ft. high; stems stout, densely woolly. Flower 2/3 to 1 in. across, yellow, sometimes white. June-Sept.

Verbascum thapsus L. — common mullein

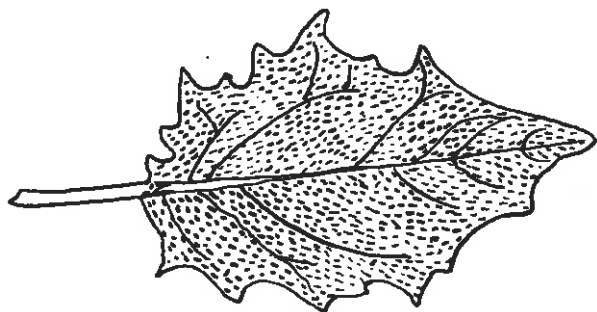




156. Elliptic, to 20 in. long (including petiole) and 8 in. wide, acute, irregularly and shallowly dentate, short hairs above, dense velvety hairs below, petiole short-hairy, partly margined, deep narrow groove above.

Plants 2 to 6 ft. high; stem stout, densely woolly. Flower 2 to 4 in. across, yellow. July-Sept.

Inula belenium L. — elecampane



157. Ovate, 2 to 8 in. long, acute, coarsely serrate with a few large triangular teeth, very short-hairy and somewhat puckered above, very short-hairy and veiny below, strongly scented.

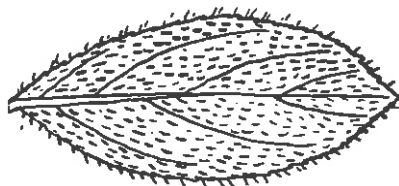
Plant 1 to 5 ft. high; stems stout, smooth or slightly hairy when young. Flower 4 to 5 in. long, pale lavender or white. June-Sept.

Datura stramonium L. — jimsonweed

6F2. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, toothed, rough or hairy above

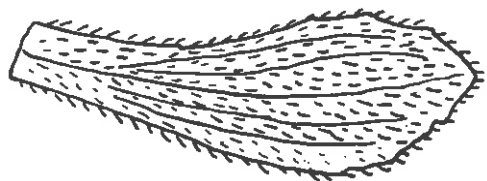
Tapering to base (without distinct petiole)



158. Ovate-oblong, 1 to 3 in. long, serrate, acute, hairy above and below; margin short-hairy, bitter and astringent taste.

Plant to 3 ft. high; stem fine-hairy. Flower 1/4 to 1/3 in. long, calyx inflated, light blue. July-Nov.

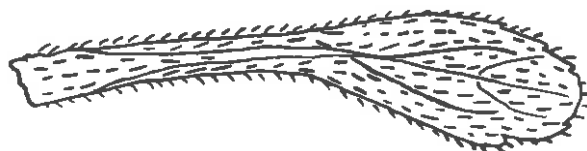
Lobelia inflata L. — indiantobacco



159. Oblanceolate to narrowly obovate, 2 to 5 in. long, margin with a few inconspicuous teeth, hairy above and below and on margin, 3-5 nerved.

Plant to 18 in. high; all leaves in basal rosette. Flowers small, in spike 1 to 4 in. long, dull white. Mar.-July.

Plantago virginica L. — paleseed plantain



160. Obovate to spatulate, 1 to 3 in. long, few-toothed, hairy above and below and on margin.

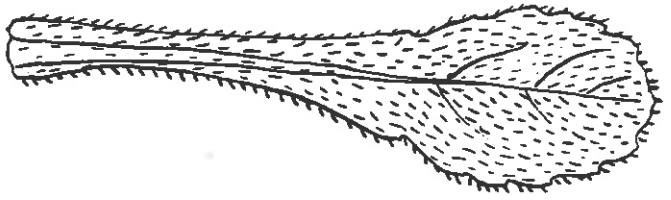
Plant 1 to 2 ft. high; stem hairy. Flower 1 to 1 1/2 in. across, pale blue, sometimes pink or white. April-June.

Erigeron pulchellus Michx. — robinsplantain

161. Obovate to spatulate, to 6 in. long, coarsely crenate-toothed or lobed, rough-hairy above, hairy below, margin short-hairy.

Plant 1 to 3 ft. high; stem often soft-hairy. Flower 1/2 to 1 in. across, rose-purple or pink. April-Aug.

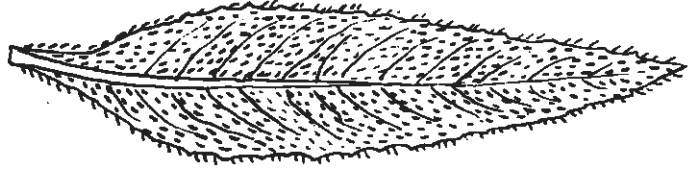
Erigeron philadelphicus L. — Philadelphia fleabane



162. Lanceolate to oblong, 2 to 6 in. long, acute or acuminate, shallowly toothed, very short-hairy above and below and on margin.

Plant to 6 ft. high; stem stout, branched, more or less hairy. Flower 1 to 2 1/2 in. across, calyx tube often 2 in. long, yellow. June-Oct.

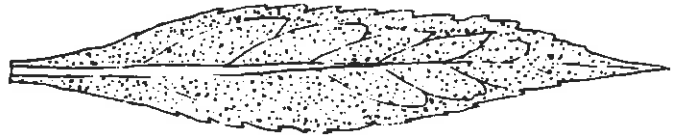
Oenothera biennis L. — common eveningprimrose



163. Lanceolate, 2 1/2 to 6 in. long, acuminate, serrate, rough above and on margin, smooth and lighter colored below.

Plant 3 to 7 ft. high; stems stout, purple, bristly-hairy. Flowers 1 to 1 1/2 in. across, pale violet or lilac. July-Nov.

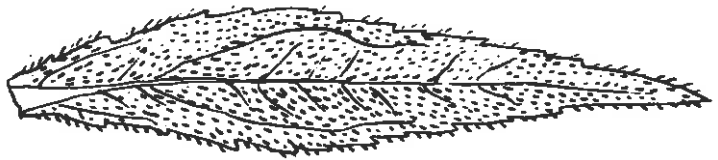
Aster puniceus L. — purplestem aster



164. Lanceolate, 1 to 4 in. long, acute, shallowly serrate, short-hairy above and below and on margin.

Plant 8 to 36 in. high; stems procumbent or ascending, rough with fine hairs. Flowers small in many-flowered heads, white. Aug.-Oct.

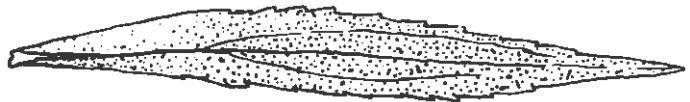
Eclipta alba (L.) Hassk. — yerba-de-tago



165. Lanceolate, 2 to 6 in. long, acuminate, serrate, rough above, short hairs below, margin rough.

Plant 2 to 8 ft. high; stem stout, hairy. Flower 1/6 in. long, golden yellow. Aug.-Nov.

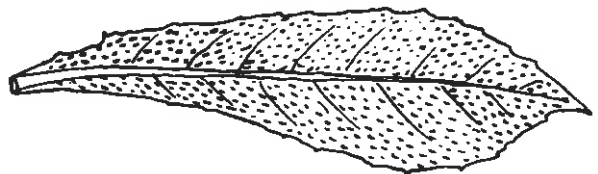
Solidago canadensis L. — Canada goldenrod

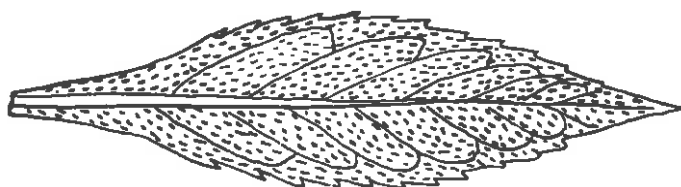


166. Oblanceolate, 3 to 10 in. long, acute or acuminate, very inconspicuously dentate, rough and very short-hairy above, long-hairy below.

Plant 3 to 10 ft. high; stem stout, smooth with whitish bloom. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

Lactuca canadensis L. — tall lettuce

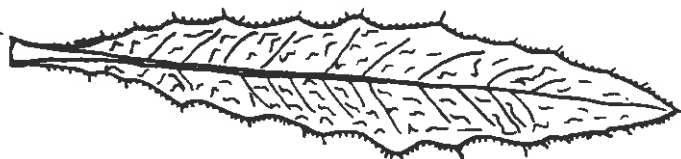




167. Lanceolate, 4 to 10 in. long, acuminate, sharply serrate, short-hairy and rough above, short-hairy below, margin rough.

Plant 3 to 8 ft. high, branching above; winged above by leaf bases that extend down the stem. Flower 1 to 2 in. across, pale yellow. Aug.-Sept.

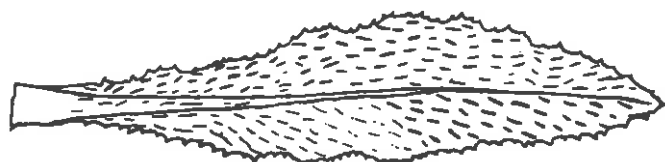
Verbesina alternifolia (L.) -- wingstem



168. Lanceolate to obovate, 5 to 9 in. long, acute, generally shallowly toothed, sparsely webby-hairy above, sparsely to densely webby-hairy below, margin weak-spined.

Plant 3 to 10 ft. high; stem branched above, angular at least above, smooth or hairy. Flower about 2 in. across, pale purple. July-Oct.

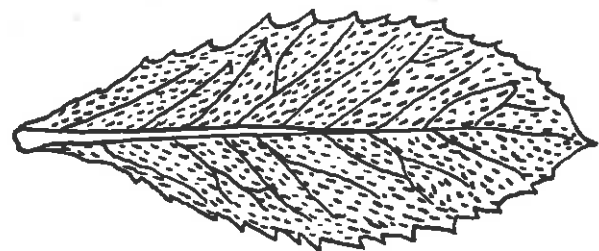
Cirsium altissimum (L.) Spreng. -- tall thistle



169. Lanceolate, 3 to 6 in. long, acute, dentate, bristly-hairy above, usually whitish below with midrib hairy, margin sharp spined.

Plant 1 to 4 ft. high. Flower 1/2 to 1 in. across, fragrant, rose-purple. June-Sept.

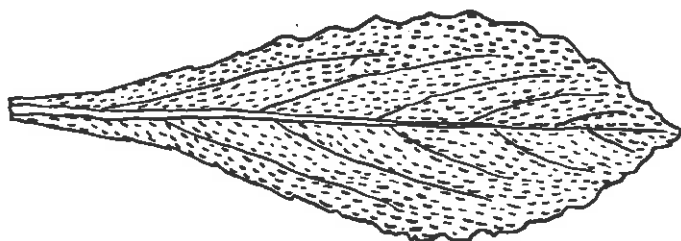
Cirsium arvense (L.) Scop. -- Canada thistle



170. Lanceolate, 2 to 8 in. long, acute, serrate, very short-hairy above and below, margin rough.

Plant to 8 ft. high; stem stout, grooved, succulent, rank odor. Flower 1/2 to 3/4 in. long, white or greenish white. July-Sept.

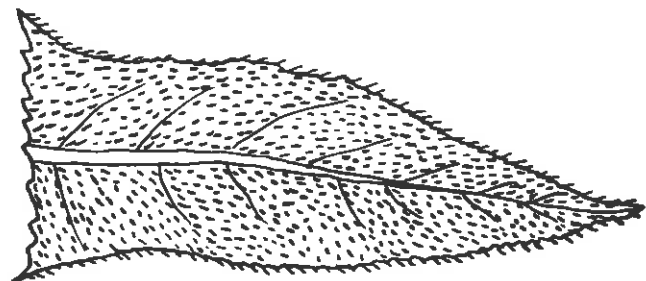
Erechtites hieracifolia (L.) Raf. -- American burnweed



171. Broadly lanceolate, 3 to 6 in. long, acute to obtuse, irregularly serrate, narrowed to base, short-hairy above and below.

Plant 1 to 3 ft. high; stem hairy, slightly angled. Flower 1 in. long, bright blue, rarely white. July-Oct.

Lobelia siphilitica L. -- great lobelia



172. Lanceolate, 2 to 8 in. long, acuminate, crenate-serrate, short-hairy above and below and on margin, veins depressed above, prominent below, opposite leaves united at their bases.

Plant 2 to 5 ft. high; stem stout, downy. Flowers 1/6 to 1/4 in. high, crowded in clusters, dull white. July-Sept.

Eupatorium perfoliatum L. -- boneset

7A. Leaves ovate, blades generally more than half as wide as long

Less than 1 in. long

173. Ovate, 1/3 in. or less long, acuminate, very short-hairy above and below, margin stiff-hairy.

Plant 2 to 8 in. high; stems spreading or ascending, rough-hairy. Flower 1/6 in. or less across, white. May-Aug.

Arenaria serpyllifolia L. — thymeleaf sandwort



174. Ovate, 1/4 to 3/4 in. long, acute or obtuse, smooth above, purple dotted below, thickish, sessile.

Plant 4 to 12 in. long, spreading; stems 4-sided. Flower 1/6 to 1/4 in. across, copper-red, open only in bright weather. May-Sept.

Anagallis arvensis L. — scarlet pimpernel



175. Elliptic-ovate to oblong, 1/6 to 3/4 in. long, obtuse, shallowly toothed, mostly smooth above with a red spot, sparsely hairy below.

Plant prostrate forming mats 4 in. to 2 ft. or more across; stems branched, hairy, pale, juice milky. Flower minute, whitish. June-Sept.

Euphorbia supina Raf. — prostrate spurge



176. Oblong to ovate, 2/5 to 4/5 in. long, obtuse, coarsely crenate-dentate, hairy, rounded to heart-shaped base.

Plant creeping or procumbent; stems 2 to 12 in. long, slender, hairy. Flower 1/4 to 1/3 in. broad, on slender stalks as long as leaves or longer, blue with pale lower lip. May-Sept.

Veronica agrestis L. — field speedwell



177. Oval, 2/5 in. or less long, obtuse, 2 to 4 blunt teeth on each side, hairy above and below and on margin.

Plant 3 to 10 in. long, creeping, branching, soft-hairy. Flower 1/8 in. or less across, violet-blue. Mar.-Sept.

Veronica arvensis L. — corn speedwell





178. Oval to obovate, $\frac{3}{5}$ to 1 in. long, obtuse, margins entire or low-dentate, smooth or nearly so above and below, somewhat fleshy.

Plant 3 to 12 in. high, branching; stems erect or depressed, smooth or somewhat hairy. Flower $\frac{1}{12}$ to $\frac{1}{10}$ in. across, white or pale bluish. April-Aug.

Veronica peregrina L. — purslane speedwell



179. Broadly ovate, $\frac{1}{5}$ to $\frac{1}{2}$ in. long, 3 to 4 teeth on each side, rough or short-hairy above, short-hairy below and on margin, almost straight across base.

Plant prostrate or ascending, much branched; stems 4 to 12 in. long. Flower $\frac{1}{3}$ to $\frac{1}{2}$ in. wide, blue with deeper blue lines and pale lower lip. April-Sept.

Veronica persica Poir — birdseye speedwell



180. Ovate to reniform, $\frac{1}{3}$ to $\frac{3}{5}$ in. long, obtuse, shallowly 3 to 5 toothed or lobed, hairy above and below and on margin, petiole hairy.

Plant much branched; stems 3 to 8 in. long, prostrate or ascending, hairy. Flower $\frac{1}{10}$ to $\frac{1}{5}$ in. across, lilac to blue. April-June.

Veronica bederaefolia L. — ivyleaf speedwell



181. Ovate, oblong or nearly round, $\frac{1}{5}$ to $\frac{3}{5}$ in. long, sometimes obscurely toothed, nearly smooth, rather thick.

Plant branching, creeping; stems 2 to 10 in. long, slightly hairy, rooting at nodes. Flower $\frac{1}{6}$ to $\frac{1}{3}$ in. across, pale blue striped with deep blue. April-Oct.

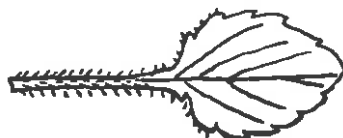
Veronica serpyllifolia L. — thymeleaf speedwell



182. Ovate, $\frac{1}{5}$ to 1 $\frac{1}{2}$ in. long, acute, light green, paler below, margin hairy at base, petiole generally hairy.

Plant with trailing, matted or loosely ascending stems, hairy in lines, to 30 in. long. Flower $\frac{1}{6}$ to $\frac{1}{3}$ in. across, white. Jan.-Dec.

Stellaria media (L.) Cyrillo — chickweed



183. Ovate to orbicular, to about 1 in. long, crenate toothed, smooth with glistening granules above and below, margin of lower part of leaf and petiole with short stiff hairs.

Plant much branched, to 20 in. high; stem angled with short hairs on the angles. Flower about $\frac{1}{2}$ in. across, pale yellow. April-Sept.

Viola arvensis Murr. — field violet

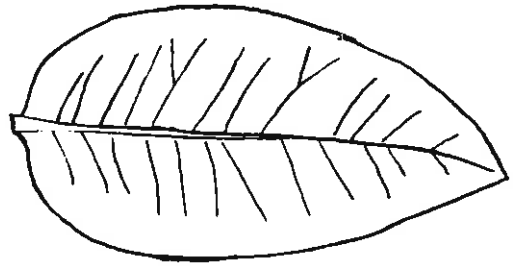
7B. Leaves ovate, blades generally more than half as wide as long

More than 1 in. long, not toothed.

184. Ovate to elliptic, 1 to 3 in. long, acute, smooth above and below.

Plant 1 to 3 ft. high; stems stout, softly hairy at least above, juice milky; upper leaves with white margin. Flower 1/6 in. long, white. June-Oct.

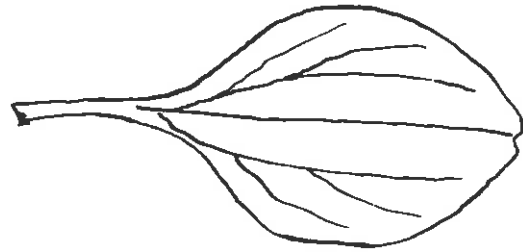
Euphorbia marginata Pursh. — snow-on-the-mountain



185. Obovate to rounded-oblong, 1 to 3 in. long, minutely hairy, appearing smooth above; silvery with dense woolly hairs below, 3- to 7-nerved.

Plant with creeping stems until flowering when erect 4 to 20 in. high flowering stems are formed. Flowers in small clustered heads, white. April-June.

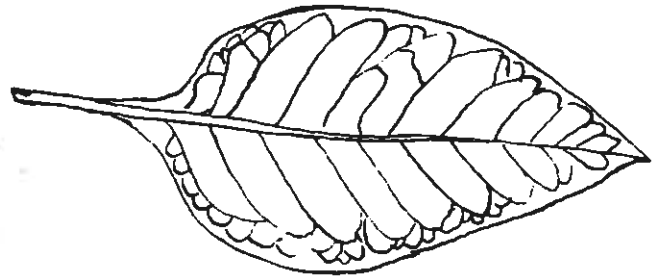
Antennaria plantaginifolia (L.) Hook. — plantainleaf pussytoes



186. Ovate, 3 to 12 in. long, acuminate, smooth above and below.

Plant 4 to 10 ft. high; stems stout, branched, often reddish; odor unpleasant. Flower 1/4 in. across, white or pinkish. July-Sept.

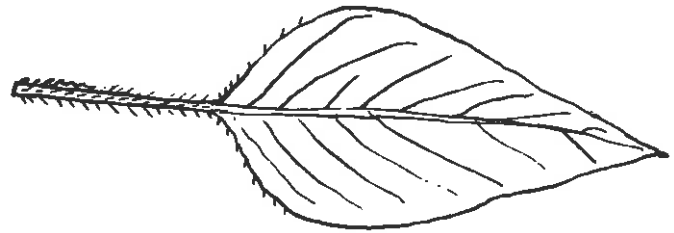
Phytolacca americana L. — pokeweed



187. Ovate to rhombic, to 6 in. long, acute, smooth above, short hairs on principal veins below, midvein ending in bristle at tip, few hairs on margin at base, petiole hairy.

Plant erect, to 6 ft. high; stem stout, freely branching. Flowers small, crowded in spikes to 6 in. long, green. Aug.-Oct.

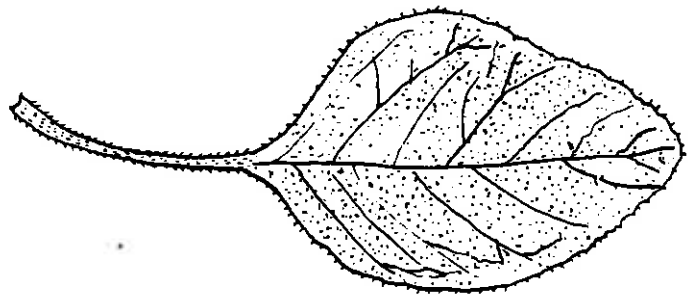
Amaranthus hybridus L. — smooth pigweed

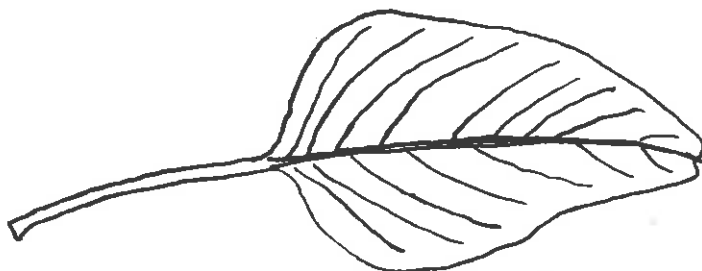


188. Ovate to rhombic, to 4 in. long, acute, margin wavy, rough above, often reddish tinged below and very short-hairy on midrib and veins, a few short hairs on margin, petiole very short-hairy.

Plant to 6 ft. high; stem stout, usually branched, rough, more or less hairy. Flowers small, densely crowded in stout spikes to 3 in. long, green. Aug.-Oct.

Amaranthus retroflexus L. — redroot pigweed

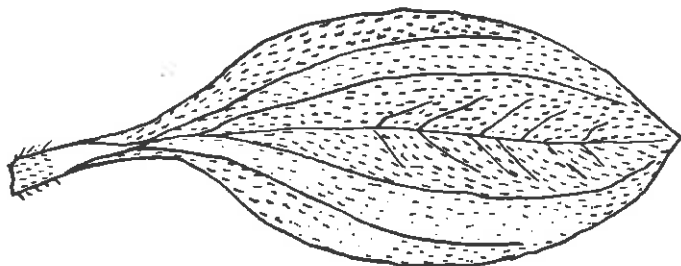




189. Ovate, 1 to 2 1/4 in. long, obtuse with spine-like tip, purple-splotched above, midvein below and petiole magenta-tinged, smooth, thin.

Plant to 2 1/2 ft. high; stem erect, branched, reddish, a pair of stiff spines at most nodes. Flowers small, in loose spikes to 6 in. long, yellowish green. July-Oct.

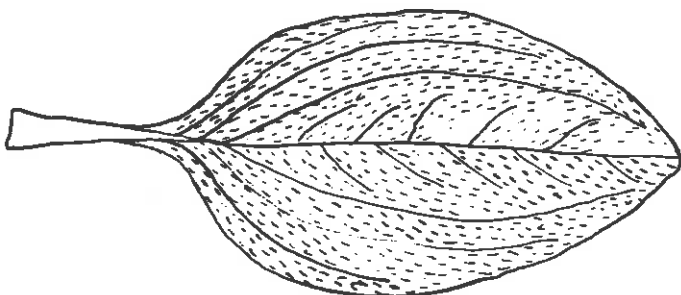
Amaranthus spinosus L. — spiny amaranth



190. Ovate or nearly round, 1 to 8 in. long, generally short-hairy above and below, 3 to 5-ribbed, petiole hairy at base.

Plant to 3 ft. high, all leaves in basal rosette. Flowers in spikes 2 to 10 in. long, greenish white. May-Sept.

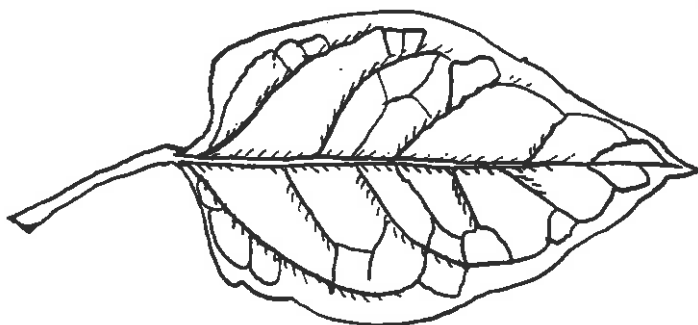
Plantago major L. — broadleaf plantain



191. Ovate to obovate, 2 to 8 in. long, acute, narrowed to base, margin usually wavy, generally short-hairy above and below, petiole margined and tinged with purple at base.

Plant similar to *P. major* but spikes longer, slenderer, tapering and pointed at tip; crimson at base of stalk.

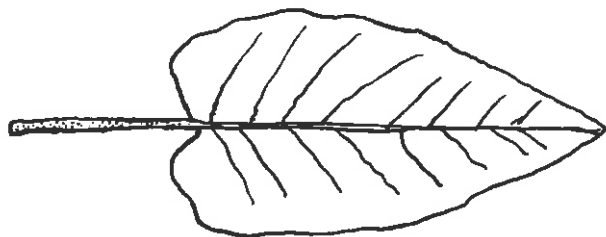
Plantago rugelii Dcne. — blackseed plantain



192. Round-ovate, 2 to 6 in. long, abruptly acuminate, very short-hairy on principal veins above, very short-hairy or slightly rough below, margin somewhat rough.

Plant 3 to 8 ft. high; stem erect, glaucous, often mottled, bushy branched; spreading by stout rhizomes and offshoots. Flowers small, in panicles 3 to 6 in. long, white or greenish white. Aug.-Sept.

Polygonum cuspidatum Sieb. & Zucc. — Japanese knotweed



193. Broadly to narrowly ovate, 4 to 12 in. long, rounded or blunt, usually reddish-veined, smooth above, principal veins and midrib below rough, edges slightly waved or curled, heart-shaped at base, petiole rough.

Plant 2 to 4 ft. high, sparingly branched; stem dark green, grooved, roughish. Flowers small, in clusters 10 to 30 in. long, green. June-Aug.

Rumex obtusifolius L. — broadleaf dock

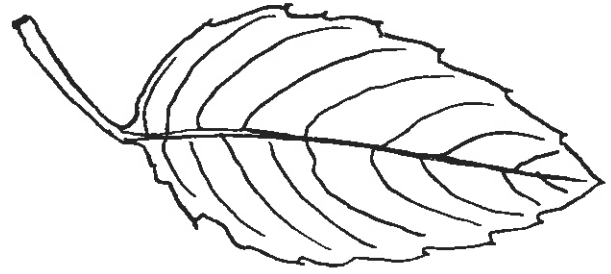
7C. Leaves ovate, blades generally more than half as wide as long

More than 1 in. long, toothed, smooth above.

194. Ovate or elliptic, 1 1/4 to 4 in. long, crenately serrate, teeth spine-tipped, soft, pale or glaucous below.

Plant 2 to 5 ft. high; stem succulent, usually reddish. Flower 3/4 to 1 in. long, orange, with reddish brown spots. July-Oct.

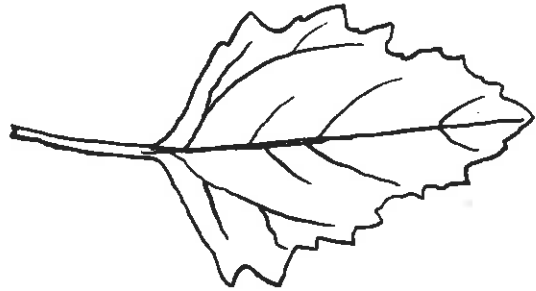
Impatiens capensis Meerb. — spotted snapweed



195. Ovate to broadly rhombic, 1 to 4 in. long, toothed, acute to obtuse, glistening granules above, grayish granules below.

Plant 1 to 8 ft. high; stem erect, branching, grooved, often with pinkish stripes. Flower small, in clusters 1 to 6 in. long, green. June-Sept.

Chenopodium album L. — common lambsquarters



7D1. Leaves ovate, blades generally more than half as wide as long

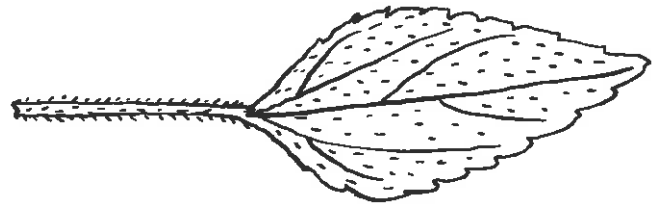
More than 1 in. long, toothed, rough or hairy above

Petioles hairy or spiny

196. Ovate to rhombic, 1 to 3 1/2 in. long, blunt or acute, coarsely crenate, often red-tinged above with a few short stiff hairs, few hairs on veins below; petioles slender, short-hairy, regularly more than half as long as the leaf.

Plant 8 to 36 in. high; stem simple or widely branching, slightly rough or smooth, rarely hairy. Flowers small, in leaf axils, green. June-Oct.

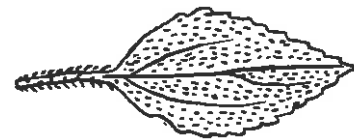
Acalypha rhomboidea Raf. — rhombic copperleaf

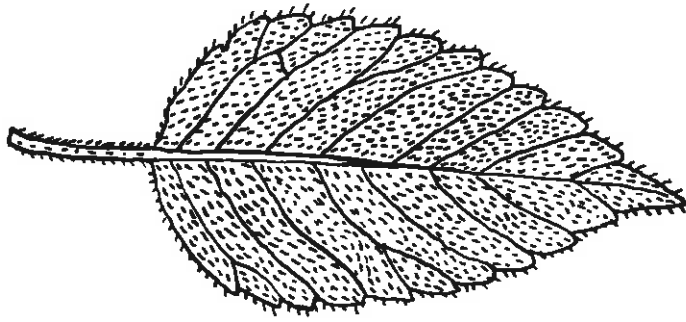


197. Ovate-lanceolate, 1 to 3 in. long, blunt or acute, shallowly crenate, finely hairy above and below; petiole slender, short-hairy, regularly less than half as long as leaf.

Plant 8 to 24 in. high; stem usually branching, short-hairy. Flower small, in leaf axils, green. June-Oct.

Acalypha virginica L. — Virginia copperleaf

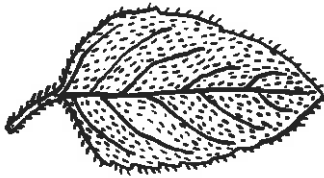




198. Ovate, 2 to 5 in. long, acuminate or acute, sharply toothed, hairy above and below and on margin, petiole hairy.

Plant 1 to 3 ft. high; stem 4-sided, bristly-hairy. Flower 2/3 to 1 in. long, pale purple variegated with white. June-Sept.

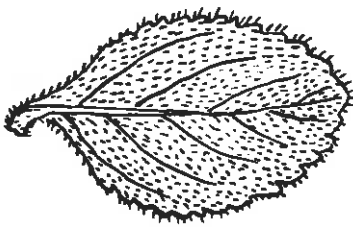
Galeopsis tetrahit L. — hempnettle



199. Ovate, 1/2 to 1 1/2 in. long, obtuse, few low teeth, hairy above and below and on margin, petiole hairy.

Plant 8 to 24 in. tall, creeping; stems ascending, simple or branching, hairy, 4-sided. Flower 1/2 to 3/5 in. long, pale purple, rose-purple or pink, varying to white. June-Sept.

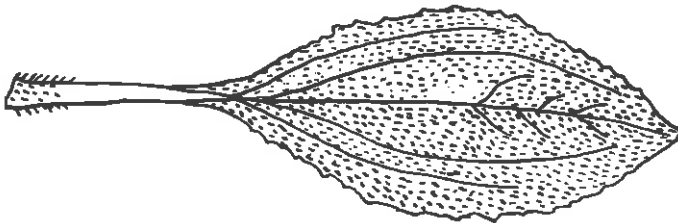
Satureja vulgaris (L.) Fritsch — wild basil



200. Ovate, 1 to 2 in. long, obtuse, serrate, soft short-hairy above and below, margin hairy, petiole hairy.

Plant 3 to 10 in. long; stem softly hairy, reclining but with end ascending, rooting at nodes. Flower 1/6 to 1/4 in. across, pale blue striped with violet. May-Aug.

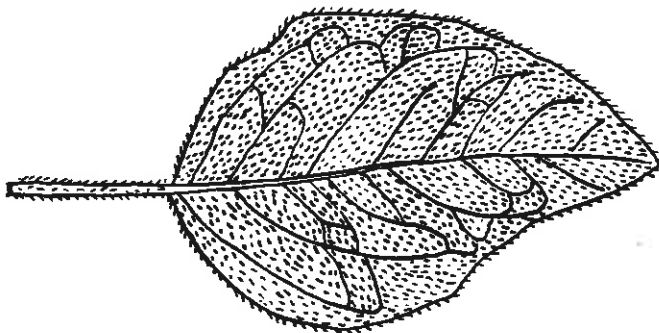
Veronica officinalis L. — common speedwell



201. Ovate or nearly round, 1 to 8 in. long, margin slightly sinuate or dentate, generally short-hairy above and below, 3 to 5-ribbed, petiole hairy at base.

Plant to 3 ft. high, all leaves in basal rosette. Flowers in spikes 2 to 10 in. long, greenish white. May-Sept.

Plantago major L. — broadleaf plantain



202. Ovate, 1 to 4 in. long, acute, wavy toothed, often purple splotched above, veins in crease and short hairy above, hairy and veins prominent below, margin hairy, petiole hairy.

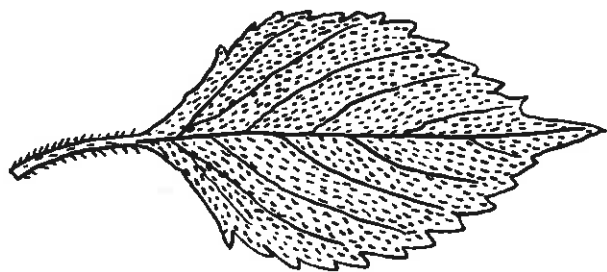
Plant 1 to 2 1/2 ft. high; stem rough-angled, branching, reddish at nodes when old. Flower 1/4 in. across, white. July-Oct.

Solanum nigrum L. — black nightshade

203. Ovate, 2 to 4 in. long, acute or acuminate, sharply serrate, sparsely short-hairy above and on veins below, veins and midrib below purplish, petiole short-hairy, aromatic.

Plant 1 to 3 ft. high; stems erect, branching, often purple. Flower small, in short clusters, white. Aug.-Oct.

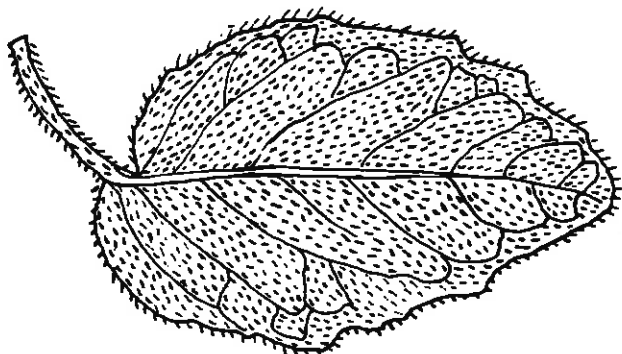
Perilla frutescens (L.) Britt. — common perilla



204. Ovate 1 1/2 to 3 in. long, acute or blunt, shallowly or irregularly coarse-toothed, both surfaces short-hairy, margin hairy, petiole hairy and somewhat sticky.

Plant 1 to 3 ft. high; short rootstocks; stem branching, sticky-hairy. Flower bell-shaped, 2/3 to 5/6 in. across, greenish yellow with brown or purplish center. July-Sept.

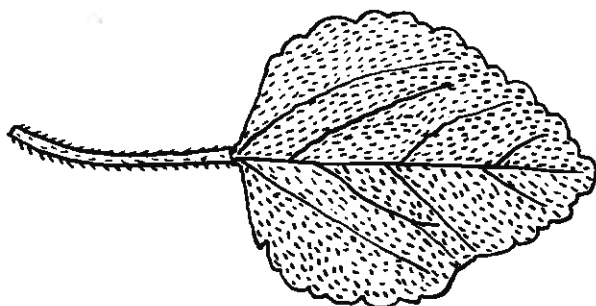
Physalis heterophylla Nees — clammy groundcherry



205. Ovate, 1 to 2 in. long, crenate, short soft hairs above and below, veins depressed above giving crinkled appearance, dense short hairs on petiole.

Plant 1 to 3 ft. high; stems white-woolly, branching, bitter-aromatic. Flowers small, dull white. June-Sept.

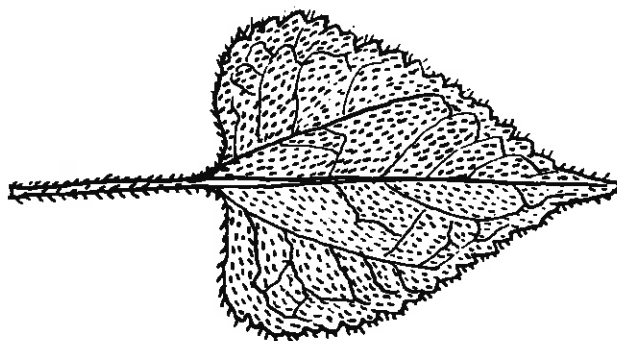
Marrubium vulgare L. — white horehound



206. Broadly ovate, 2 to 7 in. long, acute or acuminate, serrate, short-hairy above and below and on margin, petiole short-hairy above. Poisonous.

Plant to 4 1/2 ft. high; stem firm, solitary or clustered from a knotty tough rhizome, smooth or sticky-hairy. Flowers 1/4 in. across, in clusters, white. July-Oct.

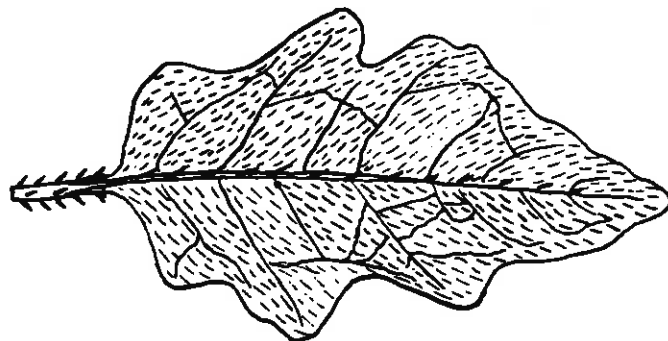
Eupatorium rugosum Houtt. — white snakeroot

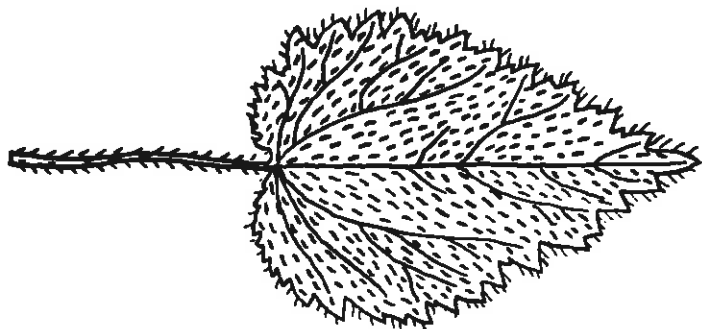


207. Ovate, 2 to 6 in. long, acute, 2 to 5 large teeth or shallow lobes on each side, hairy above and below, sharp stiff spines on midrib above and below and on petiole.

Plant 1 to 4 ft. high; stems simple or branched, hairy and prickly. Flower about 1 in. across, in clusters; white. May-Sept.

Solanum carolinense L. — horsenettle

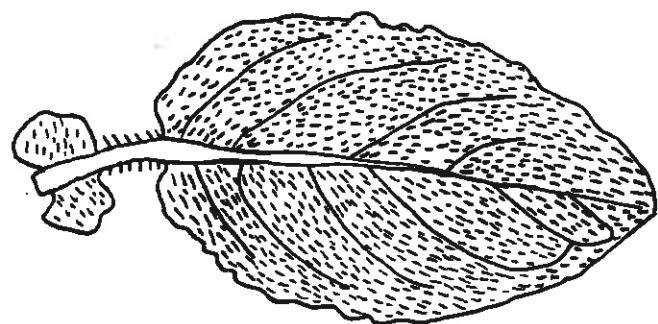




208. Broadly ovate, 2 to 6 in. long, acute or acuminate, serrate, covered with stinging hairs above and below and on petiole, margin hairy.

Plant 2 to 7 ft. high; stem simple or slightly branched near top, grooved, rigid, covered with stinging hairs. Flower small, in slender clusters, greenish. June-Sept.

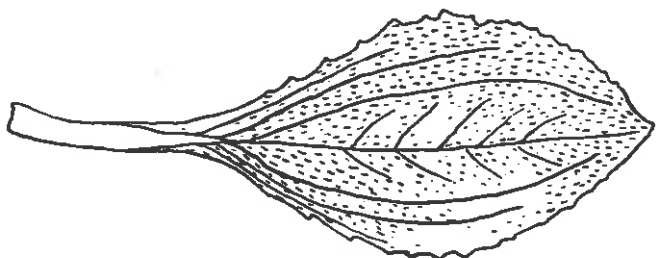
Urtica dioica L. — stinging nettle



209. Oval or oblong, 1 1/2 to 3 in. long, obtuse, dentate, densely hairy above and below, usually 2 small lobes at base of petiole, camphor odor.

Plant 1 to 3 ft. high; stem hairy, branching. Flower 1/2 in. or more across, yellow. Aug.-Nov.

Heterotheca subaxillaris (Lam) Britt & Rusby — camphorweed



7D2. Leaves ovate, blades generally more than half as wide as long

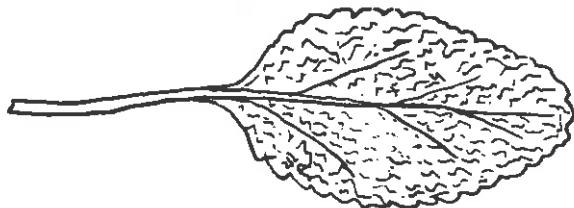
More than 1 in. long, toothed, rough or hairy above

Petioles not hairy or spiny (except No. 213 may be slightly hairy)

210. Ovate to obovate, 2 to 8 in. long, margin shallowly toothed, acute, narrowed to base, generally short-hairy above and below, petiole margined and tinged with purple at base.

Plant similar to *P. major* but spikes longer, slenderer, tapering and pointed at tip; crimson at base of stalk. June-Sept.

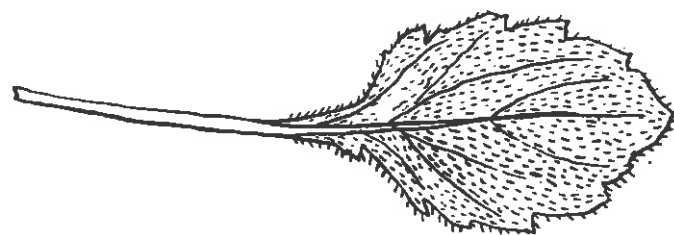
Plantago rugelii Dcne. — blackseed plantain



211. Obovate, 1 to 3 in. long, rounded, crenate-dentate, white webby-hairy above and below when young, some leaves smooth when flowering.

Plant 4 to 16 in. high; stems 1 to several from a crown, densely matted woolly-hairy at least below. Flower 1/5 to 1/4 in. high, yellow. May-early July.

Senecio plattensis Nutt. — prairie groundsel



212. Ovate, generally 2 to 6 in. but up to 11 in. long, acute, coarsely toothed, short-hairy above and below and on margin.

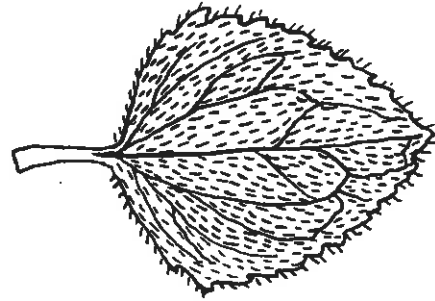
Plant 1 to 4 ft. high; stems grooved, sparingly whitish-hairy. Flower about 1/2 in. across, white or faintly pinkish. May-Nov.

Erigeron annuus Pers. — annual fleabane

213. Broadly ovate, 3/4 to 2 1/2 in. long, acute, crenate or serrate, generally hairy above and below and on margins, palmately veined. Petioles may be sparsely hairy.

Plant bushy-branched, 4 to 24 in. high; stems hairy. Flowers about 1/4 in. across, petals white, center yellow. June-Nov.

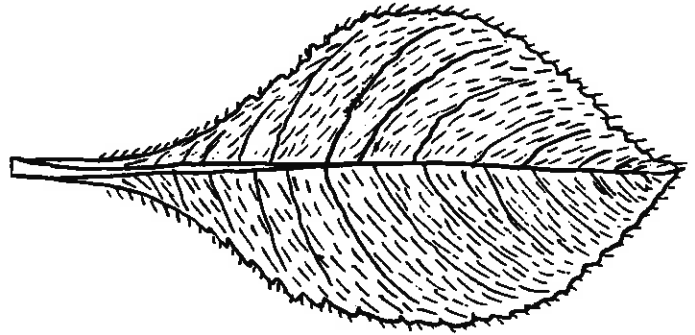
Galinsoga ciliata (Raf.) Blake — hairy galinsoga



214. Obovate, to 8 in. long, sharp-tipped, low-toothed, long-hairy above, long whitish-hairy below, margin hairy.

Plant 2 to 3 ft. high; stem simple or forking, lower internodes hairy. Flower 1/3 in. long, blue or purplish. Aug.-Oct.

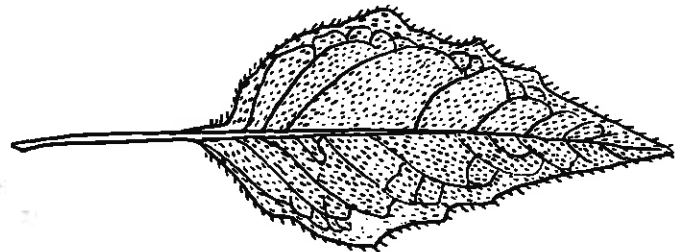
Elephantopus carolinianus L. — elephant's foot



215. Ovate, 1 1/2 to 4 1/2 in. long, acute, generally with a few coarse teeth, short-hairy above and on veins below, margin short-hairy, long slender petiole.

Plant 10 to 36 in. long; stem spreading, branching, sharply bent, downy-hairy. Flower 1/4 to 1/2 in. across, greenish yellow with brown spots in throat. July-Sept.

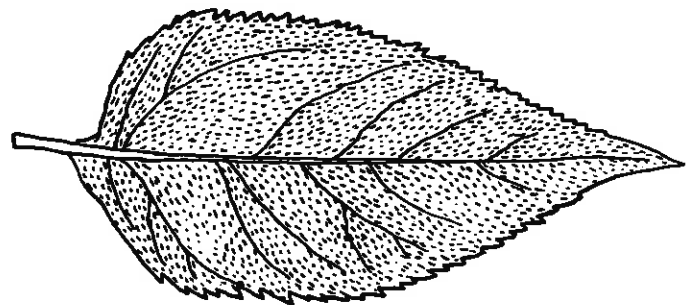
Physalis pubescens L. — downy groundcherry



216. Ovate or lance-ovate, 2 to 6 in. long, acute or acuminate, serrate, rough short-hairy above, short hairy below, petiole grooved above, mostly in whorls of 3 or 4.

Plant 1 1/2 to 5 ft. high; stem rough, finely purple-dotted, often suffused with purple. Flowers small, in clusters 4 to 8 in. across, dull-purple or pink. Aug.-Oct.

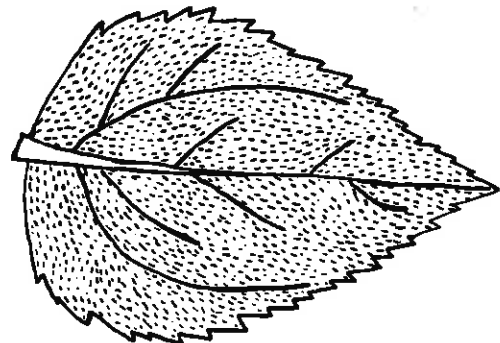
Eupatorium dubium Willd. — joe pye weed

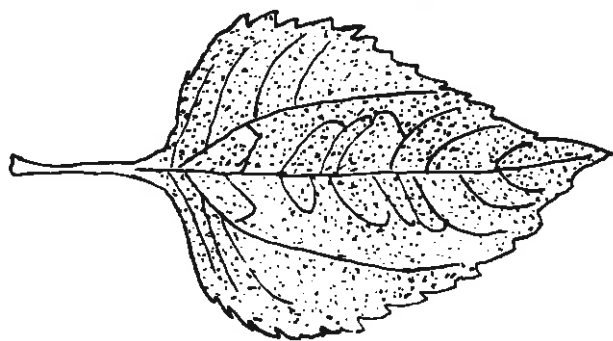


217. Broadly ovate, 1 to 4 in. long, acute, serrate, very short-hairy and rough above, short-hairy below, margin rough.

Plant 1 to 4 ft. high; stems stiffly ascending, slender, hairy above. Flower 1/5 to 1/4 in. long, white. July-Sept.

Eupatorium rotundifolium L. — roundleaved thoroughwort

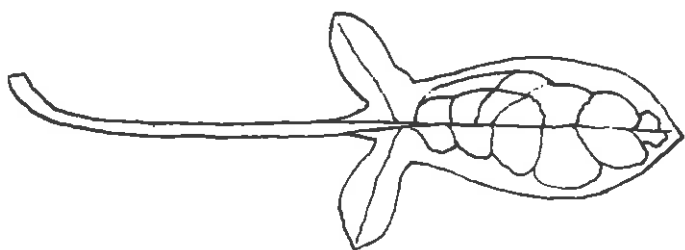




218. Ovate, 2 to 6 in. long, acute or acuminate, serrate, rough above, smooth below, margin rough.

Plant 3 to 5 ft. high; stem branched above, smooth or nearly so. Flower 1 1/2 to 2 1/2 in. across, deep golden yellow. July-Sept.

Heliopsis belianthoides (L.) Sweet. — sunflower heliopsis

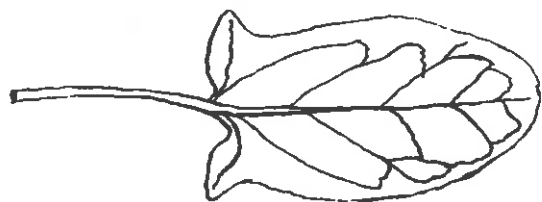


8. Leaves triangular, sagittate or hastate

219. Sagittate with spreading basal lobes, 1 to 4 in. long, acute, upper surface dull, net veined, sour tasting.

Plant 6 to 15 in. high; stem slender, smooth. Flowers small, in clusters 2 to 10 in. long, green or red. May-Sept.

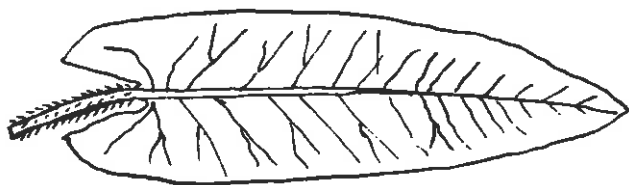
Rumex acetosella L. — red sorrel



220. Sagittate or triangular with basal lobes spreading or descending, 3/4 to 2 in. long, rounded to acute, smooth, petiole grooved on upper side.

Plant 2 to 7 ft. long; stems smooth, slender, twining or spreading. Flower about 1 in. across, pink or white. May-Sept.

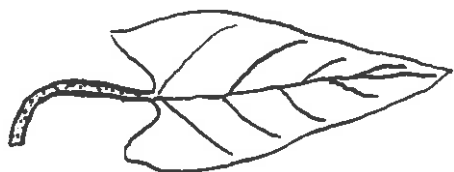
Convolvulus arvensis L. — field bindweed



221. Sagittate-lanceolate, 1 to 4 in. long, acute, smooth above and below, midrib below and petiole reflexed prickly, margin rough.

Plant 2 to 6 ft. long; stem reclining, 4-angled, reflexed-prickly. Flowers small, in clusters, rose or greenish. July-Sept.

Polygonum sagittatum L. — arrowleaf tearthumb



222. Triangular to cordate, 1/2 to 3 in. long, acute or acuminate, smooth above and below, margin rough, petiole rough.

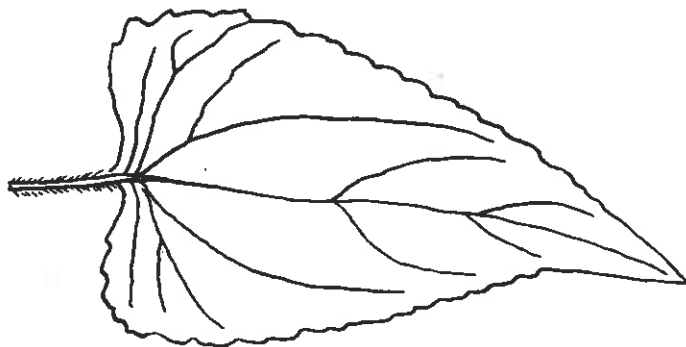
Plant 1 to 3 ft. long; stem climbing or prostrate, angular, rough. Flowers small, greenish. June-Sept.

Polygonum convolvulus L. — wild buckwheat

223. Triangular, 1 to 3 in. long, acute, blunt-toothed, smooth above and below, thin, petiole very short-hairy.

Plant 1 to 3 ft. high; stem branching, very short-hairy; spreading by rootstocks. Flower heads 1/4 in. across, bright blue or violet. Aug.-Oct.

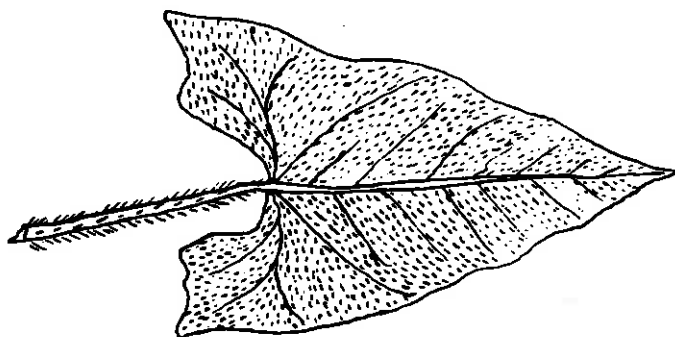
Eupatorium coelestinum L. — mistflower



224. Triangular with divergent lobes, 2 to 5 in. long, acute, very short-hairy above and below, petiole short-hairy and with a deep groove on upper side.

Plant 3 to 10 ft. long; stem climbing or trailing, smooth or nearly so. Juice sticky, milky. Flower 1 1/2 to 2 in. across, white or pinkish. May-Sept.

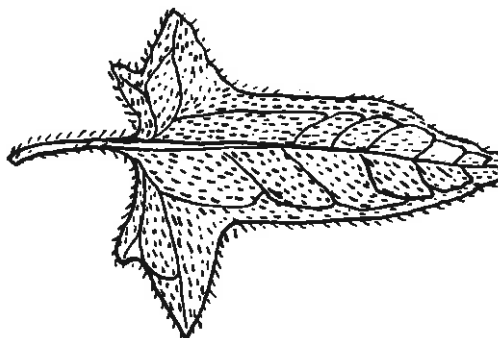
Convolvulus sepium L. — hedge bindweed



225. Hastate, about 2 1/2 in. long, obtuse or rounded, short-hairy above and below and on margin, petiole short-hairy.

Plant twining; stem short hairy. Flower 1 1/2 to 2 in. long, double, pink. July-Aug.

Convolvulus japonicus Thunb. — Japanese bindweed

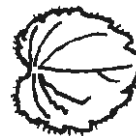


9A. Leaves roundish, cordate or reniform, smooth above

226. Cordate, 1/4 to 1 in. long, toothed, smooth above, short-hairy below and on margin, palmately veined, clasping stem.

Plant 6 to 24 in. high; stems 4-angled, hairy on angles. Flower 1/2 to 5/6 in. across, blue or violet. May-Sept.

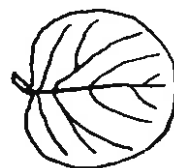
Specularia perfoliata (L.) A. DC. — Venus lookingglass

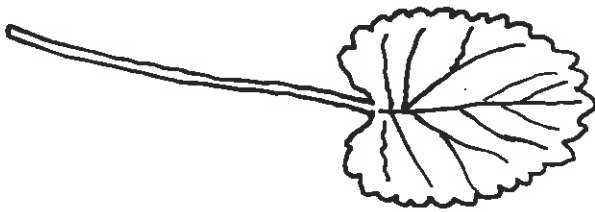


227. Roundish, 1/2 to 1 in. across, smooth with glistening granules above and below, sparingly brown or black dotted.

Plant a creeping vine, 6 to 24 in. long. Flower 2/3 to 1 in. across, golden yellow. June-Sept.

Lysimachia nummularia L. — moneywort

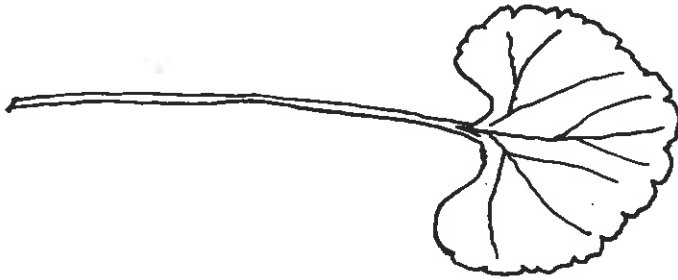




228. Cordate, 1 to 3 in. long, crenate, smooth above and below, long petiole.

Plant 6 to 30 in. high; stem grooved, purple particularly near top. Flower $\frac{3}{4}$ to 1 in. across, golden yellow. May-July.

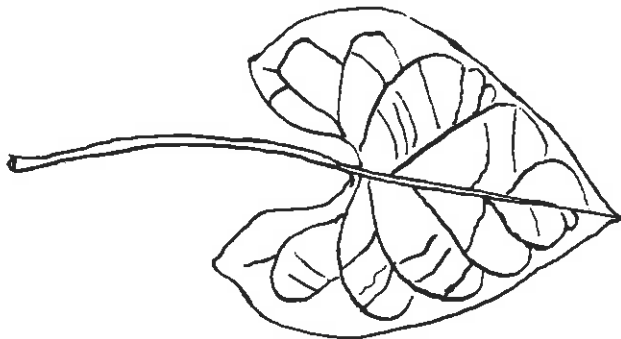
Senecio aureus L. — golden ragwort



229. Cordate or reniform, 1 to 2 in. wide, some cleft or divided, crenate, smooth and dull green above, smooth and glossy below, somewhat fleshy, long petiole.

Plant 6 to 24 in. high; stem smooth or sparingly downy. Flower $\frac{1}{4}$ in. across, pale yellow. April-June.

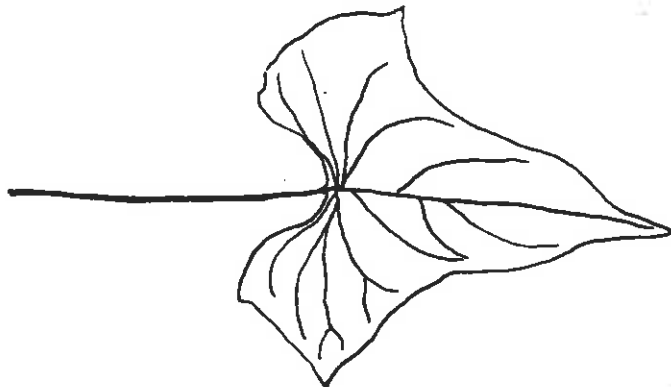
Ranunculus abortivus L. — smallflower buttercup



230. Cordate, 2 to 4 in. long, acuminate, smooth above and below, long petiole.

Plant 10 to 15 ft. long; stem twining. Flower $\frac{5}{6}$ to $1\frac{1}{2}$ in. long, light scarlet. July-Oct.

Ipomoea coccinea L. — scarlet morningglory



231. Cordate with angulate lobes, $1\frac{1}{2}$ to $3\frac{1}{2}$ in. long, acuminate, smooth above and below, very slender petiole.

Plant twining, 3 to 10 ft. long; stem slender, smooth or sparsely hairy. Flower $\frac{1}{2}$ to 1 in. long, white. July-Sept.

Ipomoea lacunosa L. — small-flowered white morning-glory



9B. Leaves roundish, cordate, or reniform, rough above

232. Ovate to reniform, $\frac{1}{3}$ to $\frac{3}{5}$ in. long, obtuse, shallowly 3 to 5 toothed or lobed, hairy above and below and on margin, petiole hairy.

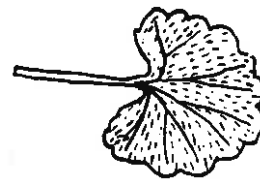
Plant much branched; stems 3 to 8 in. long, prostrate or ascending, hairy. Flower $\frac{1}{10}$ to $\frac{1}{5}$ in. across, lilac to blue. April-June.

Veronica bederaefolia L. — ivyleaf speedwell

233. Round to reniform, 1/2 to 1 1/2 in. wide, blunt toothed, very short-hairy above, veins depressed above, prominent below, petiole longer than leaf.

Plant extensively creeping; stems slender, rooting at nodes. Flower 1/2 to 3/4 in. long, purplish-blue. April-July.

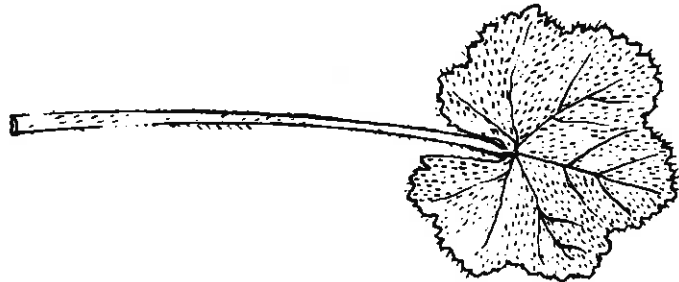
Glechoma hederacea L. — groundivy



234. Round-cordate, 1 to 3 in. wide, obscurely 5- to 9-lobed, crenate, short-hairy above and below and on margin, very long petiole short-hairy and rough.

Plant creeping; stems 4 to 18 in. long. Flower 1/3 to 1/2 in. across, white or pale blue. May-Nov.

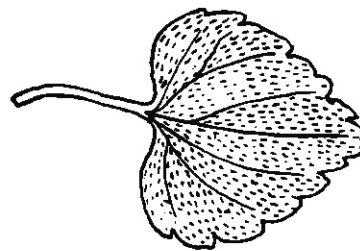
Malva neglecta Wallr. — common mallow



235. Cordate to roundish, 2/5 to 1 1/5 in. long, deeply crenate, short, soft-hairy above and below, short-petioled.

Plant 6 to 18 in. long; stem 4-angled, weak and spreading; at least the upper leaves sessile. Flower 1/2 to 2/3 in. long, purplish or red. April-Oct.

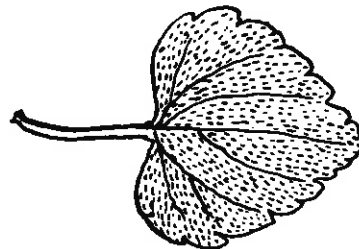
Lamium amplexicaule L. — henbit



236. Cordate to roundish, 2/5 to 1 1/5 in. long, deeply crenate, short, soft-hairy above and below, veins depressed above and prominent below, short-petioled.

Plant 6 to 18 in. long; stem 4-angled, weak and spreading; all leaves petioled. Flower 1/2 to 2/3 in. long, purplish or red. April-Oct.

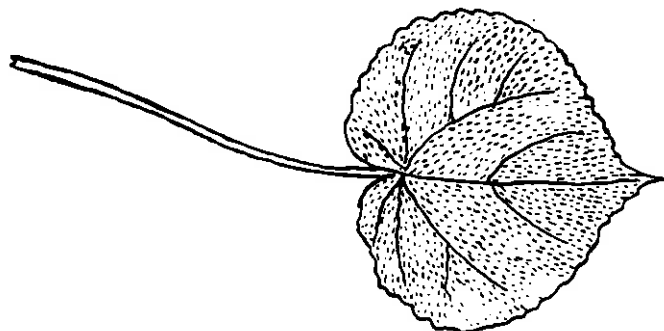
Lamium purpureum L. — red deadnettle

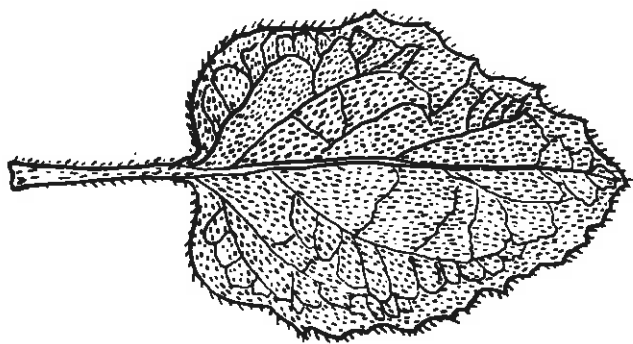


237. Cordate, 4 to 6 in. long and wide, obscurely toothed, acuminate, velvety above with very short soft hairs, very short-hairy below, unpleasant odor when crushed.

Plant 3 to 6 ft. high; stems stout, branching, velvety-hairy. Flower 1/2 to 3/4 in. across, yellow. July-Oct.

Abutilon theophrasti Medic. — velvetleaf

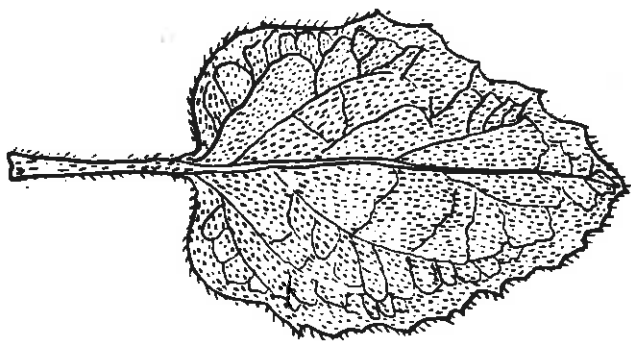




238. Cordate, to 16 in. wide, 20 in. long, spine-tipped, obscure teeth spined, short-hairy above, woolly-hairy below, margin short-hairy, petiole short-hairy and hollow.

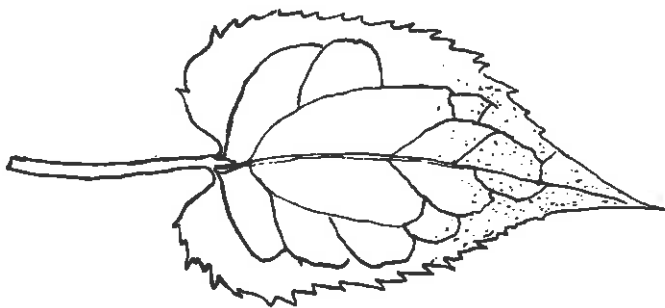
Plant 3 to 5 ft. tall; stem much branched, hairy, somewhat grooved or angular. Flower $\frac{1}{2}$ to $\frac{3}{4}$ in. across, purple. July-Oct.

Arctium minus (Hill) Bernh. — common burdock



239. Leaf petiole solid, otherwise similar in appearance to above but larger in all respects.

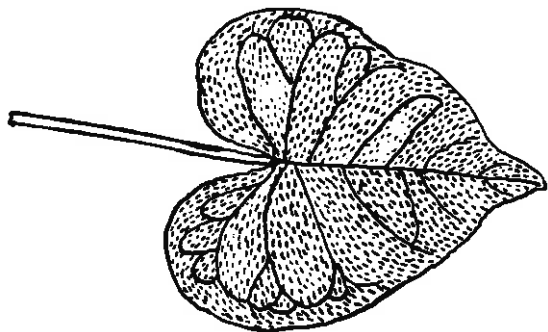
Arctium lappa L. — great burdock



240. Cordate, $1\frac{1}{2}$ to 5 in. long, acuminate, sharply toothed, slightly rough at least towards tip above, margin rough.

Plant 1 to 5 ft. high, bushy; stems slender. Flower $\frac{5}{8}$ in. across, violet or blue. Aug.-Oct.

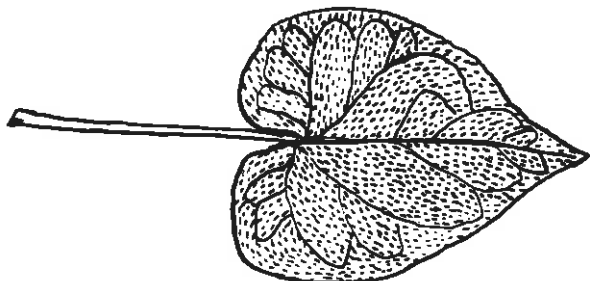
Aster cordifolius L. — heartleaved aster



241. Cordate, 2 to 6 in. long, acute, short-hairy above and below, petiole purplish.

Plants 2 to 12 ft. long; stems trailing or twining. Flower 2 to 3 in. long, white with pinkish stripes. May-Sept.

Ipomoea pandurata (L.) G. F. W. Mey — bigroot morningglory



242. Cordate, 2 to 5 in. long, acute, short-hairy or at least rough above, sparsely hairy below.

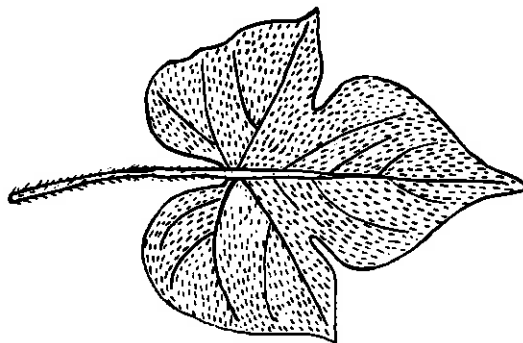
Plant 2 to 8 ft. long; stems trailing or twining, sometimes hairy. Flower 2 to 3 in. long, purple, red, bluish, white or variegated. June-Oct.

Ipomoea purpurea (L.) Roth — tall morningglory

243. Cordate, 2 to 5 in. long, 3-lobed, acute, stiff hairs above and below, petiole hairy with groove on top.

Plant 2 to 8 ft. long; stems twining, hairy. Flower about 2 in. long, white, pinkish or bluish. July-Oct.

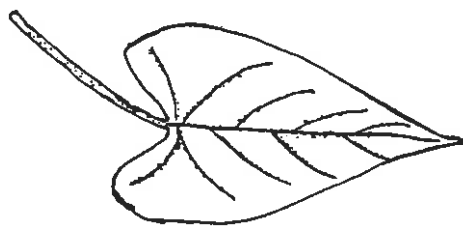
Ipomoeahederacea (L.) Jacq. — ivyleaf morningglory



244. Cordate, 2 to 5 in. long, acuminate, slightly rough on principal veins above and below, margin and petiole slightly rough.

Plant 2 to 20 ft. long, twining and climbing; stems angled, roughish on ridges. Flower small, in clusters, 2 to 8 in. long, greenish-white or pinkish. Aug.-Oct.

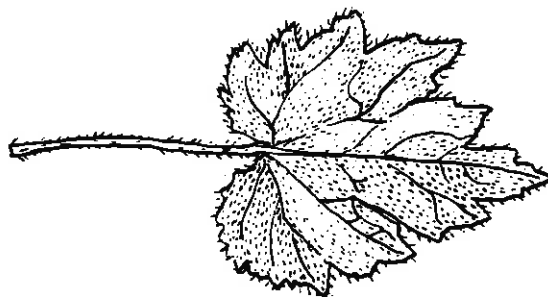
Polygonumscandens L. — hedge smartweed



245. Cordate, 2 to 4 in. wide, palmately lobed or cleft onto sharp toothed divisions, short-hairy above and below and on margin, petiole short-hairy.

Plant 2 to 5 ft. high; stem erect, 4-angled. Flower 1/3 to 1/2 in. long, pink, purple or white. June-Sept.

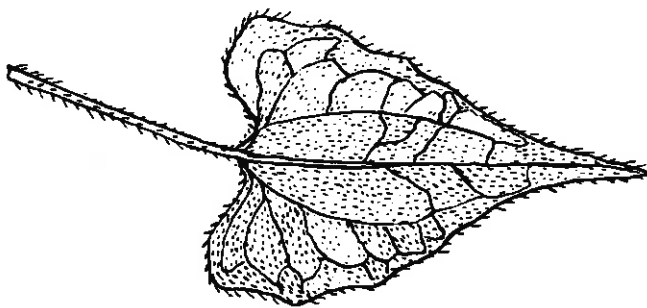
Leonuruscardiaca L. — motherwort



246. Cordate, to 4 in. long, acuminate, short-hairy above, hairy below, margin very short-hairy, petiole short-hairy.

Plant 5 to 15 ft. long; stem twining and climbing, hairy at nodes. Flowers 1/4 in. long, in clusters 1 to 4 in. across, white or pale pink. July-Sept.

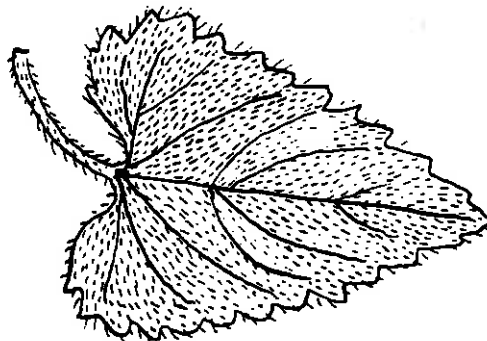
Mikania scandens (L.) Willd. — climbing hempweed

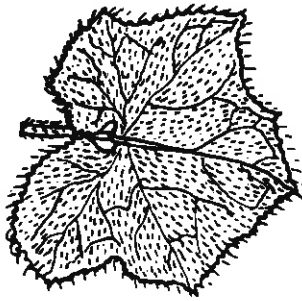


247. Cordate, 1 to 3 in. long, coarsely dentate, short-hairy above, short-white-hairy below, margin and petiole short-hairy.

Plant 2 to 3 ft. high; stem 4-angled, densely downy. Flower 1/2 in. long, in clusters 2 to 4 in. long, pale violet, purplish or whitish. July-Oct.

Nepetacataria L. — catnip

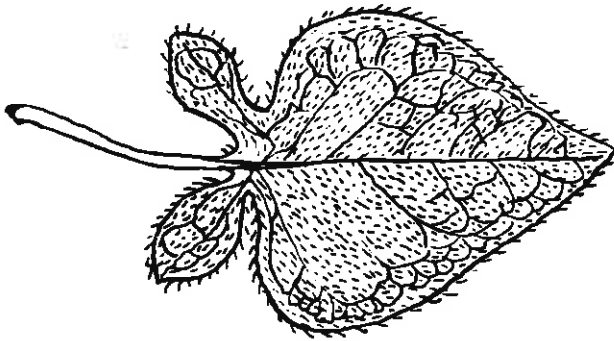




248. Orbicular, 2 to 7 in. wide, shallowly 3 to 5-lobed, lobes denticulate, short-hairy above and below and on margin, petiole hairy.

Plant 15 to 25 ft. long; stem climbing, pale, angled, sticky-hairy. Flower small, whitish. July-Sept.

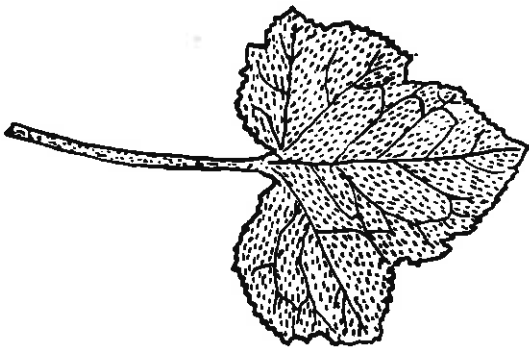
Sicyos angulatus L. — burcucumber



249. Cordate-ovate, 1 1/2 to 4 in. long, acute, some with 2 lobes or leaflets at base, very short-hairy above, smooth below, margin very short-hairy.

Plant 2 to 10 ft. long; stem climbing, woody, slightly downy when young. Flower 1/2 in. across, violet, purple or white. May-Sept.

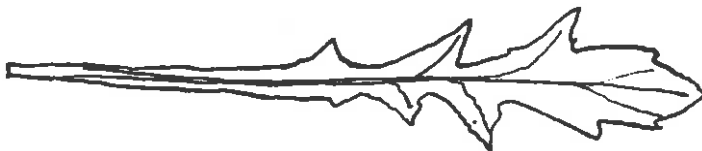
Solanum dulcamara L. — bitter nightshade



250. Cordate, to 6 in. long, 8 in. wide, shallow by 3 to 5-lobed, dentate, rough-hairy above and below, margin rough, long rough petiole.

Plant 2 to 4 ft. high; stem bushy, ridged, rough-hairy, often spotted. Flowers small, green. Aug.-Oct.

Xanthium pensylvanicum Wallr. — cocklebur



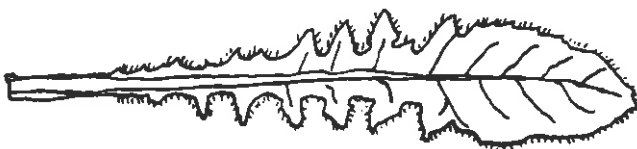
10A. Leaves pinnately lobed, not generally cut to midrib

Smooth above

251. Pinnately lobed or large toothed, to 2 in. long, smooth above and below, strongly mustard and garlic tasting.

Plant 4 to 20 in. high; stem simple or somewhat branched above, smooth; basal leaves disappear early, upper leaves toothed and clasping stem. Flower 1/12 in. across, white. June-Sept.

Thlaspi arvense L. — field pennycress



252. Pinnately lobed, 1 to 4 in. long, acute, smooth above, very short-hairy on principal veins below and on margin, midvein conspicuously whitish above and below.

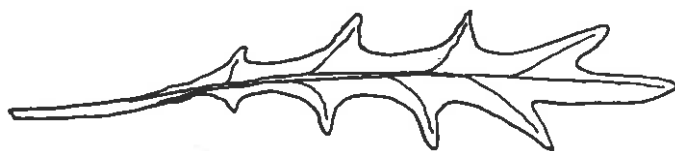
Plant to 2 1/2 ft. high; stem erect or ascending, simple or branched from base, more or less hairy. Flower 1/2 to 1 1/2 in. across, yellow or whitish becoming reddish. May-Oct.

Oenothera laciniata Hill — cutleaf eveningprimrose

253. Pinnately lobed, 3 to 9 in. long, acute to acuminate, mostly smooth above, few hairs below at least near base.

Plant 6 to 24 in. high; flower stems leafless, somewhat hairy below, usually branched above. Flower 1 to 1 1/4 in. across, bright yellow. June-Nov.

Leontodon autumnalis L. — fall hawkbit



254. Pinnately lobed, 1 1/2 to 6 in. long, acute, smooth and granular above and below.

Plant 1 to 3 ft. high; stem smooth, finely grooved, seldom branched. Flower 1 to 2 in. across, white petals with yellow center. May-Nov.

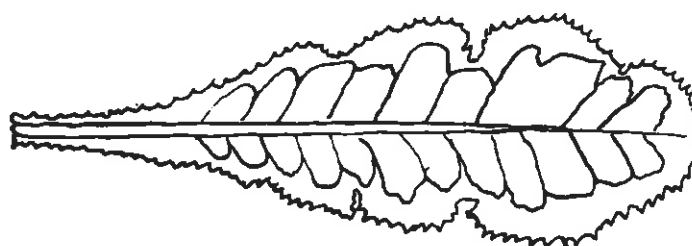
Chrysanthemum leucanthemum L. — oxeye daisy.



255. Pinnately lobed, 3 to 6 in. long, smooth above and below, midrib sometimes reddish above and very prominent below, margin prickly.

Plant 1 to 6 ft. high; stems smooth, angled. Flower 1 in. or less across, pale yellow. May-Nov.

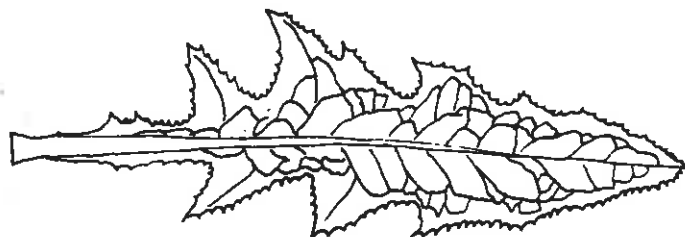
Sonchus asper (L.) Hill — spiny sowthistle



256. Pinnately lobed or large toothed, 4 to 8 in. long, acute, prickly-dentate, smooth above and below, petiole margined.

Plant 3 to 7 ft. high; stem erect, whitish bloom; leaves more lobed toward top. Flower about 1 1/2 in. across, deep yellow. July-Oct.

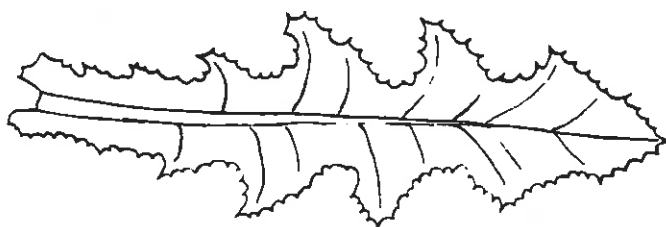
Sonchus arvensis L. — perennial sowthistle



257. Pinnately lobed, 2 to 12 in. long, acute, prickly dentate, smooth above and below, midrib white above and prickly below.

Plant 2 to 7 ft. high; stem erect, stiff, leafy, hollow, prickly on lower part, juice milky. Flower 1/4 to 1/2 in. across, pale yellow. July-Oct.

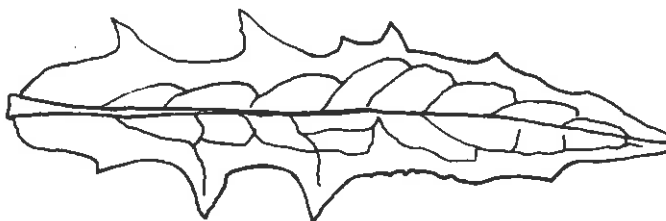
Lactuca scariola L. — prickly lettuce

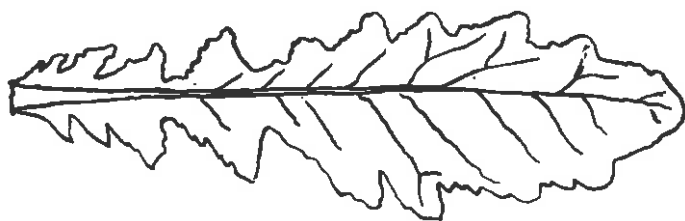


258. Pinnately lobed, 3 to 10 in. long, acuminate, few sharp-pointed lobes and teeth, smooth above and below.

Plant 3 to 10 ft. high; stem stout. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

Lactuca canadensis L. — tall lettuce

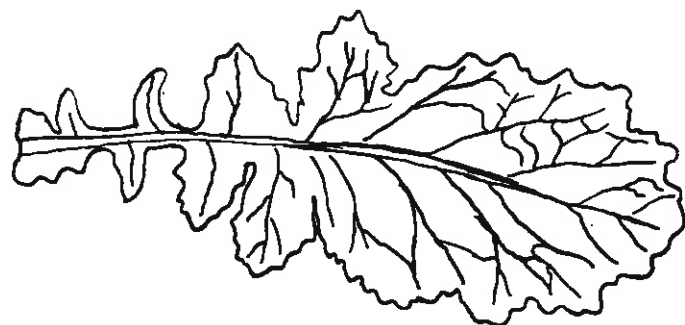




259. Pinnately lobed or large toothed, to 12 in. long, rounded, smooth above and below, bright green, often closely pressed to ground.

Plant 2 to 4 ft. high; stem slender, smooth. Flower about 1 in. across, white or yellow. June-Nov.

Verbascum blattaria L. — moth mullein



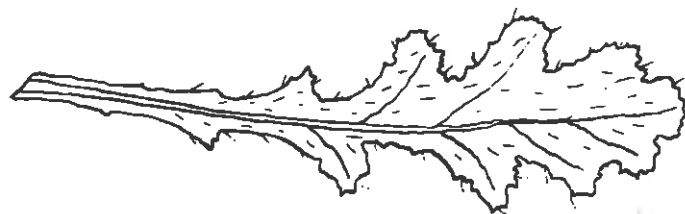
260. Pinnately lobed, to 8 in. long, blunt or rounded, smooth above and below, whitish bloom above, pale below.

Plant to 3 ft. high; stem branched, smooth; upper leaves dentate or entire, clasping. Flower about 2/5 in. wide, yellow. May-Oct.

Brassica rapa L. — birdsrape mustard

10B. Leaves pinnately lobed, not generally cut to midrib

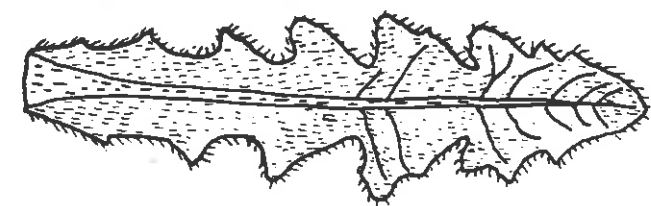
Rough or hairy above



261. Pinnately lobed, 1 to 6 in. long, blunt, few nearly transparent hairs above, few hairs on midvein below and margin, dull yellowish green.

Plant 6 to 15 in. high; stem slightly angled, succulent, hollow. Flower 1/2 in. long, yellow. April-Oct.

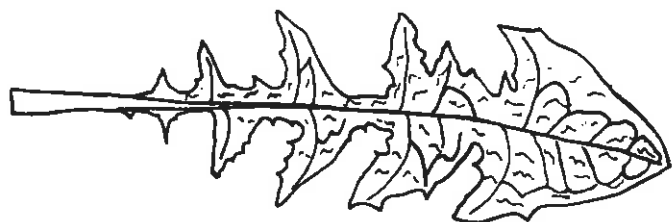
Senecio vulgaris L. — common groundsel



262. Pinnately lobed, 2 to 6 in. long, obtuse, dark green above, pale below, hairy both surfaces and margin, midrib whitish and prominent below.

Plant 1 to 2 ft. high; stems smooth, few-branched; leaves all in basal rosette. Flower about 1 in. across, yellow. May-Oct.

Hypochaeris radicata L. — spotted catsear



263. Pinnately lobed, 3 to 10 in. long, acute, generally with sparse webby hairs above and below, bitter tasting; juice milky.

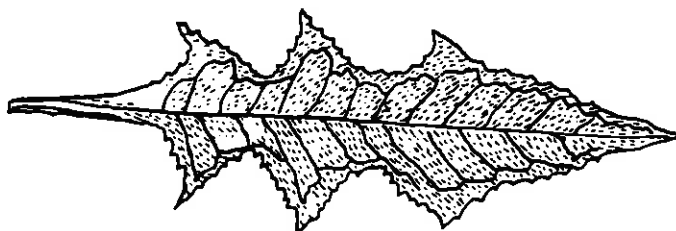
Plant 3 to 18 in. high; stem leafless; all leaves in basal rosette. Flower 1 to 2 in. across, deep golden yellow. Jan.-Dec.

Taraxacum officinale Weber — dandelion

264. Pinnately lobed, 3 to 10 in. long, acute, very short-hairy above, hairy below; juice milky, bitter tasting.

Plant 1 to 3 ft. high; stem erect, branched, smooth; juice milky. Flower about 1 in. across, blue, occasionally pinkish or white. July-Oct.

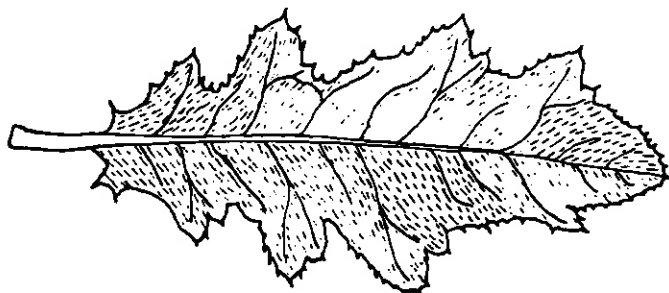
Cichorium intybus L. — chicory



265. Pinnately lobed, 3 to 6 in. long, acute, bristly-hairy above, usually whitish below with midrib hairy, margins sharp-spined.

Plant 2 to 5 ft. high; stem branching only at top, grooved, hairy. Flower about 3/4 in. or less across rose-purple. June-Sept.

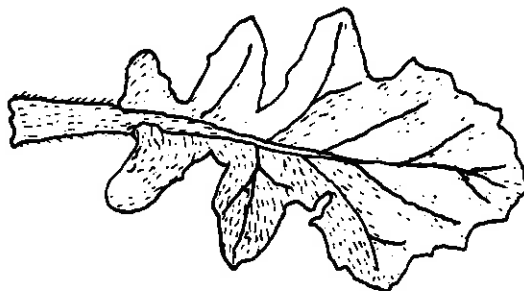
Cirsium arvense (L.) Scop. — Canada thistle



266. Pinnately lobed, 2 to 4 in. long, white hairy above and below and on petiole, often purple shaded above.

Plant 1 to 2 ft. high; stem white hairy, 4-angled, purplish below. Flower 1 in. long, pale purple-blue. May-July.

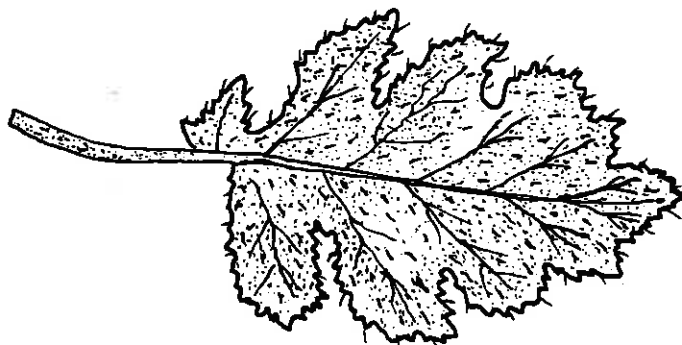
Salvia lyrata L. — lyre-leaved sage



267. Pinnately lobed, 1 to 5 in. long, lobes serrate toothed, acute, rough and at least sparsely hairy above, sparsely hairy on veins below and margin, petiole rough.

Plant 2 to 6 ft. high; stem erect, branched, lower part somewhat hairy. Flower 1/4 to 1/2 in. across, bright yellow. June-Nov.

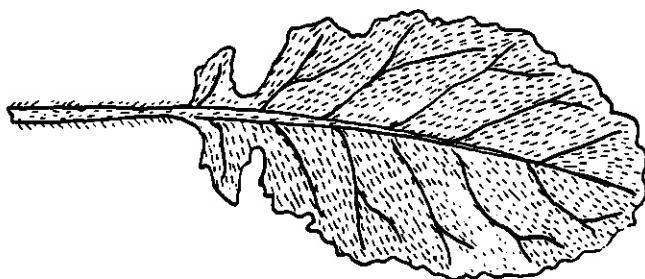
Brassica nigra L. — black mustard

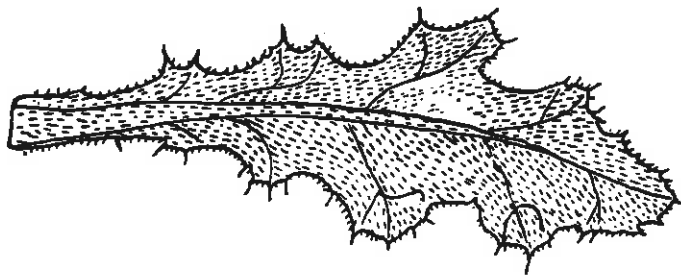


268. Pinnately lobed, 3 to 6 in. long, rounded, margin wavy, hairy above and below, petiole hairy, mustard tasting.

Plant 1 to 3 ft. high; stem erect, branched near top, rough bristly-hairy. Flower 1/2 to 2/3 in. across, bright yellow. May-Nov.

Brassica kaber (DC.) L.C. Wheeler var. *pinnatifida* (Stokes) L.C. Wheeler — wild mustard

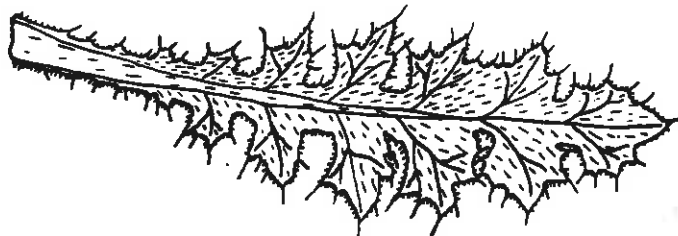




269. Pinnately lobed, to 11 in. long, margin weak spined, long hairy above and below (1st year rosette).

Plant 1 to 4 ft. high; stem stout, mostly unbranched, webby-hairy. Flower 1 ½ to 3 in. across, 1 ½ to 2 ½ in. high, pale yellow, rarely pale purple. May-Aug.

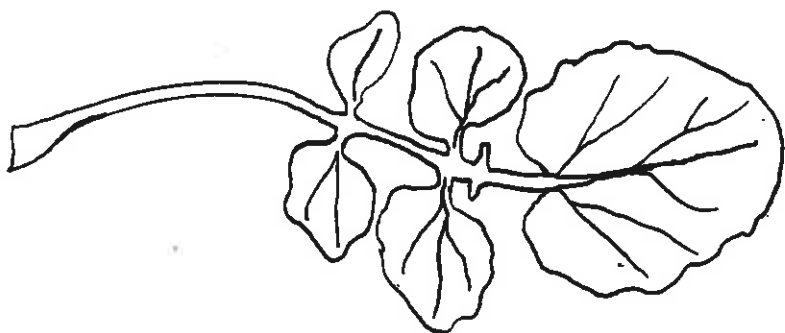
Cirsium borridulum Michx. — yellow thistle



270. Pinnately lobed, to 12 in. long, acute, somewhat hairy above and below, margin with many long sharp spines.

Plant 1 to 3 ft. high; stem stout, at least somewhat hairy. Flower 2 to 3 in. across, sweet scented, purple or sometimes white. July-Sept.

Cirsium pumilum Spreng. — pasture thistle



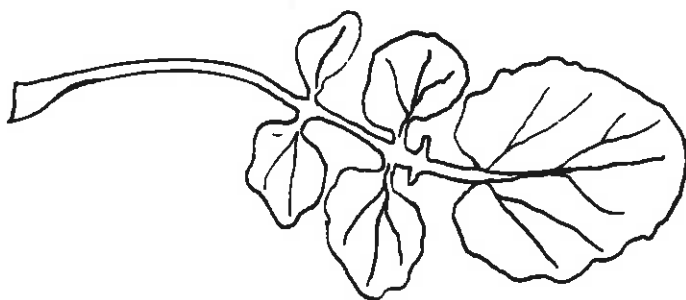
11A. Leaves pinnately lobed, or cleft or compound, usually cut to midrib or almost

Smooth above

271. Pinnately lobed, to 5 in. long, 1 to 4 pairs of small ovate lobes and large ovate to round terminal lobe, glossy above, veins shining below, thick, bright green.

Plant 1 to 2 ft. high; stem erect, smooth. Flowers 1/4 to 1/3 in. across, bright yellow. April-June.

Barbarea vulgaris R. Br. — yellow rocket



272. Similar to above except flowers pale yellow.

Barbarea orthoceras — pale yellow rocket



273. Pinnately lobed, to about 5 in. long, 10 to 20 lateral lobes and large terminal lobe, smooth and shining above, lighter green below.

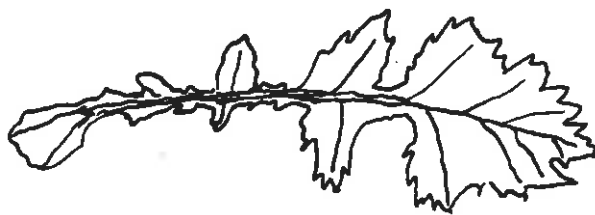
Plant 1 to 2 ft. high. Flowers 1/4 to 1/3 in. across, bright yellow. April-June.

Barbarea verna (Mill.) Aschers — early wintercress

274. Pinnately lobed, to 12 in. long, large toothed terminal lobe, several small lateral lobes, margined petiole-like midrib, smooth and somewhat puckered above, lighter green below, margin with short spines, mustard tasting.

Plant to 2 1/2 ft. high; 1 to 12 stems arising from crown of a thick woody base. Flowers to 3/4 in. across, light yellow. April-June.

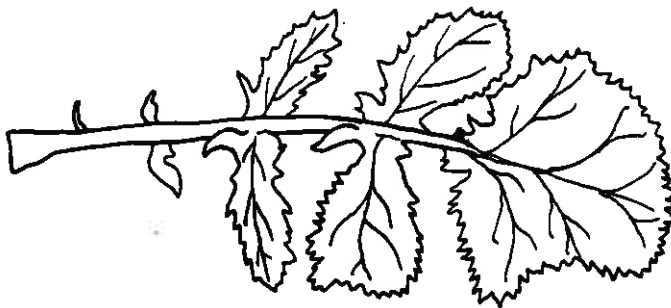
Brassica septiceps — seven-top turnip



275. Pinnately lobed, to 8 in. long, sharp toothed, smooth above and below, some bloom above, long petiole.

Plant 2 to 4 ft. high; stem erect, smooth or slightly hairy. Flower 1/2 to 3/4 in. across, bright yellow. May-June.

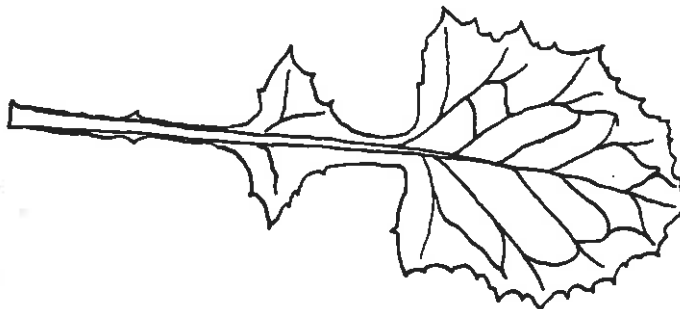
Brassica juncea (L.) Coss. — Indian mustard



276. Pinnately lobed, 4 to 10 in. long, smooth above, powdery bloom below, margin weak spined, dull green.

Plant 1 to 6 ft. high; stem erect, stout and smooth, succulent, hollow between nodes; upper leaves clasping round stem, terminal lobe more acute, more lateral lobes. Flower 3/4 to 1 1/4 in. across, yellow. May-Nov.

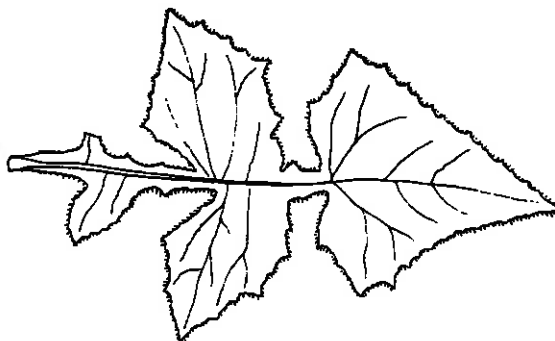
Sonchus oleraceus L. — annual sowthistle



277. Pinnately lobed, 4 to 12 in. long, acute to acuminate, lobes sharply toothed, smooth above, short hairy on principal veins below, margin short-hairy.

Plant 2 to 7 ft. high; stem stout, short-hairy. Flowers numerous, heads 1/4 to 1/2 in. across, blue. July-Oct.

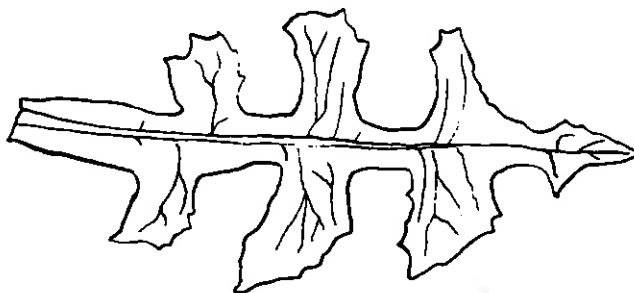
Lactuca floridana (L.) Gaertn. — blue lettuce

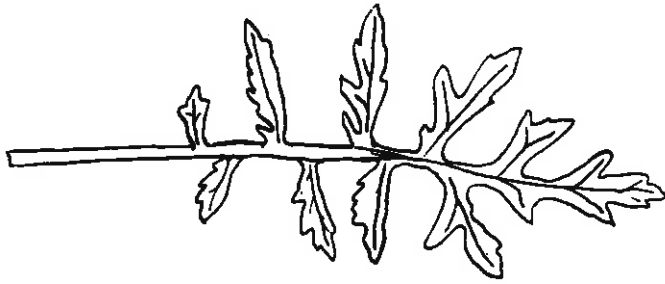


278. Pinnately lobed, 4 to 10 in. long, acute, smooth above, few long hairs on midrib below.

Plant 3 to 10 ft. high; stem stout, smooth, whitish bloom. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

Lactuca canadensis L. — tall lettuce

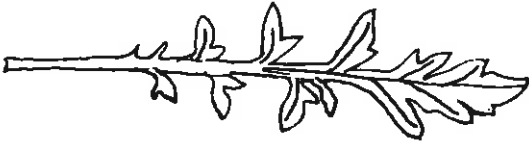




279. Pinnately cleft, to 8 in. long, lobes toothed or cut, smooth above and below.

Plant to 2 ft. tall; stems spreading or ascending; creeping rootstock. Flower about 1/5 in. wide, bright yellow. May-Sept.

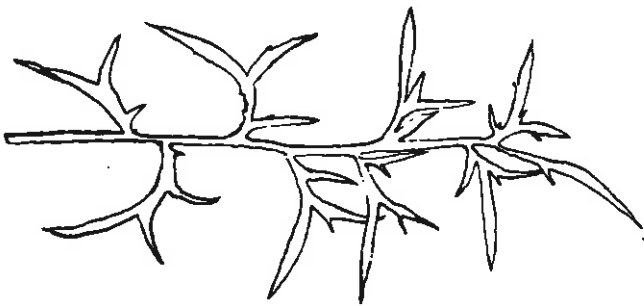
Rorippa sylvestris (L.) Bess — yellow fieldcress



280. Pinnately lobed, 1 to 3 in. long, acute, smooth or nearly so, sharply mustard tasting.

Plant 6 to 18 in. high; stem smooth or slightly downy. Flower 1/16 to 1/12 in. across, white. May-Nov.

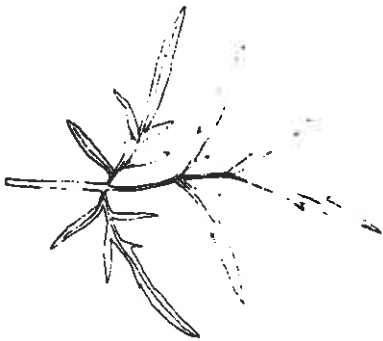
Lepidium virginicum L. — Virginia pepperweed



281. Pinnately dissected into linear divisions, to 10 in. long, smooth above and below, petiole grooved above.

Plant to 20 in. high; stem branched; upper leaves cordate, clasping. Flowers about 1/8 in. across, white. June-July.

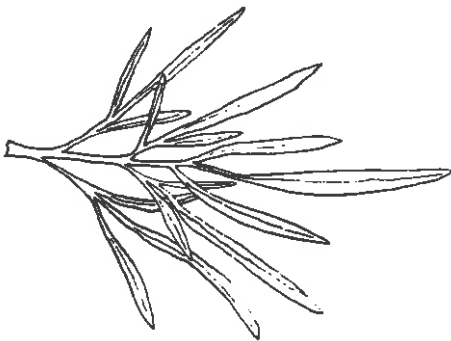
Lepidium perfoliatum L. — yellowflower pepperweed



282. Pinnatifid, to 6 in. long, 3 to 7 linear leaflets, lower leaflets commonly pinnatifid, acute to acuminate.

Plant 1 to 5 ft. high, usually freely branching. Flower 1 to 2 1/2 in. across, bright golden yellow. Aug.-Oct.

Bidens coronata (L.) Britt. — crowned tickseed-sunflower



283. 1 to 2 pinnately divided, mostly 2 to 4 in. long, segments long and narrow, smooth and shining above and below.

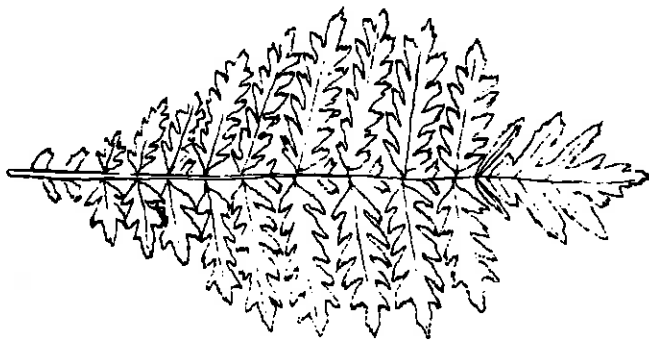
Plant 2 to 4 ft. high; stem smooth, many slightly angled branches. Flower about 1 in. across, petals 3-lobed at top, yellow with red-brown base, center red-purple or brown. June-Sept.

Coreopsis tinctoria Nutt. — tickseed

284. 1 to 3 pinnately divided, 4 to 8 in. long, leaflets sharply toothed, punctuate dotted above, fragrant when bruised.

Plants 1 to 3 ft. high; stem sparingly fine-hairy. Flowers in heads 1/4 to 1/2 in. across, yellow. July-Sept.

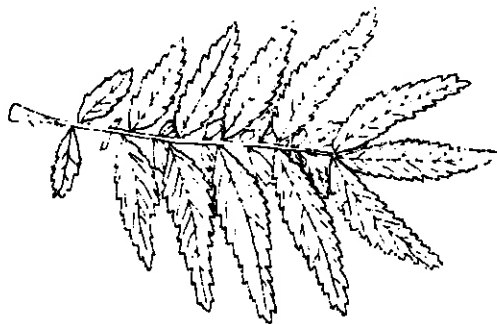
Tanacetum vulgare L. — tansy



285. Pinnately compound, 4 to 6 in. long, leaflets sharply serrate, smooth above, short hairy below and on margin, petiole long hairy.

Plant 2 to 5 ft. high; stem densely bristly, branching near top. Flower 1/4 in. across, in clusters 1 to 2 in. long, pale yellow. July-Oct.

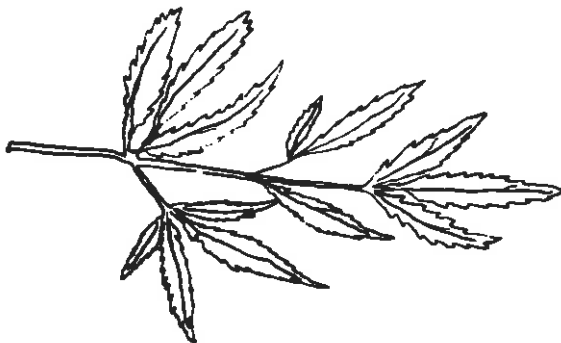
Agrimonia parviflora Ait. — small-flowered agrimony



286. 2 to 3-pinnate, to 12 in. long, leaflets 1 1/2 to 4 in. long, narrowly lanceolate, acuminate, margin sharply serrate, smooth above and below.

Plant 3 to 6 ft. high; stem often mottled with purple below, stout. Flowers small, in clusters 2 to 4 in. across, white. June-Sept.

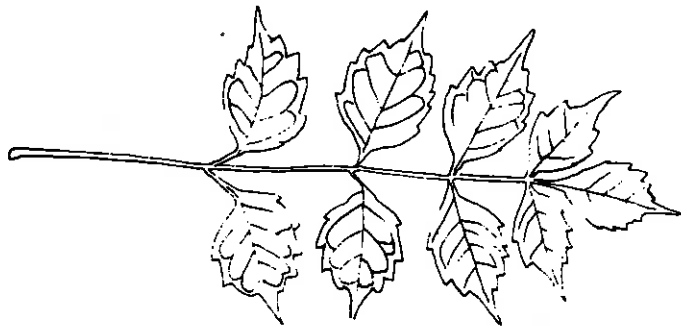
Cicuta maculata L. — spotted waterhemlock



287. Pinnately compound, 5 to 15 in. long, leaflets ovate, acuminate, sharply toothed, smooth above, short-hairy below.

Plant trailing, 20 to 40 ft. long; stem smooth, woody. Flower about 2 1/2 in. long, orange and scarlet. July-Sept.

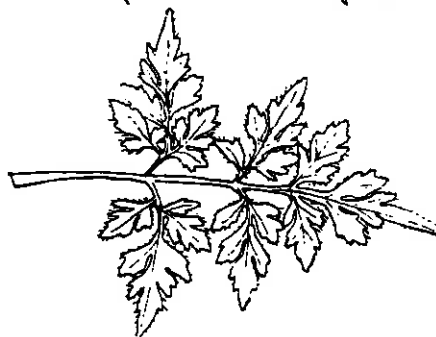
Campsis radicans (L.) Seem. — trumpet creeper

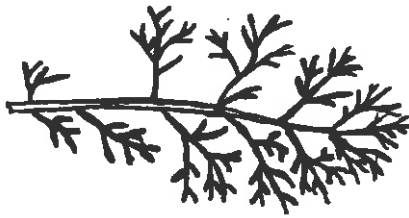


288. 2 to 3-pinnately divided, 4 to 8 in. long, leaflets ovate-lanceolate, smooth and dull above, veins very short-hairy and shining below, margin very short-hairy, petiole grooved above.

Plant erect, 1 to 5 ft. high, branching. Flowers in heads, 1/6 to 1/3 in. across, pale greenish yellow. Aug.-Oct.

Bidens bipinnata L. — spanish needles

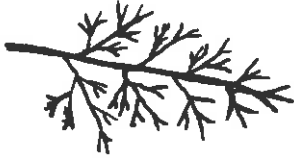




289. 2- to 3-pinnate with very narrow segments, to 8 in. long, minutely granular above and below, thick, ill-smelling.

Plants 12 to 24 in. high; stem hairy above. Flower 1 in. across, white, June-Oct.

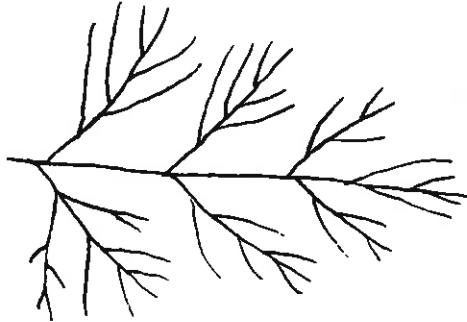
Anthemis cotula L. — mayweed



290. 2 to 3-pinnately parted into short linear lobes, 1/2 to 2 in. long, odor of pineapple when bruised.

Plant 6 to 18 in. high, branched. Flower 1/4 to 1/3 in. across, greenish yellow. June-Oct.

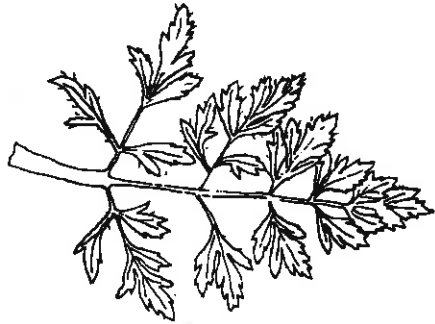
Matricaria matricarioides (Less.) Porter — pincapple-weed



291. Twice-pinnately lobed, to about 4 in. long, segments threadlike.

Plant 3 to 9 ft. high; stem upright, hairy, stout, much branched near top. Flowers 1/16 to 1/8 in. long, numerous, white. Sept.-Oct.

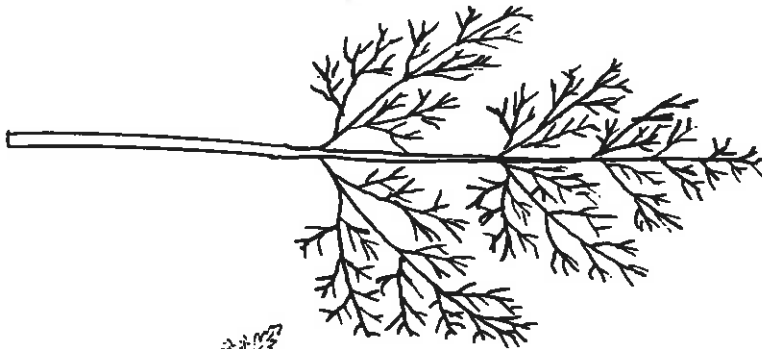
Eupatorium capillifolium (Lam.) Small — dogfennel



292. Twice-pinnately compound with narrow segments, to 5 in. long, few short hairs on veins below and margins, pale green, thin, strong carrot taste.

Plant 1 to 4 ft. high; stem hairy. Flowers in flat clusters 2 to 4 in. across, white, rarely pinkish. May-Oct.

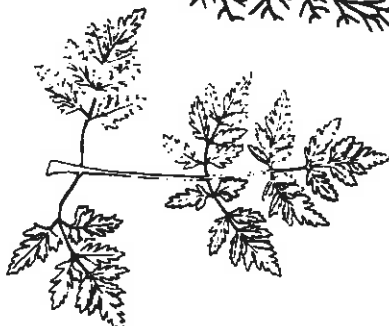
Daucus carota L. — wild carrot



293. 3 to 4 times pinnately dissected, into linear segments, to 12 in. long, glaucous, long petiole.

Plant stout; stem branched, to 6 ft. high, aromatic. Flowers small, in flat clusters 3 to 5 in. across, yellow. June-Sept.

Foeniculum vulgare Mill. — common fennel



294. 3 to 4-pinnately compound and lobed, 4 to 8 in. long, smooth above and below.

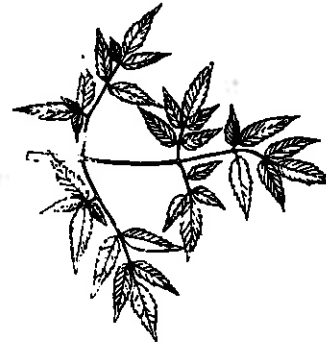
Plant 2 to 10 ft. high; stem branched, hollow, purple blotched. Flower about 1/12 in. across, in clusters 1 to 3 in. across, white. June-July.

Conium maculatum L. — poison hemlock

295. 3-pinnately compound, 4 to 12 in. long, leaflets acuminate toothed, smooth above and below, petioles purplish.

Plant 3 to 8 ft. high; stem stout, smooth, hollow, usually dark purple. Flower small, in clusters 4 to 8 in. across, greenish white. June-Aug.

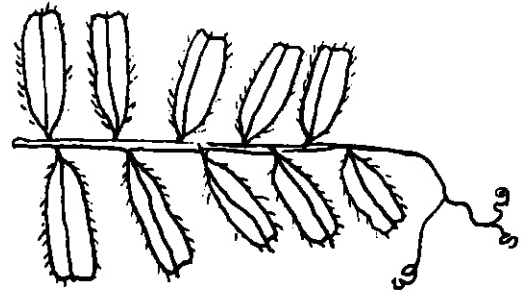
Angelica atropurpurea L. — purplestem angelica



296. Pinnately compound, 3 to 7 pairs linear to oblong leaflets to 1 1/4 in. long, leaflets with blunt squarish tips and a short spine, smooth above, short-hairy below and on margin.

Plants to 2 ft. high, branched, ascending. Flowers about 1 in. long, mostly greenish yellow, sometimes violet-marked. April-June.

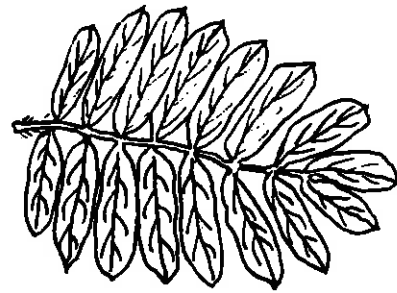
Vicia grandiflora Scop. — showy vetch



297. Pinnately compound with 10 to 15 pairs of linear oblong leaflets 2/5 to 4/5 in. long, leaflets spine tipped, smooth above or with a few scattered hairs, smooth below, margins rough, petiole short-hairy.

Plants erect, to 2 1/2 ft. high. Flowers 1 to 1 1/2 in. across, bright yellow. July-Sept.

Cassia fasciculata Michx. — partridgepea



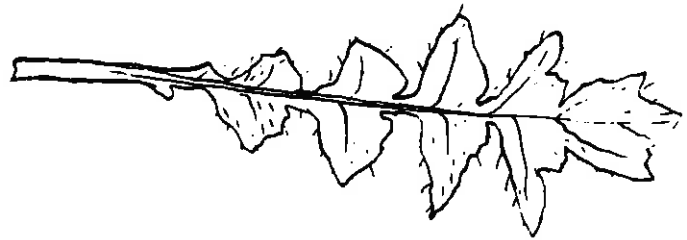
11B. Leaves pinnately lobed or cleft or compound, usually cut to midrib or almost

Rough or hairy above

298. Pinnately lobed, 1 to 5 in. long, sparsely hairy above and below, few long hairs on margin.

Plant 6 to 20 in. high; stem smooth above, sparingly downy below. Flower 1/12 in. across, in clusters 6 to 10 in. long, white. Mar.-Dec.

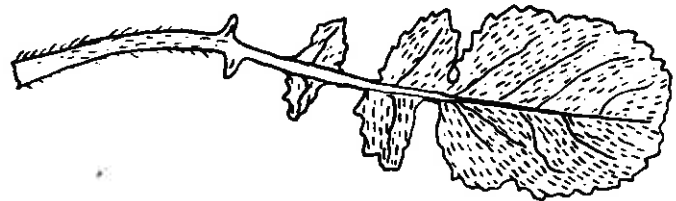
Capsella bursa-pastoris (L.) Medic. — shepherdspurse

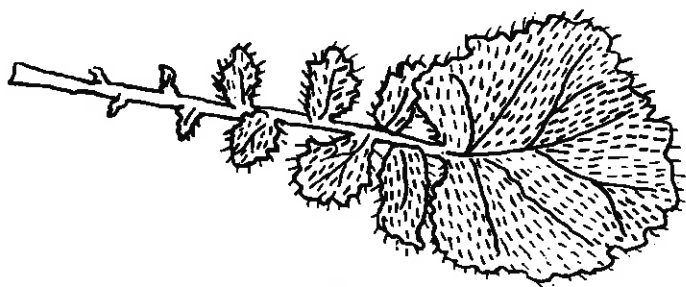


299. Pinnately lobed with large terminal lobe, to 8 in. long, lobes wavy-dentate, stiff-hairy above and on veins below, petiole hairy, mustard tasting.

Plant upright, to 4 ft. tall; stem more or less hairy. Flowers about 3/5 in. across, yellow. June-Aug.

Brassica hirta Moench — white mustard

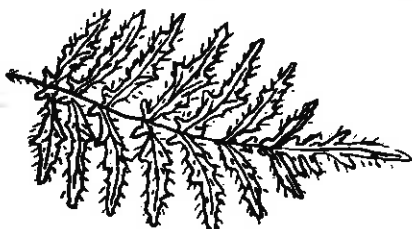




300. Pinnately lobed with large terminal lobe, to 8 in. long, oblong lateral lobes, all lobes toothed, rough-hairy above and below, margin hairy.

Plants to 3 ft. high; stems usually hairy. Flowers $\frac{1}{2}$ to $\frac{3}{4}$ in. across, pale yellow, becoming pink-purple or white, veiny. April-Nov.

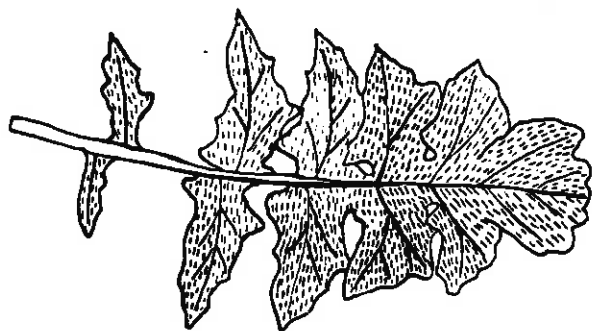
Raphanus raphanistrum L. — wild radish



301. Pinnately lobed, 4 to 8 in. long, lobes narrow and toothed, hairy above and on margin, petiole hairy.

Plant 1 to 4 ft. high; stem hairy at least below, bushy branching. Flower about $\frac{1}{4}$ in. across, pale yellow. May-Aug.

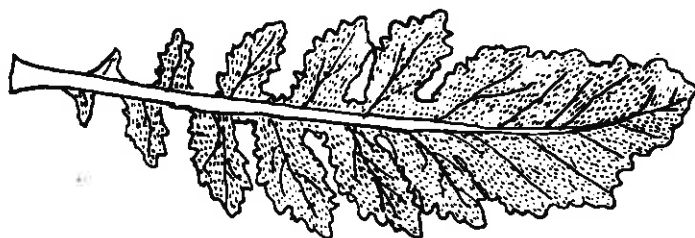
Sisymbrium altissimum L. — tumble mustard



302. Pinnately lobed, 4 to 10 in. long, stiff-hairy above and below, dull yellow-green above.

Plant 1 to 4 ft. high; stem erect, stiff, a few branches above. Flower about $\frac{1}{8}$ in. across, yellow. May-Nov.

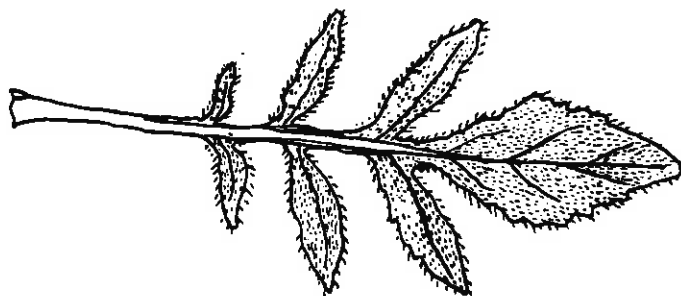
Sisymbrium officinale (L.) Scop. — hedge mustard



303. Pinnately lobed, to 6 in. long, lobes sharply toothed, short-hairy above, smooth below.

Plants erect, to 3 ft. tall. Flowers about $\frac{1}{5}$ in. across, yellow. May-Sept.

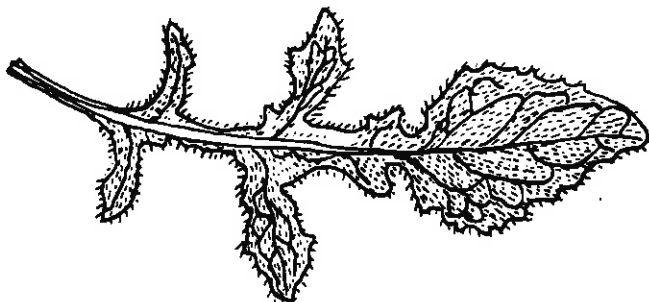
Rorippa islandica (Oeder) Borbas — marshcress



304. Pinnately lobed with narrow lobes, 4 to 12 in. long, terminal lobe generally toothed, granular-dotted and rough or short-hairy above and below, margin short-hairy.

Plant branching, 2 to 3 ft. high; stems wiry. Flowers in heads about $\frac{3}{4}$ in. across, pink-purple. June-Aug.

Centaurea maculosa Lam. — spotted knapweed



305. Pinnately lobed with large terminal lobe, $2\frac{1}{2}$ to 6 in. long, short hairy above and below and on margin.

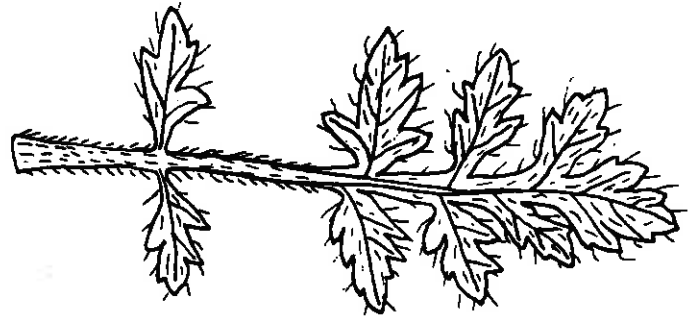
Plants to $2\frac{1}{2}$ ft. tall; stems stiff, rough-hairy. Flowers in heads $\frac{3}{4}$ to 1 in. across, rose-purple. July-Sept.

Centaurea nigra L. — black knapweed

306. Pinnately divided, to 6 in. long, lobes toothed or divided, sparsely long hairy above and below and on margin, petiole hairy.

Plant to 2 ft. high; usually with many flowering stems arising from crown, stems sparingly branched, rough and long hairy, seed capsules club-shaped. Flowers about 2 in. across, bright scarlet. May-July.

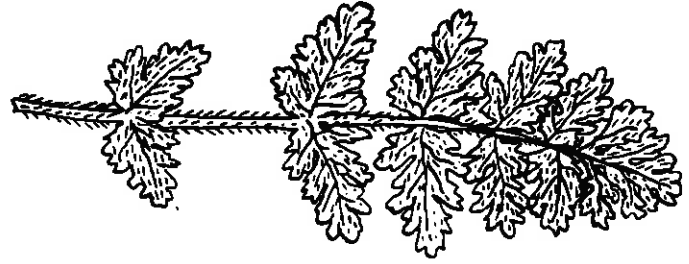
Papaver dubium L. — field poppy



307. Pinnately compound, to 5 in. long, leaflets sessile and toothed or lobed (2/5 to 1 in. long), hairy above and below; petiole rough-hairy.

Plants with stems to 12 in. long, mostly prostrate; stems sticky hairy. Flowers 1/3 to 1/2 in. across, pale purple or pink. Mar.-Nov.

Erodium cicutarium (L.) L'hér. — redstem filaree



308. Pinnately compound, 1 to 4 in. long, 3 to 4 pairs of slenderly-petioled round to reniform leaflets, all leaflets generally toothed or shallowly few-lobed, terminal leaflet usually the largest, few stiff hairs above, petiole long-hairy at base.

Plant erect, 4 to 10 in. high, few-branched; many stems arising from crown. Flowers 1/6 in. across, white. Mar.-April.

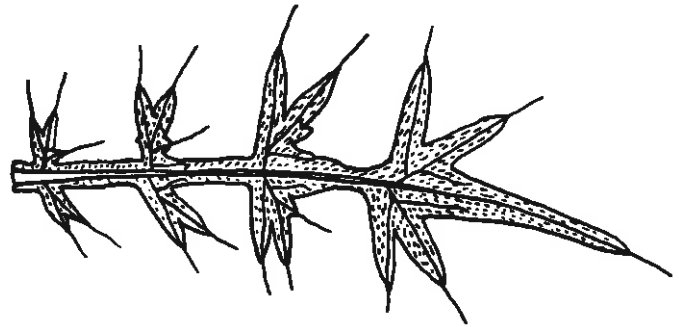
Cardamine hirsuta L. — hairy bittercress



309. Pinnately lobed with lobes again toothed or lobed, to 18 in. long, short-hairy above, woolly-hairy below, margin with long sharp spines, very crisp.

Plants stout, 2 to 7 ft. high. Flowers in heads to 2 in. across, purple, fragrant. June-Sept.

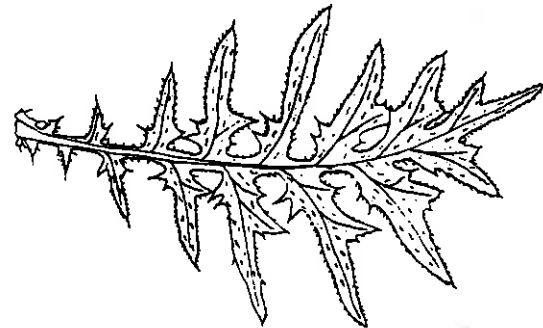
Cirsium vulgare (Savi) Tenore — bull thistle



310. Pinnately lobed, to 9 in. long, lobes toothed, slightly rough and somewhat hairy above, webby-hairy below, margin weakly spined.

Plant 3 to 8 ft. high; stem branching near top, angled, woolly-hairy when young. Flower about 1 1/2 in. across, purple. July-Oct.

Cirsium muticum Michx. — swamp thistle

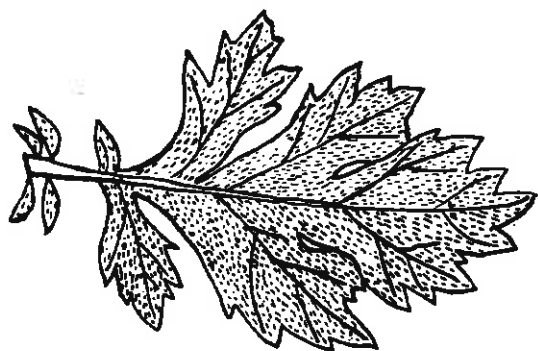




311. Pinnately lobed, to 10 in. long, very prickly with long yellowish spines, webby-hairy above, white matted-hairy below.

Plant 1 to 4 ft. high; stem stout, mostly unbranched, webby-hairy. Flower 1 ½ to 3 in. across, 1 ½ to 2 ½ in. high, pale yellow, rarely pale purple. May-Aug.

Cirsium horridulum Michx. — yellow thistle



312. Pinnately cleft, 2 to 4 in. long, segments acuminate, short-hairy above, dense matted white-hairy below, aromatic.

Plant upright 1 to 4 ft. high; spreading by rootstocks. Flowers in heads 1/6 in. across, yellowish green. July-Sept.

Artemisia vulgaris L. — mugwort



313. Pinnately lobed, to 8 in. or more long, 5 to 7 deeply cut lobes or leaflets, acuminate toothed, rough above and below.

Plant 2 to 9 ft. high; stem erect, smooth often whitish. Flower 2 to 4 in. across, yellow. July-Sept.

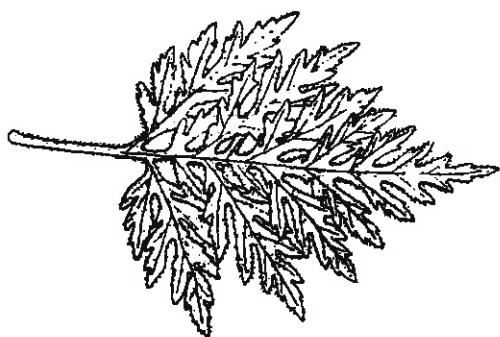
Rudbeckia laciniata L. — cutleaf goldenglow



314. Pinnately or bipinnately compound, 2 to 7 in. long, very short-hairy above, short-hairy below, margin very short-hairy, petiole somewhat rough above.

Plant 1 to 5 ft. tall, branching. Flowers to 2 in. across, golden yellow. Aug.-Oct.

Bidens polylepis Blake — coreopsis beggarticks



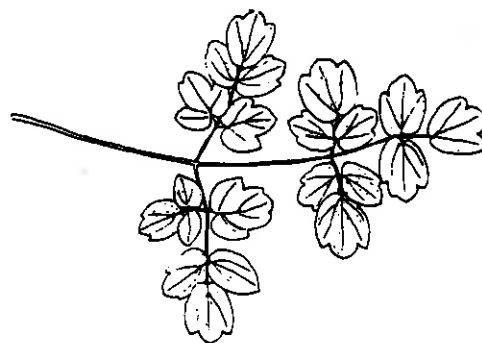
315. Bipinnately lobed, 2 to 4 in. long, narrow segments, short-hairy above and below and on margin, petiole hairy.

Plants branching, 1 to 5 ft. high; stem rough hairy. Flowers small, in clusters 1 to 6 in. long, green. July-Oct.

Ambrosia artemisiifolia L. — common ragweed

316. 2 to 3-pinnately compound, to 10 in. long, leaflets roundish, mostly 3 or 4-lobed at top, sparsely short-hairy above, short-hairy below, veins prominent below. Plant to 4 ft. high; stem erect, hollow, somewhat ridged, purplish. Flowers small, in clusters, greenish white. May-June.

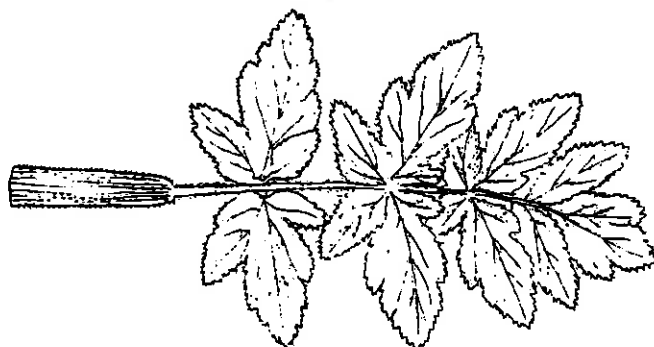
Thalictrum revolutum DC. — purple meadowrue



317. Pinnately compound, to 18 in. long, each leaflet cut or lobed and toothed on margin, slightly rough with very short hairs above and below and on margin; petiole very short-hairy, grooved on top, lower part sheathing stem.

Plant 2 to 5 ft. high; stem stout, hollow. Flowers small, in flat-topped clusters 2 to 6 in. across, dull yellow. June-Sept.

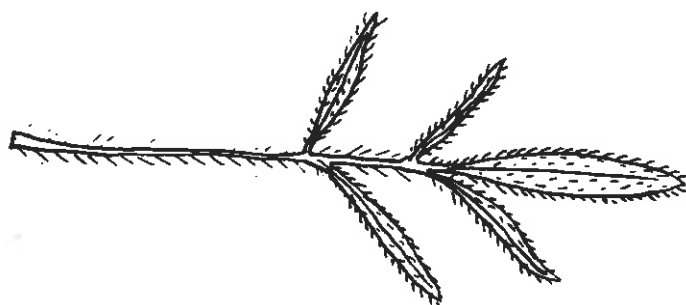
Pastinaca sativa L. — wild parsnip



318. Pinnately lobed, 2 to 6 in. long, 1 to 2 pair narrow lobes, sparsely hairy above and below, margin hairy, petiole long-hairy and with deep groove on top.

Plant 1 to 2 1/2 ft. high; stem angled and hairy below, branching. Flower 1 1/2 to 2 in. across, yellow. May-July.

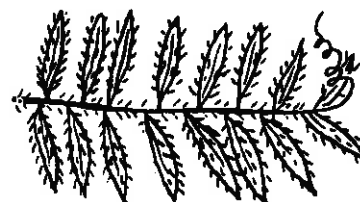
Coreopsis lanceolata L. — coreopsis



319. Pinnately compound, 5 to 10 pairs oblong to linear leaflets, 2/3 to 5/6 in. long, sharp-pointed, at least a few hairs above, hairy below and on margin, petiole sparsely hairy.

Plant 2 to 4 ft. long; stem climbing by tendrils, finely hairy, angled. Flower 1/2 in. long, in clusters 1 to 4 in. long, violet-blue. May-Aug.

Vicia cracca L. — bird vetch

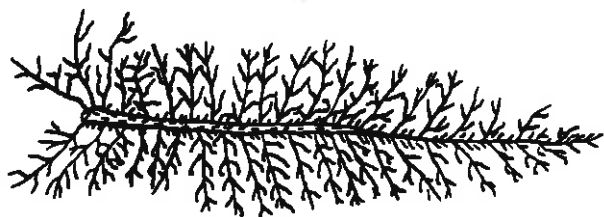


320. Twice-pinnately parted, to 2 in. long, hairy above and below, grayish-green.

Plant 9 to 20 in. high; stems hairy, usually reclining. Flowers 1 to 1 1/2 in. across, white. May-Oct.

Anthemis arvensis L. — corn chamomile





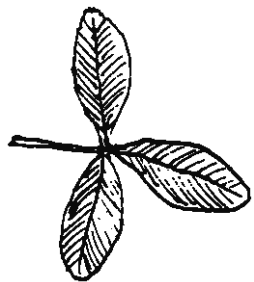
321. Bipinnately dissected into fine divisions, 1 1/4 to 6 in. long, scattered long hairs above and on margin, shorter hairs below, petiole hairy.

Plants upright, stiff, 1 to 2 ft. high. Flowers in heads to 1/4 in. across, white, rarely pinkish. June-Sept.

Achillea millefolium L. — common yarrow

12A. Leaves palmately parted or compound

Smooth above



322. Trifoliate, leaflets oblong-ovate, 2/5 to 4/5 in. long, finely serrate, sessile or nearly so, smooth above and below.

Plant 6 to 18 in. high; stem branching, erect or somewhat reclining. Flowers 1/2 to 3/4 in. long, golden yellow. Mar.-Sept.

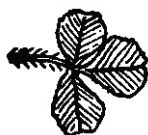
Trifolium agrarium L. — hop clover



323. Trifoliate, leaflets obovate, 1/3 to 1/2 in. long, shallowly dentate, notched at apex, terminal leaflet petioled, smooth above, few hairs below, petiole hairy.

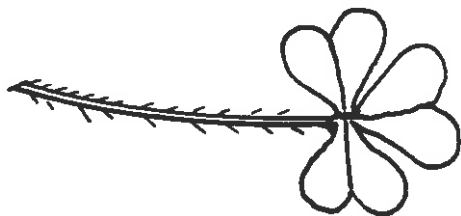
Plant often depressed or with wide-spreading branches, to 12 in. long. Flowers in head 1/3 to 1/2 in. long, golden yellow. May-Sept.

Trifolium procumbens L. — low hop clover



324. Trifoliate, similar to above but leaves, flowers and plant smaller.

Trifolium dubium Sibth. — small hop clover



325. Palmately compound with 3 sessile inverted-cordate leaflets, 1/3 to 3/5 in. wide, smooth with glistening granules above, few scattered hairs below and on petiole, bitter tasting.

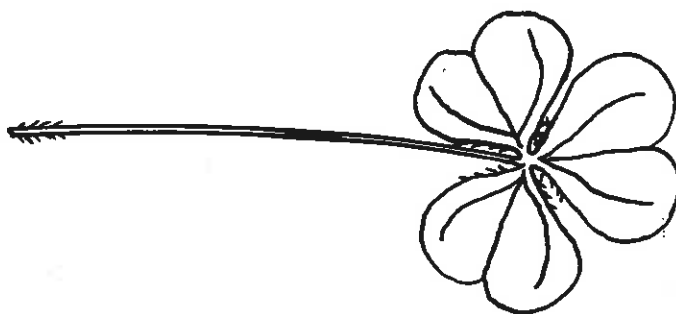
Plant creeping; stem often rooting at nodes, 3 to 12 in. long, hairy. Flowers 1/6 to 1/2 in. long, yellow. Feb.-Nov.

Oxalis corniculata L. — creeping woodsorrel

326. Palmately compound with 3 sessile inverted-cordate leaflets $2/5$ to $4/5$ in. wide, smooth above and below, few short hairs on lower part of margin and base of petiole, bitter tasting.

Plant erect or depressed, branched, to 24 in. high. Flowers $1/5$ to $2/5$ in. long, yellow. May-Oct.

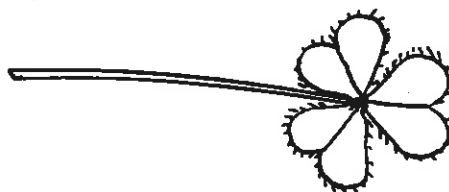
Oxalis europaea Jord. — European woodsorrel



327. Palmately compound with 3 inverted-cordate leaflets $2/5$ to $3/4$ in. wide, smooth or nearly so above, very short-hairy below and on margin, long slender petiole, bitter taste.

Plants 6 to 15 in. high, pale green; stout stems covered with fine hairs. Flowers $1/2$ in. long, yellow. April-Oct.

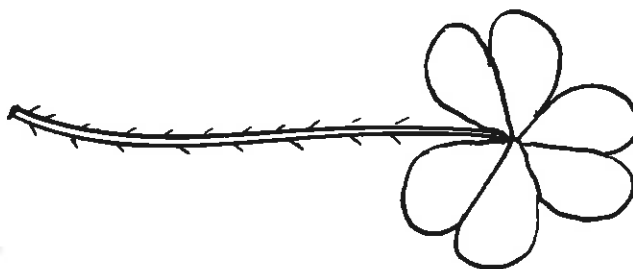
Oxalis stricta L. — common yellow woodsorrel



328. Palmately compound with 3 sessile inverted-cordate leaflets to more than $3/4$ in. wide, smooth above, glistening granular bloom below, petiole with a few scattered hairs.

Plant stemless, leaf and flower stems arising from base, to 10 in. high. Flower $2/5$ to $3/5$ in. long, rose-violet. May-June.

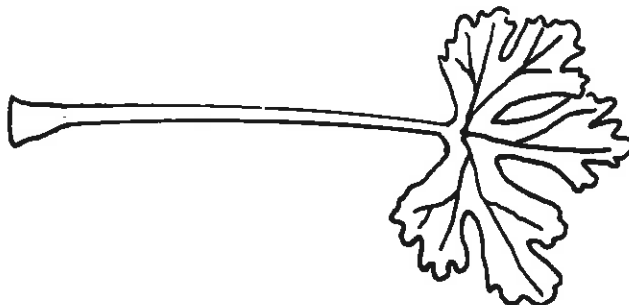
Oxalis violacea L. — violet woodsorrel



329. Palmately 3-parted, each part lobed and round toothed, yellowish green above, fine whitish granules below, smooth above and below.

Plant 6 to 24 in. high; stems stout, hollow. Flower $1/4$ to $1/3$ in. across, pale yellow. April-Aug.

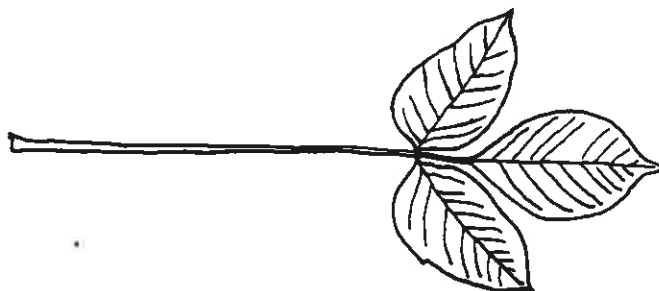
Ranunculus scleratus L. — celeryleaf buttercup

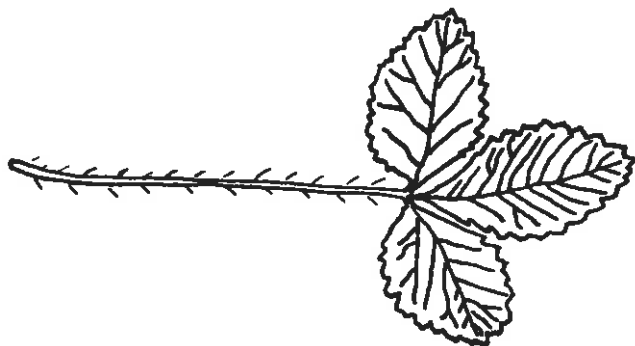


330. Palmately compound, 3 ovate leaflets, $1\frac{1}{2}$ to 4 in. long, acute to acuminate, shiny above, smooth to hairy below, margin smooth or irregularly toothed.

Plant upright, trailing or high-climbing; stem woody, supported by aerial roots; leaves red or reddish-yellow in fall. Flower small, in head 1 to 3 in. long, green. June-July.

Rhus radicans L. — poison ivy

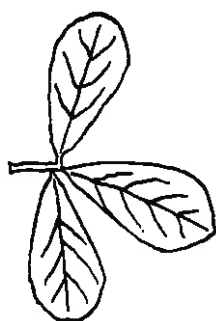




331. Palmately 3-foliolate, leaflets $\frac{3}{4}$ to 2 in. long, crenate, smooth above, sparsely hairy below, petiole sparsely hairy.

Plants with trailing runners, 1 to 3 ft. long; stems silky-downy. Flowers about $\frac{3}{5}$ in. across, yellow. Fruit resembling a strawberry but insipid. April-July.

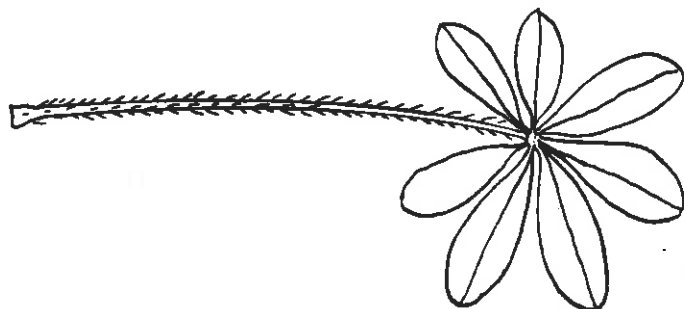
Duchesnea indica (Andr.) Focke — Indian mockstrawberry



332. Palmately lobed, leaflets $\frac{2}{5}$ to $\frac{4}{5}$ in. long, rounded, smooth above and below, paler below.

Plant to 3 ft. high; stem widely branched, smooth, rigid. Flower about $\frac{1}{3}$ to $\frac{1}{2}$ in. long, yellow. June-July.

Baptisia tinctoria (L.) R. Br. — wild indigo



333. Palmately compound, 7 to 11 leaflets, longest to 2 in., smooth or a few hairs above, hairy below, petiole long and hairy.

Plant 1 to 2 ft. high; stem erect, hairy. Flower $\frac{1}{2}$ to $\frac{2}{3}$ in. across, in clusters 4 to 10 in. long, blue, rarely white or pink. May-June.

Lupinus perennis L. — perennial lupine

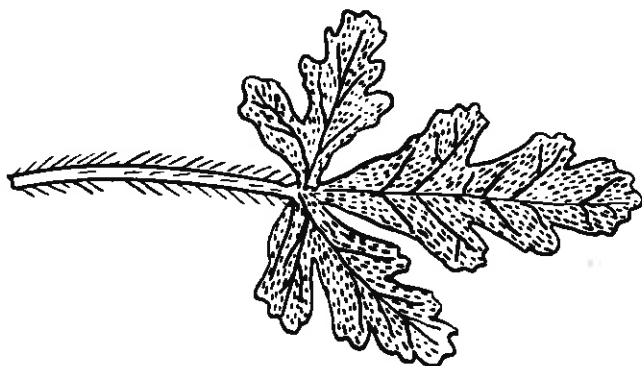


12B. Leaves palmately parted or compound
Rough or hairy above

334. Palmately 3-foliolate, leaflets elliptic to obovate, $\frac{2}{5}$ to $\frac{4}{5}$ in. long, hairy above and below, margin finely serrate and hairy, toothed at apex.

Plants generally prostrate and spreading, 1 to 2 ft. long. Flowers $\frac{1}{12}$ in. long, in heads about $\frac{1}{4}$ in. long, yellow. Mar.-Dec.

Medicago lupulina L. — black medic



335. Deeply 3-parted, segments oblong to obovate, coarsely serrate or lobed, longest segment about $1 \frac{1}{4}$ in., very short-hairy and a few long hairs above, sparsely hairy below, petiole long-hairy.

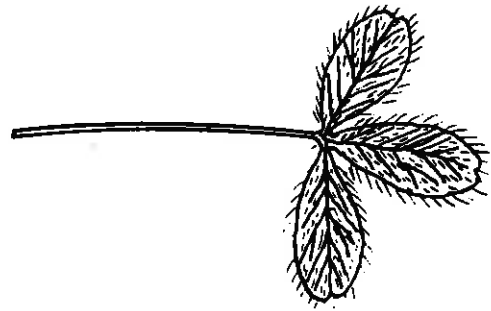
Plants branching, often reclining, 1 to 2 ft. long. Flowers 1 to 2 in. across, yellow. July-Sept.

Hibiscus trionum L. — Venice mallow

336. Palmately compound with 3 narrowly oblanceolate leaflets, 2/5 to 4/5 in. long, silky-hairy above and below; margin long-hairy and sometimes finely serrate and notched at tip.

Plants 6 to 18 in. high; stem silky-hairy, branching. Flowers in heads 1/2 to 1 in. long, grayish-pink, softly silky. May-Sept.

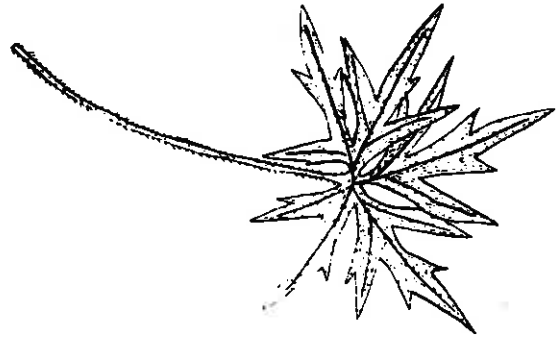
Trifolium arvense L. — rabbitfoot clover



337. Palmately divided into 3 to 5 deeply cleft obovate segments, these cleft into oblong or linear lobes, to 3 in. wide and long, hairy above and below, petiole hairy, bitter tasting.

Plants 2 to 3 ft. high; stem hairy below, hollow. Flower about 1 in. across, deep yellow. May-Sept.

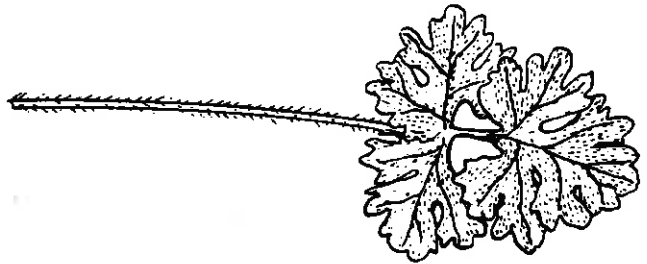
Ranunculus acris L. — tall buttercup



338. Palmately 3-parted, to 3 in. long, petioled segments broadly obovate to round in general outline, cleft or lobed, sharply toothed, hairy above and below, petiole hairy.

Plants 1 to 3 ft. long, creeping; stem usually hairy at base. Flower 1 in. across, bright yellow. May-July.

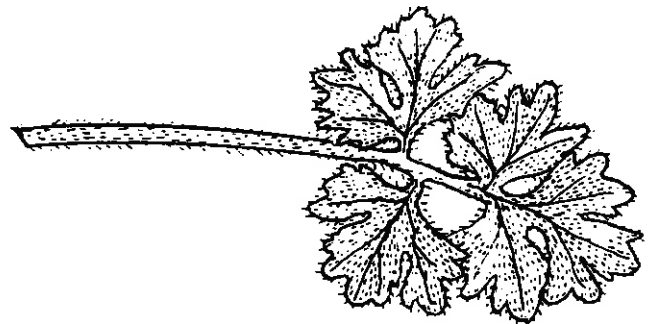
Ranunculus repens L. — creeping buttercup



339. Palmately 3-parted, each roundish division with 3 notched leaflets, grayish-hairy above, and short-hairy below, hairy on margin and petiole.

Plants 6 to 8 in. high; stem erect, hairy, bulbous below ground. Flowers 1 in. across, bright yellow. May-July.

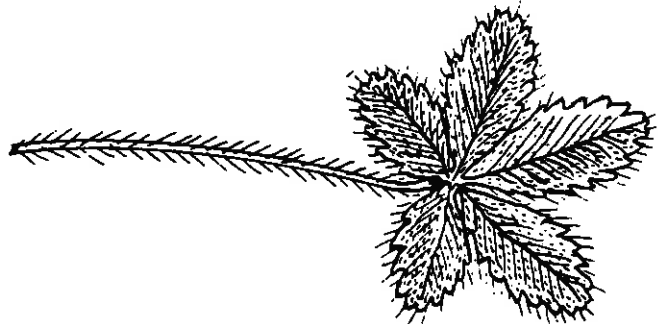
Ranunculus bulbosus L. — bulbous buttercup

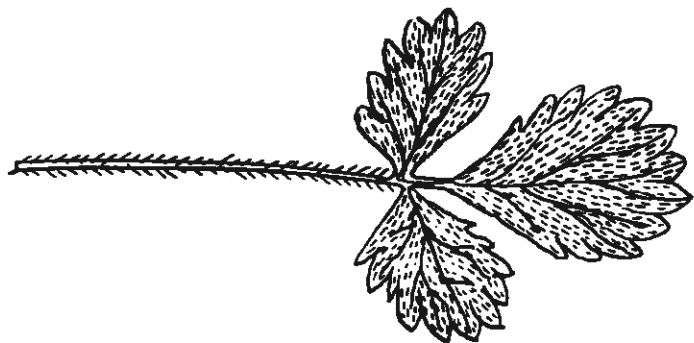


340. Palmately compound with 5 oblanceolate leaflets, longest about 1 in., serrate, soft-hairy above and below; margins and petiole long-hairy.

Plants 6 to 24 in. long, prostrate; stems slender, hairy. Flowers 1/4 to 1/2 in. across, yellow. April-Aug.

Potentilla canadensis L. — common cinquefoil

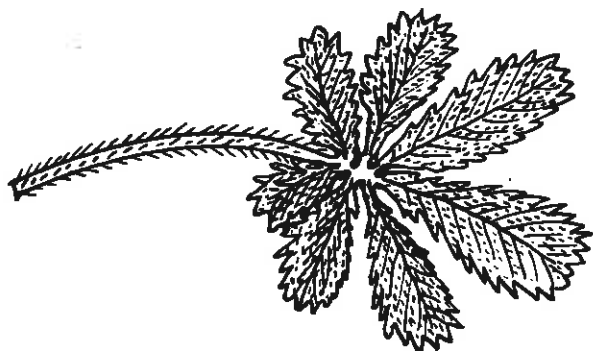




341. Palmately 3-foliolate, leaflets obovate to oblanceolate, to 3 in. long, coarsely serrate, rough-hairy above and below, veins depressed above and prominent below, petiole long and rough-hairy.

Plant stout, leafy, branched, 4 to 30 in. high. Flowers 1/4 in. wide, yellow. June-Oct.

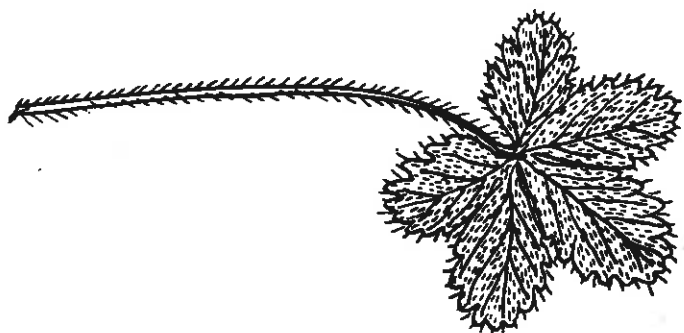
Potentilla norvegica L. — rough cinquefoil



342. Digitately 5- to 7-foliolate, leaflets oblanceolate, 1 1/4 to 5 1/2 in. long, coarsely serrate, rough-hairy above and below, paler below, veins depressed above and prominent below, petiole rough-hairy.

Plant erect, 1 to 3 ft. high; stems stout, hairy. Flowers 1/2 to 3/4 in. across, pale yellow. June-Sept.

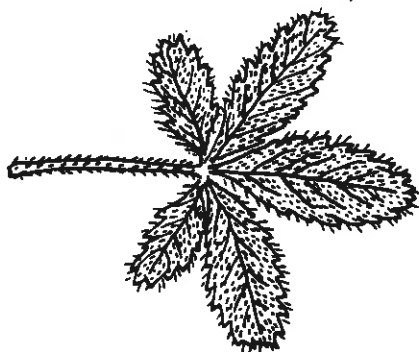
Potentilla recta L. — sulfur cinquefoil



343. Palmately compound with 5 or 7 leaflets (sometimes 3, 4 or 6), median leaflet 4/5 to 2 in. long, all crenately toothed on upper 2/3, short-hairy above, hairy below and on margin, petiole hairy.

Plant prostrate and creeping, to 3 ft. long. Flowers to 1 in. wide, yellow. May-July.

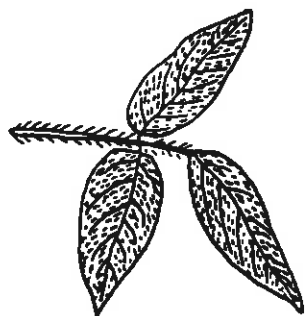
Potentilla reptans L. — creeping cinquefoil



344. Palmately compound, 5 leaflets, narrowly ovate, to 2 1/2 in. long, upper two-thirds of margin sharply toothed, short-hairy above and below and on margin, petiole short-hairy.

Plant at first erect or ascending, then spreading, rooting at tips; stem sparsely hairy, to 3 ft. long. Flower 2/5 to 3/4 in. across, yellow. April-June.

Potentilla simplex Michx. — oldfield cinquefoil



345. Palmately compound, leaflets 1 to 4 in. long, acute or acuminate, rough short-hairy above and below at least on principal veins, petiole hairy.

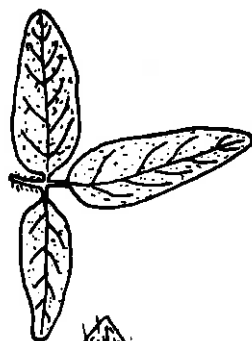
Plant 3 to 5 ft. high; stem much branched, hairy. Flower 1/6 in. long, purple. July-Sept.

Desmodium canescens (L.) DC. — hoary tickclover

346. Palmately compound, leaflets 1 1/2 to 3 in. long, somewhat rough above, sparsely hairy below, petiole hairy, side leaflets sessile or with very short petioles.

Plant to 4 ft. high; stem branched above, finely hairy. Flower to 1/4 in. long, pinkish to lavender. July-Sept.

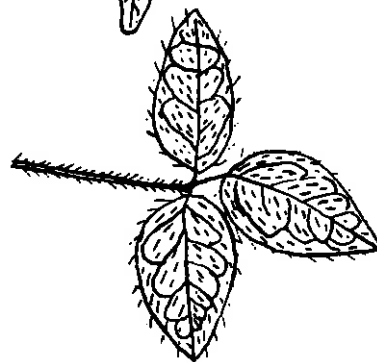
Desmodium sessilifolium (Torr.) T. & G. — sessile tickclover



347. Palmately compound, leaflets 3/4 to 2 1/2 in. long, sharp-tipped, sparsely hairy above and below and on margin, petiole hairy (leaflets sometimes have a lateral lobe on one or both sides).

Plant 8 in. to 6 ft. long; stem branching, trailing or twining, long-hairy (sometimes smooth). Flower 1/3 to 1/2 in. long, pink or purple. June-Oct.

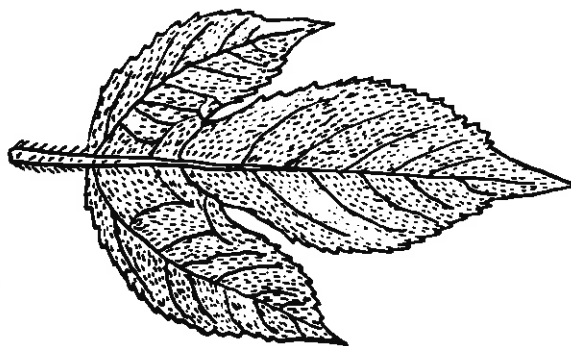
Strophostyles helvola (L.) Ell. — trailing wild bean



348. Palmately 3- to 5-cleft into ovate-lanceolate serrate lobes, rough-hairy above with long and short hairs, rough-hairy below, veins depressed above and prominent below, petiole slightly margined and hairy, strong tasting.

Plant upright, branching, to 10 to 12 ft. high; stem rough-hairy. Flowers small, green, in clusters 3 to 12 in. long. July-Oct.

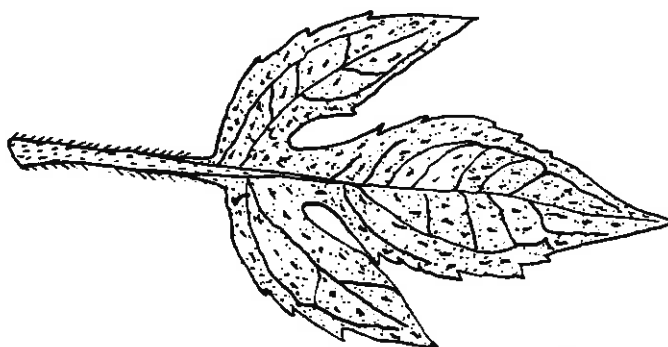
Ambrosia trifida L. — giant ragweed



349. Three-lobed, to 4 in. long, acute, sharply toothed, rough and sparsely hairy above and below, margin rough, thin, petiole hairy.

Plant 2 to 5 ft. high; stem branching, rough-hairy. Flower to 2 in. across, golden yellow with very dark brown center. June-Oct.

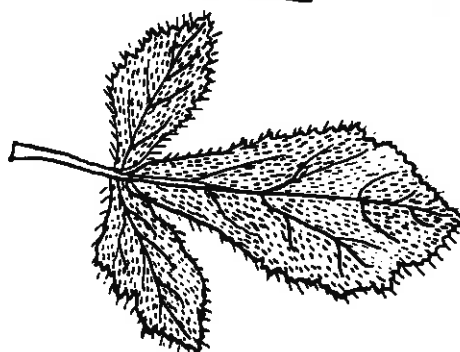
Rudbeckia triloba L. — browneyedsusan

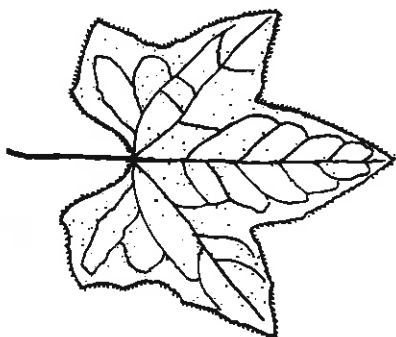


350. Palmately 3-foliolate, about 3 in. long, leaflets acute, sharply toothed, hairy above, below and on margin.

Plant 15 to 30 in. high; stems slender. Flowers 1/3 to 2/3 in. across, white. June-Aug.

Geum canadense Jacq. — white avens





351. Palmately 5-lobed, 3 to 6 in. long, lobes triangular, acuminate tipped, short toothed, slightly rough above and below, margin very short-hairy.

Plant 15 to 30 ft. long, climbing; stems angular, grooved, smooth. Flowers small, in loose clusters 4 to 6 in. long, fragrant, greenish white. July-Oct.

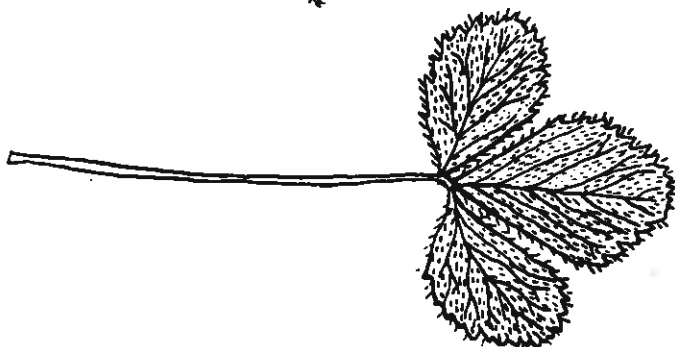
Echinocystis lobata (Michx.) T. & G. — wild cucumber



352. Palmately compound, leaflets 2 to 4 in. long, acuminate, serrate, very short-hairy above, short-hairy below and on margin, few hairs on petiole.

Plant 2 to 5 ft. high; stem smooth, reddish-tinged; upper leaves may have 5 leaflets. Flower 1/2 to 1 in. across, greenish yellow. July-Oct.

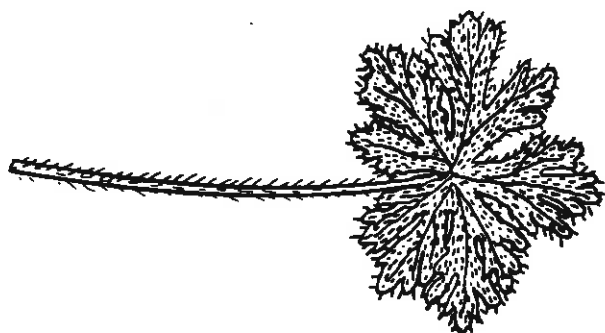
Bidens frondosa L. — devils beggarticks



353. Palmately compound, terminal leaflet 1 1/2 to 2 1/2 in. long, sharp toothed, hairy above and below and on margin, long slender petiole.

Plant to 9 in. high, spreading by runners. Flower 1/2 to 3/4 in. across, white. April-June.

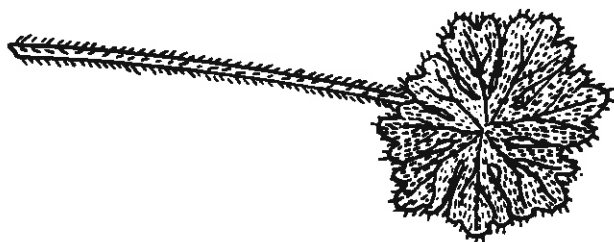
Fragaria virginiana Dcne. — Virginia strawberry



354. Palmately 5- to 9-parted, 1 1/2 to 2 in. wide, segments deeply toothed or lobed, very short-hairy above, below and on margin, petiole grayish-hairy.

Plant 6 to 24 in. high; stems stout with gray hairs. Flowers 1/3 to 1/2 in. across, pink or whitish. April-Aug.

Geranium carolinianum L. — Carolina geranium



355. Palmately 5- to 7-cleft to middle, 4/5 to 2 in. wide, segments usually 3-lobed at summit, soft-hairy above and below, margin short-hairy, petiole with short and long hairs.

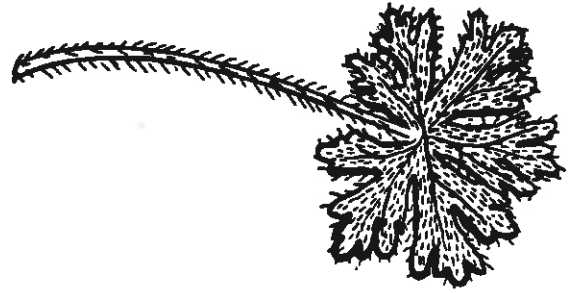
Plant spreading or ascending, branched from base, 8 to 20 in. long. Flower about 1/2 in. across, deep purple. June-Aug.

Geranium molle L. — dovesfoot geranium

356. Palmately 5- to 7-parted two thirds to base, 1 to 2 ½ in. wide, oblong, obtuse or acutish lobes, very short-hairy above and on veins below, margin very short-hairy, petiole short-hairy.

Plant 4 to 24 in. long; stem slender, branching, weak, hairy. Flower ¼ to ½ in. across, pale purple. June-Oct.

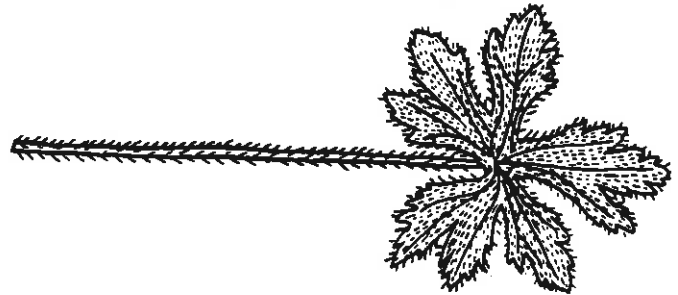
Geranium pusillum L. — small geranium



357. Palmately 5- to 7-lobed, 2 to 5 in. long, lobes cut or toothed, soft-hairy above and below, margin short-hairy, slender hairy petiole to 6 in. long and frequently reddish brown.

Plant 8 to 24 in. high; stem hairy; a few basal leaves and generally one pair of short-petioled stem leaves. Flower 1 to 1 ½ in. across, magenta pink. April-July.

Geranium maculatum L. — spotted geranium



INDEX TO SCIENTIFIC AND COMMON NAMES

- Abutilon theophrasti*, 237
Acalypha rhomboidea, 196
 virginica, 197
Achillea millefolium, 321
Agrimonia parviflora, 285
Agrimony, small-flowered, 285
Agropyron repens, 14
Agrostemma githago, 114
Allium canadense, 10
 vineale, 9
Alyssum, hoary, 111
Amaranth, green, 187
 spiny, 189
Amaranthus albus, 70
 hybridus, 187
 retroflexus, 188
 spinosus, 189
Ambrosia artemisiifolia, 315
 trifida, 348
American burnweed, 170
 germander, 153
Anagallis arvensis, 174
Anaphalis margaritacea, 56
Andropogon virginicus, 22
Angelica atropurpurea, 295
Angelica, great, 295
 purplestem, 295
Annual bluegrass, 29
 fleabane, 212
 sowthistle, 276
Antennaria neglecta, 104
 plantaginifolia, 185
Anthemis arvensis, 320
 cotula, 289
Anthoxanthum odoratum, 16
Apocynum cannabinum, 91, 92
Arabidopsis thaliana, 71
Arctium lappa, 239
 minus, 238
Arenaria serpyllifolia, 173
Arrhenatherum elatius var. *bulbosum*, 15
Arrowleaf tearthumb, 221
Artemisia vulgaris, 312
Artichoke, Jerusalem, 154
Asclepias incarnata, 93
 purpurascens, 95
 syriaca, 96
 tuberosa, 97
Aster cordifolius, 240
 novae-angliae, 120
 pilosus, 141
 puniceus, 163
 solidagineus, 61
 vimineus, 53
Aster, heartleaved, 240
 Maryland golden, 105
 New England, 120
 purplestem, 163
 small white, 53
 white heath, 141
 white topped, 61
Avens, white, 350
- Bachelor's button*, 59
Baptisia tinctoria, 332
Barbarea orthoceras, 272
 verna, 273
 vulgaris, 271
Barley, foxtail, 20
 little, 21
 wild, 20
Barnyardgrass, 41
Basil, wild, 199
Bean, trailing wild, 347
Bedstraw, catchweed, 47
 yellow, 44, 62
Beebalm, spotted, 140
- Beggarticks*, coreopsis, 314
 devils, 352
 nodding, 129
Bergamot, wild, 137
Bermudagrass, 32
Berteroa incana, 111
Bidens bipinnata, 288
 cernua, 129
 coronata, 282
 frondosa, 352
 polylepis, 314
Bigroot morningglory, 241
Bindweed, black, 222
 field, 220
 hedge, 224
 Japanese, 225
Birdseye speedwell, 179
Birdsrape mustard, 260
Bird vetch, 319
Bittercress, hairy, 308
Bitter nightshade, 249
Bitterweed, 144
Black bindweed, 222
 knapweed, 305
 medic, 334
 mustard, 267
 nightshade, 202
Black-eyed susan, 110
Blackseed plantain, 191, 210
Bladder campion, 86
Bluegrass, annual, 29
Blue lettuce, 277
 thistle, 112
 vervain, 143
Boneset, 172
Bouncingbet, 85
Bracted plantain, 57
Brassica hirta, 299
 juncea, 275
 kaber var. *pinnatifida*, 268
 nigra, 267
 rapa, 260
 septicaeps, 274
Bristlegrass (see *foxtail*)
Broadleaf dock, 193
 plantain, 190, 201
Brome, downy, 19
Bromus commutatus, 17
 secalinus, 18
 tectorum, 19
Broomsedge, 22
Browneyedsusan, 349
Brown knapweed, 113
Buckhorn plantain, 82
Buckwheat, climbing false, 244
 wild, 222
Bugleweed, oneflower, 139
Bulbous buttercup, 339
Bull thistle, 309
Burcucumber, 248
Burdock, common, 238
 great, 239
 smaller, 238
Burnweed, American, 170
Butter-and-eggs, 54
Buttercup, bulbous, 339
 celeryleaf, 329
 creeping, 338
 smallflower, 229
 tall, 337
Butterfly milkweed, 97
Button, bachelor's, 59
Buttonweed, 50
 Virginia, 74
- Camphorweed*, 209
Campion, bladder, 86
 white, 108
- Campsis radicans*, 287
Canada goldenrod, 165
 hawkweed, 130
 thistle, 169, 265
Capsella bursa-pastoris, 146, 298
Cardamine hirsuta, 308
Cardaria draba, 148
Carolina cranesbill, 354
 geranium, 354
Carpetweed, 68
Carrot, wild, 292
Cassia fasciculata, 297
Catchfly, forked, 109
 hairy, 109
 nightflowering, 119
 sleepy, 63
Catchweed bedstraw, 47
Catnip, 247
Catsear, spotted, 262
Cat's-foot, field, 104
Celeryleaf buttercup, 329
Cenchrus pauciflorus, 31
Centaurea cyanus, 59
 jacea, 113
 maculosa, 304
 nigra, 305
Cerastium vulgatum, 73
Chamomile, corn, 320
Charlie, creeping, 233
Cheat, 18
 hairy, 17
Chenopodium album, 195
 ambrosioides, 132, 152
Chess, downy, 19
 hairy, 17
Chickweed, 182
 mouseear, 73
Chicory, 149, 264
Chrysanthemum leucanthemum, 254
Chrysopsis mariana, 105
Cichorium intybus, 149, 264
Cicuta maculata, 286
Cinquefoil, common, 340
 creeping, 343
 oldfield, 344
 rough, 341
 sulfur, 342
Cirsium altissimum, 168
 arvense, 169, 265
 horridulum, 269, 311
 muticum, 310
 pumilum, 270
 vulgare, 309
Clammy groundcherry, 204
Cleavers, 47
Climbing false buckwheat, 244
 hempweed, 246
Clover dodder, 4
Clover, hop, 322
 low hop, 323
 rabbitfoot, 336
 small hop, 324
Cocklebur, 250
Cockle, corn, 114
 white, 108
Commelina communis, 90, 115
Common burdock, 238
 cinquefoil, 340
 eveningprimrose, 162
 fennel, 293
 groundsel, 261
 lambquarters, 195
 mallow, 234
 milkweed, 96
 mullein, 155
 perilla, 203
 purslane, 69
 ragweed, 315

INDEX TO SCIENTIFIC AND COMMON NAMES — Continued

- smartweed, 83
- speedwell, 79, 200
- stitchwort, 46
- yarrow, 321
- yellow woodsorrel, 327
- Coneflower hairy, 110
- thin-leaved, 349
- Conium maculatum, 294
- Convolvulus arvensis, 220
- japonicus, 225
- sepium, 224
- Copperleaf, rhombic, 196
- Virginia, 197
- Coreopsis, 318
- beggarticks, 314
- coreopsis lanceolata, 318
- tinctoria, 283
- Corn chamomile, 320
- cockle, 114
- gromwell, 45
- speedwell, 177
- spurry, 7
- Cornflower, 59
- Cottonweed, 102
- Couchgrass, 14
- Crabgrass, large, 24
- smooth, 23
- Cranesbill, Carolina, 354
- dovesfoot, 355
- small-flowered, 356
- Creeping buttercup, 338
- Charlie, 233
- cinquefoil, 343
- Jenny, 220
- woodsorrel, 325
- yellow cress, 279
- Cress, creeping yellow, 279
- hoary, 148
- Crowfoot, cursed, 329
- Crowned tickseed-sunflower, 282
- Cucumber, wild, 351
- Cudweed, fragrant, 55
- purple, 121
- Curly dock, 88
- Cursed crowfoot, 329
- Cuscuta campestris, 5
- epilinum, 3
- epithymum, 4
- gronovii, 2
- Cutleaf eveningprimrose, 252
- goldenglow, 313
- Cynodon dactylon, 32
- Cyperus esculentus, 12
- rotundus, 13
- Cypress spurge, 42
- Daisy, oxeye, 254
- Dandelion, 145, 263
- fall, 253
- Danthonia spicata, 33
- Datura stramonium, 157
- Daucus carota, 292
- Dayflower, 90, 115
- Deadnettle, red, 236
- Deptford pink, 60
- Desmodium canescens, 345
- sessilifolium, 346
- Devils beggarticks, 352
- paintbrush, 107
- Dianthus armeria, 60
- Digitalis penstemon, 89
- Digitaria ischaemum, 23
- sanguinalis, 24
- Diodia teres, 50
- virginiana, 74
- Dipsacus sylvestris, 127
- Dock, broadleaf, 193
- curly, 88
- sour, 88
- Dodder, clover, 4
- field, 5
- flax, 3
- swamp, 2
- Dogbane, hemp, 91, 92
- Dogfennel, 289, 291
- Dotted smartweed, 84
- Dovesfoot cranesbill, 355
- geranium, 355
- Downy brome, 19
- chess, 19
- groundcherry, 215
- lobelia, 76
- Draba verna, 72
- Dragonhead, false, 124
- Duchesnea indica, 331
- Dwarf St. Johnswort, 65
- Early goldenrod, 125
- wintercress, 273
- Echinochloa crusgalli, 41
- Echinocystis lobata, 351
- Echium vulgare, 112
- Eclipta alba, 164
- Elecampane, 156
- Elephantopus carolinianus, 214
- Elephant's foot, 214
- Eleusine indica, 25
- Equisetum arvense, 1
- Eragrostis cilianensis, 34
- Erechtites hieracifolia, 170
- Erigeron annuus, 212
- canadensis, 135
- philadelphicus, 161
- pulchellus, 160
- strigosus, 138
- Erodium cicutarium, 307
- Eupatorium capillifolium, 291
- coelestinum, 223
- dubium, 216
- fistulosum, 128
- hyssopifolium, 51
- hyssopifolium var. laciniatum, 52
- maculatum, 131
- perfoliatum, 172
- rotundifolium, 217
- rugosum, 206
- serotinum, 150
- Eupatorium, late, 150
- Euphorbia apocynifolia, 98
- corollata, 80, 99
- cyparissias, 42
- esula, 48
- maculata, 75
- marginata, 184
- supina, 175
- European woodsorrel, 326
- Eveningprimrose, common, 162
- cutleaf, 252
- Everlasting, fragrant, 55
- pearly, 56
- plantain-leaved, 185
- Everlasting pea, 81
- Eyebane, 75
- Fall dandelion, 253
- hawkbit, 253
- panicum, 36
- False buckwheat; climbing, 244
- dragonhead, 124
- Fanweed, 251
- Fennel, common, 293
- dog, 289, 291
- tail, 291
- Field bindweed, 220
- cat's foot, 104
- dodder, 5
- horsetail, 1
- paspalum, 28
- penneycress, 251
- pepperweed, 134
- poppy, 306
- pussytoes, 104
- sandbur, 31
- speedwell, 176
- violet, 183
- Fieldcress, yellow, 279
- Filaree, redstem, 307
- Fireweed, 170
- Flax dodder, 3
- Fleabane, annual, 212
- Philadelphia, 161
- rough, 138
- Flowering spurge, 80, 98, 99
- Flower-of-an-hour, 335
- Foeniculum vulgare, 293
- Foxtail barley, 20
- Foxtail, giant, 37
- green, 39
- yellow, 38
- Fragaria virginiana, 353
- Fragrant cudweed, 55
- everlasting, 55
- Froelichia floridana, 102
- Galeopsis tetrahit, 198
- Galinsoga ciliata, 213
- Galinsoga, hairy, 213
- Galium aparine, 47
- mollugo, 62
- verum, 44
- Garlic, wild, 9
- Geranium, Carolina, 354
- dovesfoot, 355
- small, 356
- spotted, 357
- wild, 357
- Geranium carolinianum, 354
- maculatum, 357
- molle, 355
- pusillum, 356
- Gerardia, purple, 49
- Gerardia purpurea, 49
- Germander, American, 153
- German knotgrass, 8
- Geum canadense, 350
- Giant foxtail, 37
- goldenrod, 136
- ragweed, 348
- Glechoma hederacea, 233
- Gnaphalium obtusifolium, 55
- purpureum, 121
- Golden aster, Maryland, 105
- ragwort, 228
- Goldenglow, cutleaf, 313
- Goldenrod, Canada, 165
- early, 125
- giant, 136
- narrowleaf, 58
- sweet, 87
- Goosegrass, 25
- Gosmore, 262
- Grass, squirrel-tail, 20
- whitlow, 72
- Graveyard spurge, 42
- Great angelica, 295
- burdock, 239
- lobelia, 171
- Green amaranth, 187
- foxtail, 39
- pigweed, 187

INDEX TO SCIENTIFIC AND COMMON NAMES — Continued

- Gromwell, corn, 45
Groundcherry, clammy, 204
 downy, 215
Groundivy, 233
Groundsel, common, 261
 prairie, 211
- Hairy bittercress, 308
 catchfly, 109
 cheat, 17
 chess, 17
 coneflower, 110
 galinsoga, 213
Hawkbitt, field, 253
Hawkweed, Canada, 130
 orange, 106
 yellow, 107
Hawkweed oxtongue, 144
Healall, 142
Heartleaved aster, 240
Heath aster, white, 141
Hedge bindweed, 224
 mustard, 302
 mustard, tall, 301
 smartweed, 244
Helianthus petiolaris, 94
 tuberosus, 154
Heliopsis helianthoides, 218
Heliopsis, sunflower, 218
Hemlock, poison, 294
Hemp dogbane, 91, 92
Hemp, Indian, 91
Hempnettle, 198
Hempweed, climbing, 246
Henbit, 235
Heterotheca subaxillaris, 209
Hibiscus trionum, 335
Hieracium aurantiacum, 106
 canadense var. fasciculatum, 130
 pratense, 107
Hoary alyssum, 111
 cress, 148
 plantain, 159
 tickclover, 345
Holcus lanatus, 26
Hop clover, 322
 low, 323
 small, 324
Hordeum jubatum, 20
 pusillum, 21
Horehound, white, 205
Horsemint, 140
Horsenettle, 207
Horsetail, field, 1
Horseweed, 135
Husk-tomato, 215
Hypericum mutilum, 65
 perforatum, 64
 punctatum, 66
Hypochoeris radicata, 262
Hyssopleaved thoroughwort, 51, 52
- Impatiens capensis, 194
Indian hemp, 91
 mallow, 237
 mockstrawberry, 331
 mustard, 275
 strawberry, 331
Indiantobacco, 158
Indigo, wild, 332
Inula helenium, 156
Ipomoea coccinea, 230
 hederacea, 243
 lacunosa, 231
- pandurata, 241
purpurea, 242
Ironweed, 147
Ivyleaf morningglory, 243
 speedwell, 180, 232
Ivy, poison, 330
- Japanese bindweed, 225
 knotweed, 192
Jenny, creeping, 220
Jerusalem artichoke, 154
Jimsonweed, 157
Joepyeweed, 128, 131, 216
Johnsongrass, 30
- Kale, wild, 300
King-devil, 107
Klamath weed, 64
Knapweed, black, 305
 brown, 113
 spotted, 304
Knawel, 8
Knotgrass, German, 8
Knotweed, Japanese, 192
prostrate, 67
- Lace, Queen Anne's, 292
Lactuca canadensis, 126, 166, 258, 278
 floridana, 277
 scariola, 257
Ladies' tobacco, 185
Lady's-sorrel, 326
Ladysthumb, 101
Lambsquarters, common, 195
Lamium amplexicaule, 235
 purpureum, 236
Large crabgrass, 24
Large-flowered vetch, 296
Late eupatorium, 150
Lathyrus latifolius, 81
Leafy spurge, 48
Leontodon autumnalis, 253
Leonurus cardiaca, 245
Lepidium campestre, 134
 perfoliatum, 281
 virginicum, 133, 280
Lettuce, blue, 277
 prickly, 257
 tall, 126, 166, 258, 278
 wild (see lettuce, tall)
Linaria canadensis, 43
 vulgaris, 54
Lithospermum arvense, 45
Little barley, 21
 starwort, 46
Lobelia, downy, 76
 great, 171
Lobelia inflata, 158
 puberula, 76
 siphilitica, 171
Lookingglass, Venus, 226
Loosestrife, spiked, 116
Low hop clover, 323
Ludwigia alternifolia, 100
Lupine, perennial, 333
Lupinus perennis, 333
Lychnis alba, 180
 coronaria, 118
Lycopus uniflorus, 139
Lyre-leaved sage, 266
Lysimachia nummularia, 227
Lythrum salicaria, 116
- Mallow, common, 234
- Indian, 237
 Venice, 335
Malva neglecta, 234
Marrubium vulgare, 205
Marshcress, 303
Marshpepper smartweed, 83
Maryland golden aster, 105
 meadow-beauty, 77
Matricaria matricarioides, 290
Mayweed, 289
Meadow-beauty, 78
 Maryland, 77
Meadowrue, purple, 316
Medicago lupulina, 334
Medic, black, 334
Mentha piperita, 122
 spicata, 123
Mercury, three seeded, 196
 Virginia three seeded, 197
Mexicantea, 132, 152
Mikania scandens, 246
Milfoil, 321
Milk purslane, 175
Milkweed, butterfly, 97
 common, 96
 purple, 95
 swamp, 93
Mistflower, 223
Mockstrawberry, Indian, 331
Mullugo verticillata, 68
Monarda fistulosa, 137
 punctata, 140
Moneywort, 227
Morningglory, bigroot, 241
 ivyleaf, 243
 scarlet, 230
 small-flowered white, 231
 small red, 230
 tall, 242
Motherwort, 245
Moth mullein, 259
Mouseear chickweed, 73
Mouseearcress, 71
Mugwort, 312
Muhlenbergia schreberi, 27
Mullein, common, 155
 moth, 259
Mullein-pink, 118
Mustard, birdsrape, 260
 black, 267
 hedge, 302
 Indian, 275
 tall hedge, 301
 tumble, 301
 white, 299
 wild, 268
 yellow, 260
- Narrowleaf goldenrod, 58
Nepeta cataria, 247
Nettle, stinging, 208
New England aster, 120
Nightflowering catchfly, 119
Nightshade, bitter, 249
 black, 202
Nimblewill, 27
Nodding beggarticks, 129
Nutgrass, southern, 13
 yellow, 12
Nutsedge, purple, 13
 yellow, 12
- Oatgrass, poverty, 33
 ruber, 15
Oenothera biennis, 162
 laciniata, 252
Oldfield cinquefoil, 344

INDEX TO SCIENTIFIC AND COMMON NAMES – Continued

- toadflax, 43
 Oneflower bugleweed, 139
 Onion, wild, 10
 Opuntia humifusa, 6
 Orange hawkweed, 106
 Ornithogalum umbellatum, 11
 Oxalis corniculata, 325
 europaea, 326
 stricta, 327
 violacea, 328
 Oxeye daisy, 254
 Ox-eye, sweet, 218
 Oxtongue, hawkweed, 144
- Paintbrush, devils, 107
 Paleseed plantain, 159
 Pale smartweed, 117
 yellow rocket, 272
 Panicum capillare, 35
 dichotomiflorum, 36
 Panicum, fall, 36
 Pansy, wild, 183
 Papaver dubium, 306
 Parsnip, wild, 317
 Partridgepea, 297
 Paspalum, field, 28
 Paspalum laeve, 28
 Pastinaca sativa, 317
 Pasture thistle, 270
 Pea, everlasting, 81
 Pearly everlasting, 56
 Penneycress, field, 251
 Pennsylvania smartweed, 103
 Penstemon digitalis, 89
 Penstemon, digitalis, 89
 white, 89
 Peppermint, 122
 Pepperweed, field, 134
 Virginia, 133, 280
 yellowflower, 281
 Perennial lupine, 333
 sowthistle, 256
 Perilla, common, 203
 Perilla frutescens, 203
 Philadelphia fleabane, 161
 Physalis heterophylla, 204
 pubescens, 215
 Physostegia virginiana, 124
 Phytolacca americana, 186
 Picris hieracioides, 144
 Pigweed, green, 187
 redroot, 188
 rough, 188
 smooth, 187
 spiny, 189
 tumble, 70
 Pimpernel, scarlet, 174
 Pineappleweed, 290
 Pink, Deptford, 60
 Plantago aristata, 57
 lanceolata, 82
 major, 190, 201
 rugelii, 191, 210
 virginica, 159
 Plantain, blackseed, 191, 210
 bracted, 57
 broad leaf, 190, 201
 buckhorn, 82
 hoary, 159
 paleseed, 159
 Rugel's, 191, 210
 Plantainleaf pussytoes, 185
 Plantain-leaved everlasting, 185
 Poa annua, 29
 Poison hemlock, 294
 ivy, 330
 Pokeweed, 186
- Polygonum aviculare, 67
 convolvulus, 222
 cuspidatum, 192
 hydropiper, 83
 lapathifolium, 117
 pennsylvanicum, 103
 persicaria, 101
 punctatum, 84
 sagittatum, 221
 scandens, 244
 Poorjoe, 50
 Poppy, field, 306
 Portulaca oleracea, 69
 Potato vine, wild, 241
 Potentilla canadensis, 340
 norvegica, 341
 recta, 342
 reptans, 343
 simplex, 344
 Poverty oatgrass, 33
 Prairie groundsel, 211
 sunflower, 94
 Prickly lettuce, 257
 Pricklypear, spreading, 6
 Prostrate knotweed, 67
 spurge, 175
 Prunella vulgaris, 142
 Purple cudweed, 121
 gerardia, 49
 meadowrue, 316
 milkweed, 95
 nutsedge, 13
 Purplestem angelica, 295
 aster, 163
 Purpletop, 40
 Purslane, common, 69
 milk, 175
 Purslane speedwell, 178
 Pusley, 69
 Pussytoes, field, 104
 plantainleaf, 185
- Quackgrass, 14
 Queen Anne's lace, 292
 Quickweed, 213
- Rabbitfoot clover, 336
 Radish, wild, 300
 Ragweed, common, 315
 giant, 348
 Ragwort, golden, 228
 Ranunculus abortivus, 229
 acris, 337
 bulbosus, 339
 repens, 338
 scleratus, 329
 Raphanus raphanistrum, 300
 Red deadnettle, 236
 morningglory, small, 230
 sorrel, 219
 Redroot pigweed, 188
 Redstem filaree, 307
 Rhexia mariana, 77
 virginica, 78
 Rhombic copperleaf, 196
 Rhus radicans, 330
 Robins plantain, 160
 Rocket, pale yellow, 272
 yellow, 271
 Rorippa islandica, 303
 sylvestris, 279
 Rough cinquefoil, 341
 fleabane, 138
 pigweed, 188
 Roundleaved thoroughwort, 217
 Rudbeckia hirta, 110
- laciniata, 313
 triloba, 349
 Rugel's plantain, 191
 Rumex acetosella, 219
 crispus, 88
 obtusifolius, 193
- Sage, lyre-leaved, 266
 St. Johnswort, 64
 dwarf, 65
 spotted, 66
 Salvia lyrata, 266
 Sandbur, field, 31
 Sand sunflower, 94
 Sandwort, thymeleaf, 173
 Saponaria officinalis, 85
 Satureja vulgaris, 199
 Scarlet morningglory, 230
 pimpernel, 174
 Scleranthus annuus, 8
 Scurvygrass, 273
 Seedbox, 100
 Self-heal, 142
 Senecio aureus, 228
 plattensis, 211
 vulgaris, 261
 Sessile-leaved tick-trefoil, 346
 Sessile tickclover, 346
 Setaria faberii, 37
 glaucous, 38
 lutescens (see S. glauca)
 viridis, 39
 Seven-top turnip, 274
 Sheepbur, 250
 Sheep sorrel, 219
 Shepherdspurse, 146, 298
 Showy vetch, 296
 Sicyos angulatus, 248
 Silene antirrhina, 63
 cucubalus, 86
 dichotoma, 109
 noctiflora, 119
 Sisymbrium altissimum, 301
 officinale, 302
 Sleepy catchfly, 63
 Smaller burdock, 238
 Smallflower buttercup, 229
 Small-flowered agrimony, 285
 cranesbill, 356
 white morningglory, 231
 Small geranium, 356
 hop clover, 324
 red morningglory, 230
 white aster, 53
 Smartweed, common, 83
 dotted, 84
 hedge, 244
 marshpepper, 83
 pale, 117
 Pennsylvania, 103
 water, 84
 Smooth crabgrass, 23
 pigweed, 187
 Snakeroot, white, 206
 Snapdragon, wild, 54
 Snapweed, spotted, 194
 Snow-on-the-mountain, 184
 Soapwort, 85
 Sodom-apple, 207
 Solanum carolinense, 207
 dulcamara, 249
 nigrum, 202
 Solidago canadensis, 165
 gigantea, 136
 graminifolia var. nuttallii, 58
 juncea, 125
 odora, 87
 Sonchus arvensis, 256

INDEX TO SCIENTIFIC AND COMMON NAMES — Continued

- asper, 255
- oleraceus, 276
- Sorghum halepense, 30
- Sorrel, red, 219
- sheep, 219
- Sour dock, 88
- Southern nutgrass, 13
- Sowthistle, annual, 276
- perennial, 256
- spiny, 255
- Spanishneedles, 288
- Spearmint, 123
- Spear thistle, 309
- Specularia perfoliata, 226
- Speedwell, birdseye, 179
- common, 79, 200
- corn, 177
- field, 176
- ivyleaf, 180, 232
- purslane, 178
- thymeleaf, 181
- Spergula arvensis, 7
- Spiked loosestrife, 116
- Spiny amaranth, 189
- pigweed, 189
- sowthistle, 255
- Spotted beebalm, 140
- catsear, 262
- geranium, 357
- knapweed, 304
- St. johnswort, 66
- snapweed, 194
- spurge, 75
- touch-me-not, 194
- waterhemlock, 286
- Spreading pricklypear, 6
- Spurge, cypress, 42
- flowering, 80, 98, 99
- graveyard, 42
- leafy, 48
- prostrate, 175
- spotted, 75
- Spurry, corn, 7
- Squaw-weed, 211
- Squirrel-tail grass, 20
- Star-of-Bethlehem, 11
- Starwort, little, 46
- Stellaria gaminca, 46
- media, 182
- Stick-tight, 129
- Stinging nettle, 208
- Stinkgrass, 34
- Stichwort, common, 46
- Storksbill, 307
- Strawberry, Indian, 331
- Virginia, 353
- wild, 353
- Strophostyles helvola, 347
- Sulfur cinquefoil, 342
- Sunflower heliopsis, 218
- Sunflower, prairie, 94
- sand, 94
- tickseed, 314
- Swamp dodder, 2
- milkweed, 93
- thistle, 310
- Sweet goldenrod, 87
- ox-eye, 218
- vernalgrass, 16
- Tall buttercup, 337
- fennel, 291
- hedge mustard, 301
- lettuce, 126, 166, 258, 278
- morningglory, 242
- thistle, 168
- Tanacetum vulgare, 284
- Tansy, 284
- Taraxacum officinale, 145, 263
- Tearthumb, arrowleaf, 221
- Teasel, 127
- Teucrium canadense, 153
- Thalictrum revolutum, 316
- Thin-leaved coneflower, 349
- Thistle, blue, 112
- bull, 309
- Canada, 169, 265
- pasture, 270
- spear, 309
- swamp, 310
- tall, 168
- yellow, 269, 311
- Thlaspi arvense, 251
- Thoroughwort, hyssopleaved, 51, 52
- roundleaved, 217
- Three seeded mercury, 196
- Thymeleaf sandwort, 173
- speedwell, 181
- Tickclover, hoary, 345
- sessile, 346
- Tickseed, 283
- Tickseed-sunflower, 314
- crowned, 282
- Tick-trefoil, sessile-leaved, 346
- Toadflax, oldfield, 43
- yellow, 54
- Tobacco, ladies', 185
- Touch-me-not, spotted, 194
- Trailing wild bean, 347
- Tridens flavus (See Triodia flava)
- Trifolium agrarium, 322
- arvense, 336
- dubium, 324
- procumbens, 323
- Triodia flava, 40
- Trumpet creeper, 287
- Tuber oatgrass, 15
- Tumble mustard, 301
- pigweed, 70
- Tumbleweed, 70
- Turnip, seven-top, 274
- Urtica dioica, 208
- Velvetgrass, 26
- Velvetleaf, 237
- Venice mallow, 335
- Venus lookingglass, 226
- Verbascum blattaria, 259
- thapsus, 155
- Verbena hastata, 143
- uriticifolia, 151
- Verbesina alternifolia, 167
- Vernalgrass, sweet, 16
- Vernonia noveboracensis, 147
- Veronica agrestis, 176
- arvensis, 177
- hederaefolia, 180, 232
- officinalis, 79, 200
- peregrina, 178
- persica, 179
- serpyllifolia, 181
- Vervain, blue, 143
- white, 151
- Vetch, bird, 319
- large-flowered, 296
- showy, 296
- wild, 319
- Vicia cracca, 319
- grandiflora, 296
- Vine, wild potato, 241
- Viola arvensis, 183
- Violet, field, 183
- Violet woodsorrel, 328
- Virginia burtonweed, 74
- copperleaf, 197
- pepperweed, 133, 280
- strawberry, 353
- three seeded mercury, 197
- Waterhemlock, spotted, 286
- Water smartweed, 84
- Weed, klamath, 64
- White aster, small, 53
- avens, 350
- campion, 108
- cockle, 108
- heath aster, 141
- horehound, 205
- morningglory, small-flowered, 231
- mustard, 299
- penstemon, 89
- snakeroot, 206
- vervain, 151
- White-top, 138
- Whitetopped aster, 61
- Whitlow grass, 72
- Whitlowwort, 72
- Wild barley, 20
- basil, 199
- bean, trailing, 347
- bergamot, 137
- buckwheat, 222
- carrot, 292
- cucumber, 351
- garlic, 9
- geranium, 357
- indigo, 332
- kale, 302
- lettuce, 166
- mustard, 268
- onion, 10
- pansy, 183
- parsnip, 317
- potato vine, 241
- radish, 300
- snappedragon, 54
- strawberry, 353
- vetch, 319
- Wingstem, 167
- Wintercress, early, 273
- Wiregrass, 14, 32
- Witchgrass, 35
- Woodsorrel, common yellow, 327
- creeping, 325
- European, 326
- violet, 328
- Wormseed, 131
- Xanthium pensylvanicum, 250
- Yardgrass, 25
- Yarrow, common, 321
- Yellow bedstraw, 44, 62
- cress, creeping, 279
- fieldcress, 279
- foxtail, 38
- hawkweed, 107
- mustard, 260
- nutgrass, 12
- nutsedge, 12
- rocket, 271
- rocket, pale, 272
- thistle, 269, 311
- toadflax, 54
- woodsorrel, common, 327
- Yellowflower pepperweed, 281
- Yerba-de-tago, 164

