

7. Nettles and Smartweeds

URTICACEAE, NETTLE FAMILY

LEAVES OPPOSITE, or upper ones alternate, simple or compound. Flowers greenish, without petals, in hanging, catkin-like spikes or clusters in axils of leaves. Fruit an ovoid achene.

Cannabis. *Cannabis sativa*, Hemp, Marijuana weed. Plants annual, erect, 1-3 mm. tall. Leaves palmately compound with 5-7 narrowly lanceolate leaflets. Waste areas, fence rows, around farm buildings, usually on bottom land soil. Less common in eastern and western extremities of North Central States. Summer. p38

Urtica, Stinging nettle. Plants perennial from creeping rootstocks. Leaves simple, ovate to lanceolate, serrate. Entire plant, especially stems, with coarse, stinging hairs. Mostly rich, uncultivated soil, locally abundant. p38

POLYGONACEAE, SMARTWEED FAMILY

Leaves alternate or basally clustered, entire. A membranous sheath (the ochrea) encircles the stem above the node in all weedy species. The flowers possess no petals but the calyx is colored in smartweeds. Fruit a flattened or three-angled achene, frequently surrounded by the persistent calyx. Seeds (the achenes) blackish or brown, usually smooth and hard. Embryo longitudinal in abundant endosperm.

The Polygonaceae is one of our more important weedy families. The following, as well as other species, are common over much of the United States. Numerous members of the genus *Eriogonum* (buckwheat-brush, skeleton weed) are common in the West on rangeland and in the mountains. Buckwheat (*Fagopyrum esculentum*) and rhubarb (*Rheum raphaniticum*) are members of the smartweed family.

Rumex, Dock and Sheep sorrel. Plants perennial with a conspicuous cluster of basal leaves in the fall and spring. Flowers in a terminal panicle, greenish, turning brown and often enlarging in fruit, the calyx lobes persistent, surrounding the fruits. Achenes brown, three-angled, commonly with sharp edges. In cross section, the embryo may be found in one of the corners of the achene. The docks are common weeds of grain crops and grassland. They are secondary noxious or restricted weeds in most states.

p39 *Rumex crispus*, Sour dock, Curly dock. Leaf margins irregularly wavy or curled. Calyx lobes loosely adherent about achenes. Achenes 2-2.5 mm. long. Common or abundant, grassland, legume seedings, small grains. Early summer.

Seeds common in legumes, forage grasses, and cereals. In red clover and small-seeded grasses, the achene (of the dock) is usually hulled out of the persistent calyx; in oats the "seed" commonly consists of the achene plus hull (calyx).

p40 *Rumex altissimus*, Smooth dock. Leaf margins smooth. Achenes similar to those of sour dock but calyx lobes surrounding fruit much larger. Mostly south central portion, in similar areas as sour dock but usually less common.

p41 *Rumex obtusifolius*, Broad-leaved dock. Leaves basally cordate. Calyx lobes toothed. Achenes essentially indistinguishable from those of sour dock. A common weed of the eastern and southern states, this plant occurs primarily in the southeastern portion of our range.

p40 *Rumex acetosella*, Sheep sorrel, Red sorrel. Plants perennial from creeping roots, smaller in stature than the docks. Leaves with a pair of outwardly directed basal lobes. Achenes (seeds) smaller than those of dock, about 1 mm. long, bluntly angled; calyx lobes closely adherent, and usually persistent, even in processed seed. West to eastern Kansas and Dakotas, diminishing with reduction in rainfall. Pastures, grassland, often in poor soil. Early summer. Seed frequent in commercial clover and forage grass seed.

Polygonum, Smartweeds. Plants mostly annual, not possessing a cluster of basal leaves. Flowers white or pinkish; sepals petal-like, not enlarged in fruit. Seeds most commonly black, three-angled or flattened, the corners rounded; persistent calyx lobes frequently close-fitting about seed. Embryo in cross section placed in corner of seed.

The smartweeds include several of the most ubiquitous and abundant weeds of cultivated soil. In addition to the most common kinds, treated below, a number of other species are of general occurrence throughout much of the North Central States. These, mostly with whitish-green flowers, are frequently seen in wet pastures and along streams. They are often called water peppers.

p42 *Polygonum persicaria*, Common smartweed, Ladysthumb. Leaves lanceolate. Ochrea bristly at apex. Flowers dull pink. Achenes shiny black, about 2 mm. long, usually flat, but sometimes three-angled. Very abundant in cultivated soil, especially corn and soybeans, throughout range. Summer and fall. Seeds common in oats, soybeans, and clovers.

p43, p44 *Polygonum pennsylvanicum*, Pennsylvania smartweed. Similar in appearance to common smartweed, but ochrea not bristly. Flowers bright pink or pinkish-white. Achenes flat, larger (3 mm. long) than those of ladysthumb. Common in cultivated soil. Summer and fall. Seed frequent in oats and soybeans.

Polygonum aviculare, Knotweed. Plants smaller than above species, prostrate or low with axillary, pinkish-white flowers. Seed three-angled, dull-brownish, about 2 mm. long. Can probably stand more foot and vehicular traffic than any other plant. Common in towns and around buildings, paths, roadsides, lawns, waste areas. Entire season.

p45

Knotweed is extremely variable as to habit and leaf shape; some of the extremes may scarcely be recognizable as the same kind of a plant. Additional knotweed-like species occur in our range, particularly the western portion; these plants are usually considerably taller than the common knotweed and tend to have broad, yellowish-green foliage.

Polygonum convolvulus, Wild buckwheat, Black bindweed. Stems twining or creeping. Leaves ovate, pointed, with a pair of downwardly directed basal lobes. Flowers in axillary clusters, greenish-white. Achenes large, 3-3.5 mm. long, black, three-angled, surrounded by persistent calyx lobes. Common, fences, roadsides, cultivated soil. Summer. The seeds are common in seed oats.

p46

Wild buckwheat is often confused with field bindweed (a primary noxious or prohibited weed) and hedge bindweed, especially before flowering. Distinctions of wild buckwheat: plant with an annual taproot; ochrea present on stem; flowers small (less than 1 cm. across), in greenish-white clusters. Field bindweed and hedge bindweed: plants from deep perennial roots; ochrea not present; flowers large (2-4 cm. across), morning-glory-like in appearance.

Polygonum coccineum, Devil's shoestring, Tanweed, Marsh smartweed. Our only common smartweed which is perennial, growing from wiry, blackish roots. Plants erect; leaves and stem finely pubescent. Flowers bright pink but blooming infrequently. Characteristic of poorly drained soil, roadside ditches, low fields, marshy waste areas, rarely seen in flower. Summer.

p47



PLATE 1

Urtica dioica 1. Habit x2/3.
Cannabis sativa 2. Leaf x2/3.

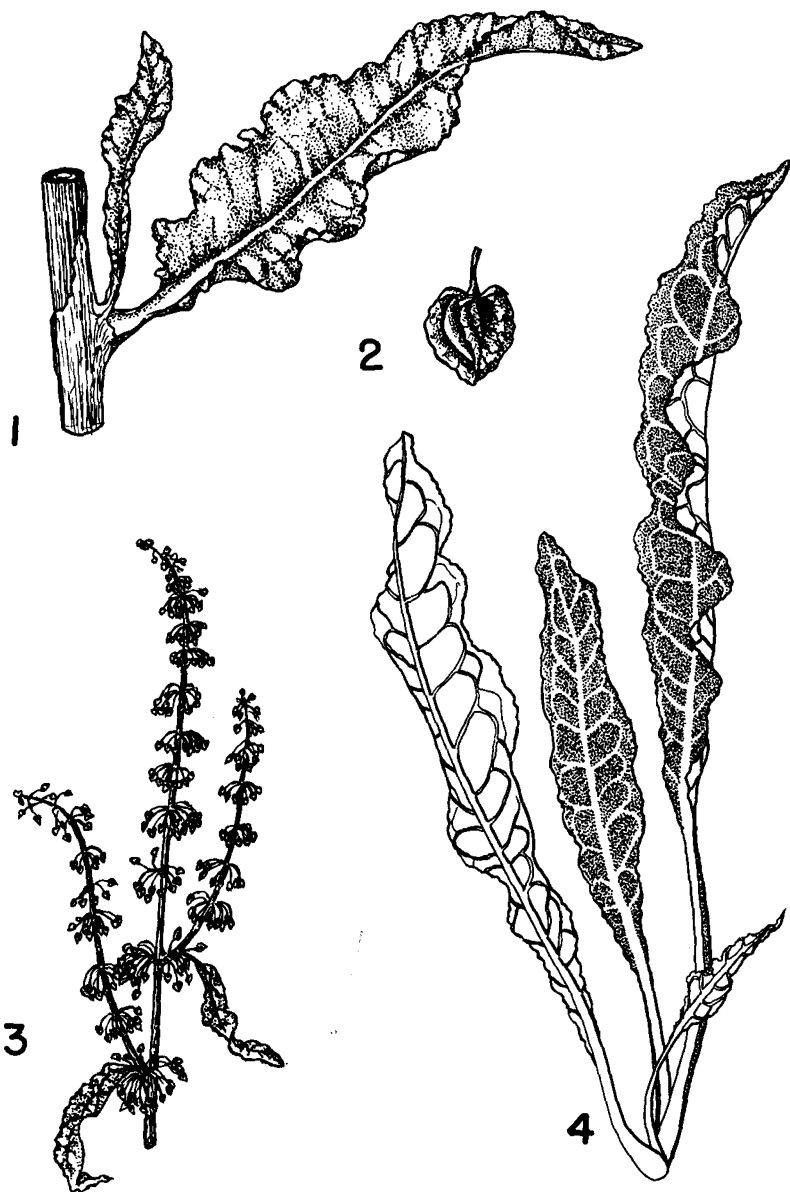


PLATE 2

Rumex crispus 1. Leaf and ochrea x2/3. 2. Fruiting calyx x3. 3. Inflorescence x1/3. 4. Rosette leaves x2/3.

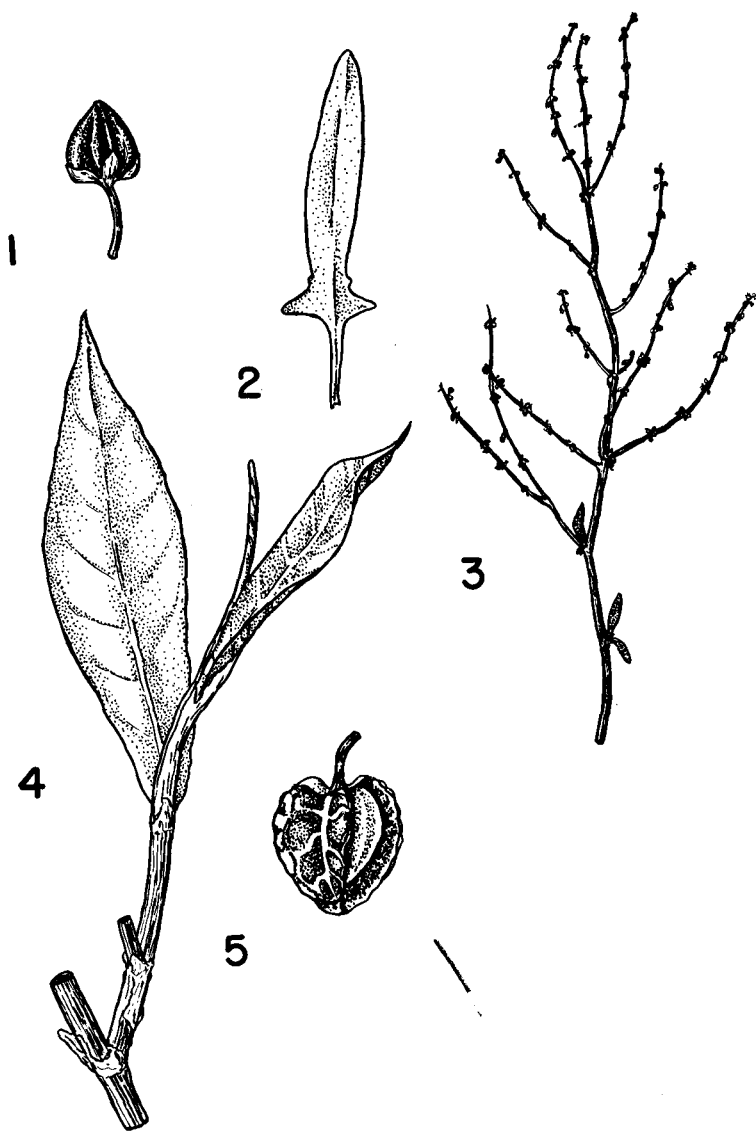


PLATE 3

Rumex acetosella 1. Fruiting calyx x5. 2. Basal leaf x2/3. 3. Inflorescence x2/3.
Rumex altissimus 4. Leaves and ochreae x2/3. 5. Fruiting calyx x3.

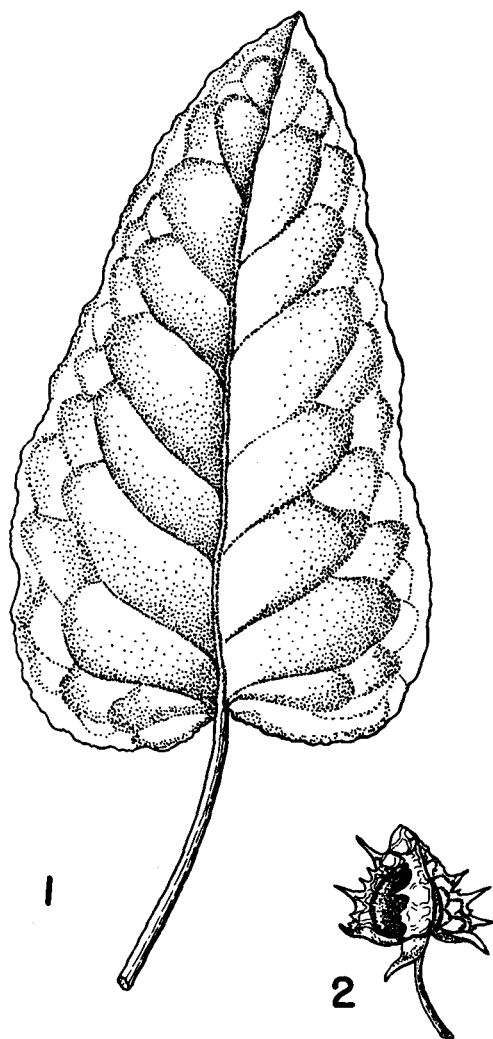


PLATE 4

Rumex obtusifolius 1. Basal leaf $\times 1/3$. 2. Fruiting calyx $\times 3$.



PLATE 5

Polygonum persicaria 1. Inflorescence x2/3. 2. Lower leaf and ochrea x2/3.
3. Achene x3.



PLATE 6

Polygonum pensylvanicum 1. Inflorescence x2/3. 2. Lower leaf and ochrea x2/3.
3. Achene x3.

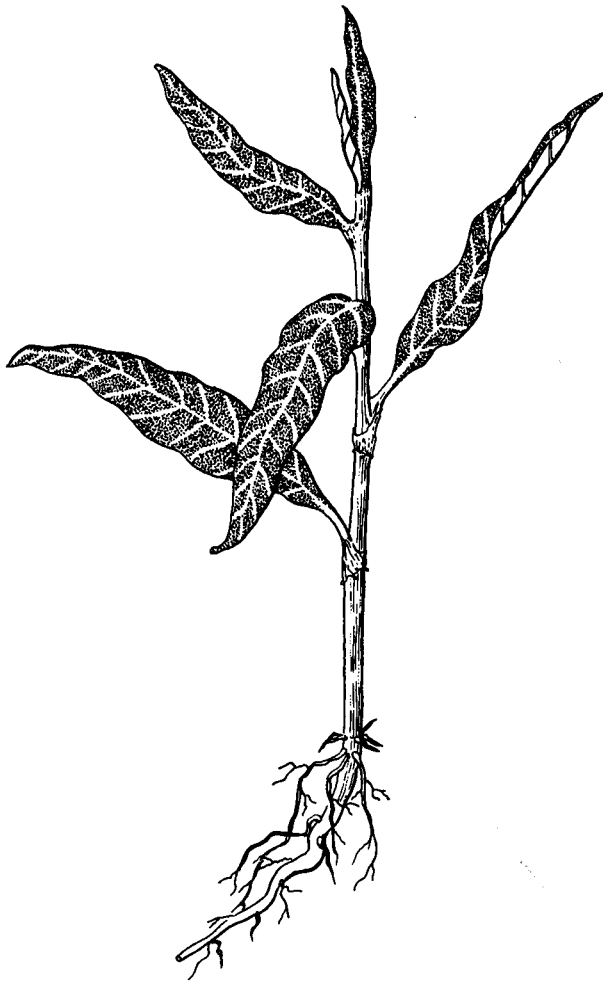


PLATE 7

Polygonum pennsylvanicum Young plant x2/3. No basal rosette as in *Rumex*.

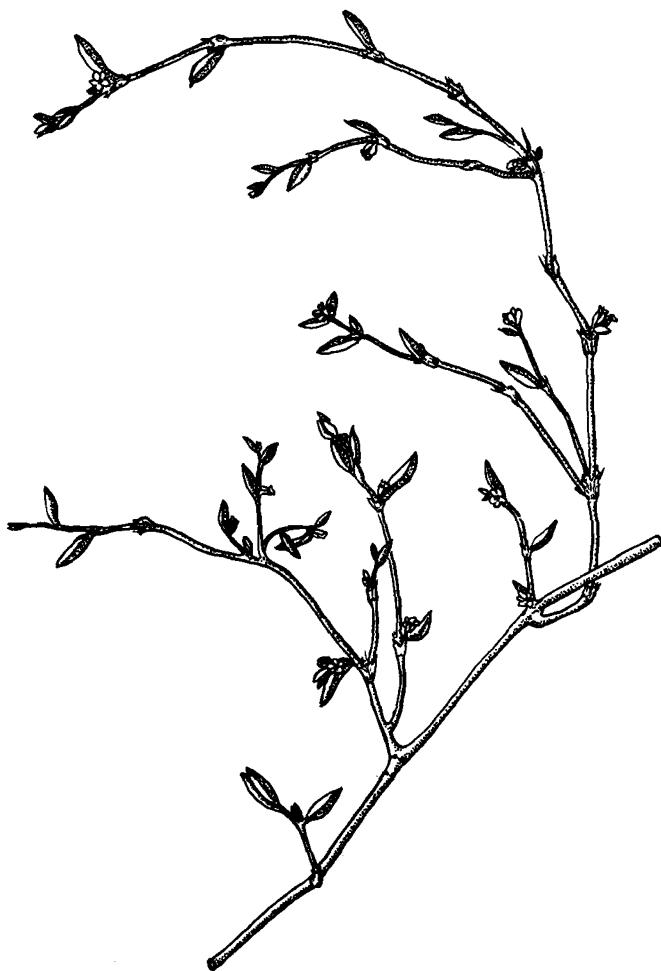


PLATE 8

Polygonum aviculare Habit x1 1/3.

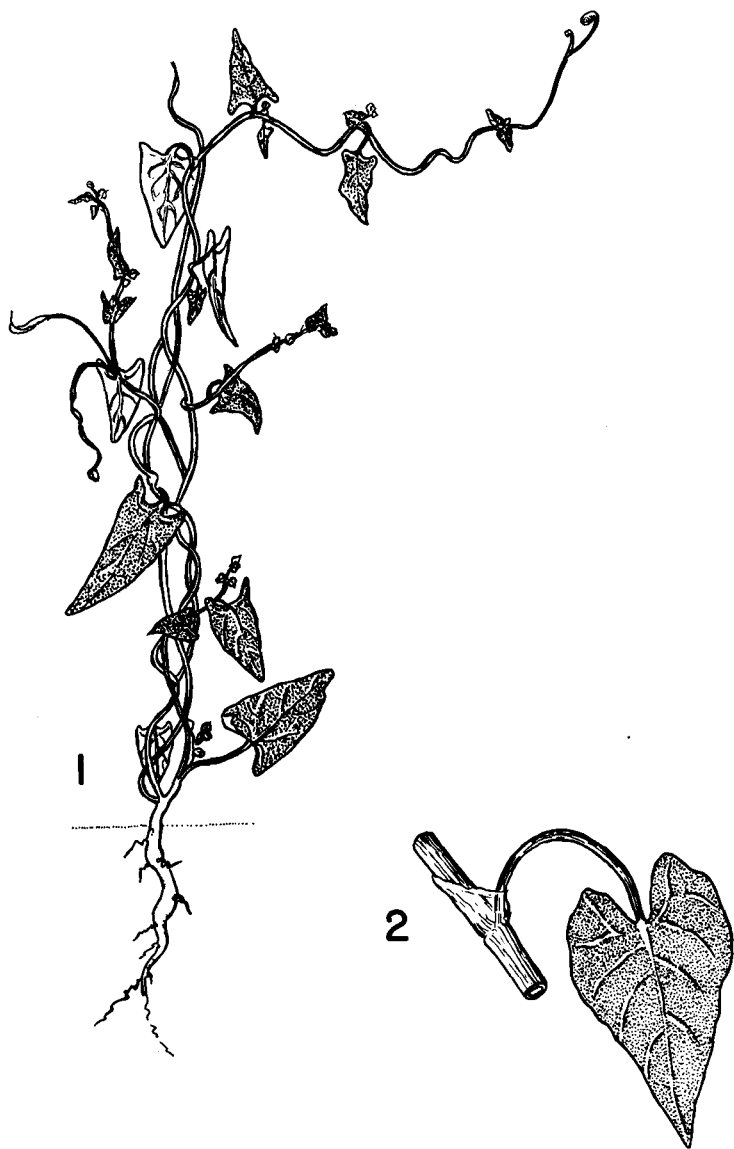


PLATE 9

Polygonum convolvulus 1. Habit x1/3. 2. Leaf and ochrea x1.



PLATE 10

Polygonum coccineum Lower stem and root x2/3.