12. Spurges and Related Families

EUPHORBIACEAE, SPURGE FAMILY

PLANTS DIVERSE as to vegetative characters. Common species with milky juice. Flowers much reduced, without petals, in some species with colored bracts (modified leaves) which resemble petals. Fruit usually a 3-lobed, 3-chambered capsule with one seed in each chamber. Seeds ellipsoidal, or short-oblong with a line or seam running from one end to the other; surface smooth or wrinkled.

Euphorbia, Spurges. Plants with milky juice. Fruit on a stalk which gradually elongates as it matures, the whole structure eventually hanging downwards out of flower cluster.

Euphorbia esula, Leafy spurge. Plant perennial from creeping roots. Stems densely leafy with entire, alternate, narrowly oblong blades which are 4-7 mm. wide. Flower clusters more or less umbellate, surrounded by yellowish-green bracts. Seed grayish (if slightly immature, brown-gray), smooth, and frequently shiny. A primary noxious or prohibited weed in most states. Most common in northern areas, otherwise sporadic in distribution. Late spring and early summer.

Nonflowering summer growth of this weed superficially resembles whorled milkweed (Asclepias verticillata); the latter possesses considerably narrower leaves which are whorled rather than alternate (compare descriptions).

<u>Euphorbia corollata</u>, Flowering spurge. Perennial. Stems more sparsely leafy than leafy spurge, the blade ovate to lanceolate. Flowering bracts small, white, closely resembling petals. Seeds rough-whitish, with inconspicuous angles or ridges. Fields, roadsides, pastures. Midsummer. Mostly southern and eastern.

Euphorbia maculata (E. supina), Prostrate spurge. A muchbranched prostrate annual with opposite leaves. Flower clusters axillary, inconspicuous. Seeds less than 1 mm. in length, irregularly short-oblong, finely pitted, gray to dull brown. Common in gardens, roadsides, waste areas. Summer. Euphorbia nutans (E. maculata), Nodding spurge, Spotted spurge. Annual with branched, ascending or drooping stems. Leaves p105

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opposite, similar to those of prostrate spurge but larger. Flowers in clusters near ends of branches. Seeds similar to those of prostrate spurge but larger, exceeding 1 mm. in length. Common in cultivated soil. Summer. *Euphorbia cyparissias*, Cypress spurge. Similar to leafy

spurge but smaller in all parts. Leaves short, narrow, closely crowded. Sporadic, mostly Northeast. Waste ground, roadsides, and cultivated as ornamental.

Euphorbia marginata, Snow-on-the-mountain. Annual. Leaves mostly alternate, ovate to oblong, entire. Uppermost blades with conspicuous, whitish margins, whorled about flower clus-

p109 ters. Southern and western. Summer. Pastures; in western part of area, along roadsides or irrigation ditches; also cultivated as ornamental.

Acalypha. Acalypha rhomboidea (A. virginica), Three-seeded mercury. Annual. Juice scarcely milky. Leaves alternate, petioled, spatulate and p¹¹⁰ somewhat toothed, often becoming bronze-colored in summer and with conspicuous insect holes. Flowers axillary, subtended by palmately lobed bracts. Mostly central and southern. Uncultivated areas and around farmsteads. Summer.

Croton, Goatweed. Several annual species, usually with dense whitish, or rust-colored pubescence. Leaves alternate, petioled, serrate.

^{p111}Flowers very inconspicuous, usually clustered at branch tips. Seeds smooth, somewhat turtle-shaped. Exclusively southern. Pastures and waste areas. Summer.

OXALIDACEAE, OXALIS FAMILY

Oxalis, Yellow sorrel. Low annuals or perennials. Leaves palmately trifoliate, the leaflets notched at apex. Flowers yellow, regular with 5 petals. Fruit an oblong, beaked capsule. Seeds numerous, flattened, elliptic, conspicuously cross-ridged. Gardens (e.g. strawberry beds), lawns, locally in truck crops. Summer.

ZYGOPHYLLACEAE, CALTROP FAMILY

Tribulus. Tribulus terrestris, Puncture vine. An annual, prostrate plant with pinnately compound leaves, small yellow flowers, and sharp spiny burs. Primarily Southwest. A variety of habitats, most frequently in dry, sandy, uncultivated soil. Summer. Considered secondary noxious in several states.

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GERANIACEAE, GERANIUM FAMILY

Geranium. Geranium carolinianium, Wild cranesbill. A low or bushy annual. Leaves alternate, palmately lobed or dissected. Flowers small p114 with 5 pinkish petals. Fruit a long-beaked, 5-lobed capsule. Seed resembling that of a mustard, egg-shaped, the surface reticulate, a short seam along one end. Southern. A variety of habitats mostly in uncultivated ground. Summer.

ANACARDIACEAE, CASHEW FAMILY

Rhus, Poison ivy, Sumac. Woody plants. Leaves pinnately compound. Fruits small, white or red drupelets.

Rhus toxicodendron, Poison ivy, Poison oak. Woody vines, low shrubs, or forming prostrate mats on the ground. Leaves alternate, trifoliate, the terminal leaflet stalked, the lateral ones sessile. Blades entire, toothed or irregularly lobed, dark green, commonly turning orange-red in late summer. Flowers greenish, in small axillary panicles. Fruit a white drupe-like structure with one seed. Common, fence rows, thickets, orchards, woodlands. Summer.

Poison ivy is extremely variable as to habit and degree of toothing or lobing of the leaves. Some authors consider it to represent several closely related species.

Frequently, the general public asks how can one easily identify poison ivy, and be sure a mistake is not made. The simplest criterion is: if it is a woody plant with alternate leaves, each leaf with three leaflets, assume it is poison ivy. It is true that a few other (but relatively uncommon) woody plants will also fit the above diagnosis. However, attempts to distinguish between them and poison ivy will only complicate matters; the average person will do well to avoid them all as poison ivy.

The poisonous, dermatitis-causing principle in poison ivy is an oily substance. It is present in all parts of the plant roots, stems, leaves, fruits. This material is not volatile; it will not be "blown" to a sensitive person who is in the vicinity but who does not actually contact the plant. On the other hand, the oil may be persistent on clothing, tools, the fur of pets, etc., if these have contacted the ivy. A sensitive individual may be poisoned by handling such objects or by welcoming the cocker spaniel back after a romp in the weeds.

The common, red-fruited sumacs treated below are not poisonous. Poison sumac is a white-fruited species which occurs in bogs and swamps, primarily in the eastern United States. It is of rare occurrence in the North Central States.

Rhus, Sumac. Small, brittle, zigzag-branched trees. Leaves

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pinnately compound with numerous leaflets. Flowers in a dense, branched cluster at stem tips, forming an assemblage of reddish drupelets, conspicuous in the fall. The leaves often turn red and orange in late summer, but well before frost. Pastures, usually hilly land, often poor quality or eroded soil, considered a "brushy weed."

RHAMNACEAE, BUCKTHORN FAMILY

Rhamnus. Rhamnus cathartica, Buckthorn. Small tree or large shrub. Leaves petioled, ovate, entire, glossy, alternate or clustered. Branchpl18 lets mostly terminating in thorns. Flowers clustered, small. Fruit berry-like, black. Widely planted for hedging and windbreaks, also es-

tablished in waste areas, along roadsides, *et al.*

Buckthorns are alternate hosts for crown rust of oats. For this reason they have been declared primary noxious weeds in Iowa, and their eradication is encouraged. Other species also occur in the North Central States but they are believed to be less important in transmitting crown rust.

BERBERIDACEAE, BARBERRY FAMILY

Berberis, Barberry. Shrubs with elliptic or ovate leaves and spines along the stems. Inner bark yellow. Flowers small. Fruits red berries.

<u>Berberis vulgaris</u>, Barberry. Leaves spiny-toothed. Thorns 3forked. Berries in drooping clusters.

This plant is an alternate host of black stem rust of wheat. It was formerly rather common in the North Central States as a hedging shrub and abundantly escaped to waste areas. In 1918, a U. S. Department of Agriculture Barberry Eradication Program was established, and the plant has now been largely eliminated. It is sometimes confused with the Japanese barberry, described below, which is not a host for the rust.

<u>Berberis thunbergii</u>, Japanese barberry. Small shrubs. Leaves entire. Thorns not branched. Berries usually in pairs, hanging from leaf axils. A common ornamental for landscaping purposes, somewhat established independent of cultivation. Not a host for the

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rust.



PLATE 51

Euphorbia esula 1. Apex of plant x1/2. 2. Perennial roots x2/3. 3. Fruits and subtending bracts x3.





PLATE 52

Euphorbia cyparissias 1. Habit x2/3. Euphorbia corollata 2. Habit x2/3.



PLATE 53 Euphorbia maculata Habit x2/3.



PLATE 54 Euphorbia nutans Habit x2/3.



PLATE 55 Euphorbia marginata Habit x2/3.



PLATE 56 Acalypha rhomboidea Habit x2/3.



PLATE 57 Croton capitatus Habit x2/3.



PLATE 58 Oxalis europaea Habit x2/3.



PLATE 59 Tribulus terrestris Habit x2/3.



PLATE 60 Geranium carolinianium Habit x2/3.



PLATE 61 Rhus toxicodendron Leaf and fruit x2/3.



PLATE 61-A Rhus toxicodendron Variation in leaves x2/3.







PLATE 63 Rhamnus cathartica Fruiting branch x2/3.



PLATE 64

Berberis vulgaris 1. Fruiting branch x2/3. Berberis thunbergii 2. Flowering branch x2/3.