V.B. Alder Thickets

Alder thickets are a tall, deciduous shrub community similar to shrub-carrs except that speckled alder is dominant. Speckled alder can pioneer exposed peat or alluvial soils because of its tiny seeds and ability to fix nitrogen. Alder thickets are generally found in and north of the vegetation tension zone.

Speckled alder may occur as a monotype in the canopy layer, but the alder thicket community can have a diversity of shrubs including American high-bush cranberry (*Viburnum opulus* var. *americanum*), sweet gale (*Myrica gale*) and common winterberry (*Ilex verticillata*).

The groundlayer typically includes some of the ferns, sedges, grasses and forbs of sedge meadows and fresh (wet) meadows. The diversity of species in the groundlayer is often dependent on degree of shrub canopy cover, degree of disturbance, and water source (e.g., groundwater versus surface runoff from urban or agricultural lands). Stands with 100 percent shrub canopy cover may have a depauperate groundlayer. The example of an alder thicket shown by the photograph is groundwater fed and minimally disturbed resulting in a rich diversity of species in the groundlayer.

Alder thickets provide high quality habitat for ruffed grouse and American woodcock as well as white-tailed deer. Rare, threatened and endangered species use alder thickets including golden-winged warblers, a globally threatened species. Alder thicket communities on the Lake Superior red clay plain of northwestern Wisconsin include state-listed threatened or special concern species such as sweet coltsfoot (*Petasites sagittatus*) and small yellow water crowfoot (*Ranunculus gmelinii* var. *hookeri*).

Alder thickets provide important habitat for the most popular upland gamebird in Minnesota and Wisconsin -- ruffed grouse.

Alder Thickets

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VEGETATION: As shown by the photograph, "thicket" is an accurate description of this community dominated by speckled alder (*Alnus incana* ssp. *rugosa*). Non-dominant shrubs include common winterberry (*Ilex verticillata*), common elderberry (*Sambucus canadensis*), meadowsweet (*Spiraea alba*) and steeplebush (*Spiraea tomentosa*). Skunk cabbage (*Symplocarpus foetidus*), jewelweed (*Impatiens capensis*) and cinnamon fern (*Osmunda cinnamomea*) dominate the groundlayer which also includes Canada blue-joint grass (*Calamagrostis canadensis*), rattlesnake manna grass (*Glyceria canadensis*), silvery sedge (*Carex canescens*), hummock sedge (*Carex stricta*), stalk-grain sedge (*Carex stipata*), sensitive fern (*Onoclea sensibilis*), crested shield fern (*Dryopteris cristata)*, marsh marigold (*Caltha palustris*), arrow-leaved tearthumb (*Persicaria sagittata*), dewberry (*Rubus hispidus*), marsh blue violet (*Viola cucullata*), northern white violet (*Viola macloskeyi* ssp. *pallens*) and small patches of sphagnum moss (*Sphagnum* sp.). Bog bluegrass (*Poa paludigena*), a species listed as threatened by the State of Wisconsin, occurs in this habitat.

SOILS: Dawson peat (Terric Haplosaprists), a very poorly-drained soil on floodplains or lake basins with an organic layer between 16 and 51 inches in depth underlain by acidic, sandy material. Dawson soils are typically saturated to the surface and may have as much as 6 inches of standing water after spring snowmelt and heavy rainfall events.

HYDROLOGY: Groundwater discharge (seepages). This alder thicket is immediately adjacent to a small, groundwater fed, perennial stream.

LOCATION: Fort McCoy Military Reservation, Monroe County, Wisconsin.

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SPECKLED ALDER

(*Alnus incana* ssp. *rugosa* (DuRoi) Clausen)

BIRCH FAMILY (Betulaceae) **C of C:** Native (3) **IND. STATUS:** OBL

SYNONYM: *Alnus rugosa* (DuRoi) Sprengel

FIELD CHARACTERISTICS: A deciduous shrub or small tree occasionally reaching 10 m. in height. Leaves are alternate, simple, serrate to doubly serrate, and ovate to oval. Undersides of leaves are pale green or have a thin, waxy coating. Leaves are often hairy above with hairy veins beneath. Main leaves have 9-12 pairs of lateral veins. Twigs have sessile, woody, cone-like, pistillate catkins. Staminate catkins are pendulous and usually clustered. Over winter, both types of catkins are conspicuous: last growing season's pistillate catkins and the new staminate catkins that will flower in spring.

ECOLOGICAL NOTES: Speckled alder, or tag alder, is the dominant in alder thickets of Minnesota and Wisconsin, and also is common in bogs and coniferous swamps on acidic soils. It occurs primarily in and north of the vegetation tension zone. Speckled alder is an important wildlife food plant, especially for beaver and white-tailed deer.

SOURCE: Gleason and Cronquist (1991), Swink and Wilhelm (1994); and Voss (1985).

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COMMON ELDERBERRY

(*Sambucus canadensis* L.)

HONEYSUCKLE FAMILY (Caprifoliaceae) **C of C:** Native (6) **IND. STATUS:** FACW

FIELD CHARACTERISTICS: An erect, coarse, deciduous shrub, usually up to 3 m. high. The light brown or gray stems are stout, but very weak and brittle because of a large pith, which is white. Opposite, pinnately compound leaves have 5-7 lanceolate to ovate leaflets with serrate margins. The inflorescence is 5-rayed from the base, umbel-like, flat-topped, and wider than long. Flowers are white. The 3-seeded fruit is a small, purple-black berry. In flower June-August. Red elderberry (*S. pubens*) is similar but has brown pith, a panicle-like inflorescence and red berries.

ECOLOGICAL NOTES: This elderberry is common in shrub swamps, wooded swamps and roadside ditches. It may form dense thickets. The berries are eaten by songbirds and ruffed grouse and can be used to make wine or jam.

SOURCE: Gleason and Cronquist (1991); and Swink and Wilhelm (1994).

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DWARF RED RASPBERRY

(*Rubus pubescens* Raf.)

ROSE FAMILY (Rosaceae) **C of C:** Native (7 WI)(6 MN) **IND. STATUS:** FACW

FIELD CHARACTERISTICS: A low growing shrub with annual or partially biennial stems that are hairy but lack bristles, spines or glands. Sterile stems are trailing, rooting at the nodes and tips, and grow to 2.8 m. long. Fertile stems grow erect to 30 cm. tall. Leaves consist of 3 leaflets. The central leaflet has a short petiole and is 3-8 cm. long and 2-5 cm. wide. Flowers are borne singly or in a loose cluster of 2-4. Petals are whitish to pinkish and 4-8 mm. long. Fruit is an aggregate of red to dark red drupelets 5-12 mm. in diameter. Fruit matures in late June to early August. In flower mid-May to late June.

ECOLOGICAL NOTES: Dwarf red raspberry is frequently encountered in a variety of habitats including coniferous swamps, coniferous bogs, hardwood swamps, shrub swamps, sedge meadows and even calcareous fens. It also occurs to a lesser extent in upland forests.

SOURCE: Gleason and Cronquist (1991); Chadde (2002); and Smith (2008).

AMERICAN RED RASPBERRY

(*Rubus idaeus* L. var. *strigosus* (Michx.) Maxim.)

ROSE FAMILY (Rosaceae) **C of C:** Native (3) **IND. STATUS:** FACW

SYNONYM: *Rubus strigosus* Michx.

FIELD CHARACTERISTICS: Stems up to 2 m., erect, arching (sometimes prostrate), sparsely to densely covered with slender-based prickles and stiff bristles. Flower stalks and leaf stalks of younger foliage have gland-tipped bristles (use a 10x lens, these look like a stalk with a ball on the end). Leaves are compound with 3-5 leaflets, green above and strongly whitened beneath. Flowers are white to greenish white, blooming in May. Mature fruit is red and about 1 cm. wide.

The European red raspberry (*Rubus idaeus* L. var. *idaeus*) is similar, but is glandless. It sometimes escapes from gardens, but typically does not persist in the wild (Swink and Wilhelm 1994).

Black raspberry (*Rubus occidentalis* L.), also has strongly-whitened leaf undersides, but has glandless, broad-based prickles or thorns, glaucous stems, and the mature fruit is purple-black.

ECOLOGICAL NOTES: American red raspberry is frequent along the edges of wooded and shrub swamps, as well as bogs. It is especially common following logging, burning or other disturbances.

SOURCE: Gleason and Cronquist (1991); Swink and Wilhelm (1994); and Voss (1985).

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Note the gland-tipped bristles on the pedicel and petioles.

American Red Raspberry

(*Rubus idaeus* L. var. *strigosus*)

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Sterile frond.

Fertile frond.

SENSITIVE FERN

(*Onoclea sensibilis* L.)

WOOD FERN FAMILY (Dryopteridaceae) **C of C:** Native (4 MN)(5 WI) **IND. STATUS:** FACW

FIELD CHARACTERISTICS: This colonial fern supports very dissimilar sterile and fertile fronds. Sterile fronds (leaves) are up to about 60 cm. tall, deciduous (very sensitive to frost), 18-40 cm. x 15-35 cm., leathery, light green in color and simple. The deeply pinnatifid leaflets occur as 8-12 paired segments, 1.5-5 cm. wide, with characteristic net venation. The upper side of the leaflet is smooth and the bottom side has scattered white hairs, usually on the veins. The rachis is broadly winged as are the upper leaflets. Fertile fronds are produced beginning in midsummer, turn dark brown at maturity and persist through winter. They grow to about 30 cm. tall and are upright with many short leaflets that form small, inrolled bead-like divisions (pinnules). These divisions contain the spore cases. A mass of pale red fiddle-heads form in spring.

ECOLOGICAL NOTES: Sensitive fern primarily occurs in wooded swamps, alder thickets and shrub-carrs, particularly near their borders. It also occurs in marshes and along edges of shaded ponds.

SOURCE: Gleason and Cronquist (1991); and Tryon (1980).

INTERRUPTED FERN

(*Osmunda claytoniana* L.)

ROYAL FERN FAMILY (Osmundaceae) **C of C:** Native (6) **IND. STATUS:** FAC

FIELD CHARACTERISTICS: A clumped, perennial fern to 1 m. or more in height. Blades are 40-100 cm. long and 15-30 cm. wide. The stipe is covered with woolly hairs when young, becoming glabrous with age. Fertile fronds are "interrupted" in that the upper and lower portions of the blade are sterile (green) while the middle portion is fertile (brownish due to fertile pinnae). Fertile pinnae soon whither and are less conspicuous in the latter half of the growing season.

ECOLOGICAL NOTES: Interrupted fern is frequent in hardwood swamps, alder thickets, edges of sedge meadows, and upland forests. It prefers drier habitats than cinnamon fern (*O. cinnamomea*) [FACW] and royal fern (*O. regalis*)[FACW].

SOURCE: Gleason and Cronquist (1991); and Chadde (2002).

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NORTHERN WHITE VIOLET

(*Viola macloskeyi* F. Lloyd ssp. *pallens*)

VIOLET FAMILY (Violaceae) **C of C:** Native (7) **IND. STATUS**: OBL

FIELD CHARACTERISTICS: A small, perennial herb spreading by rhizomes or stolons. Leaves all arise from the base and are heart-shaped to kidney-shaped, 1-3 cm. wide at flowering, later growing to 8 cm. wide. White flowers are on upright petioles equal to or longer than the leaves. The lower 3 petals are purple veined near the base. The upper 2 petals are only slightly (or not at all) recurved, not twisted. Lateral petals are beardless or with sparse hairs. Fruit is a green capsule 4-6 mm. long. In flower April-June.

ECOLOGICAL NOTES: Northern white violet occurs in alder thickets, coniferous swamps and sedge meadows, particularly where groundwater discharges (e.g., springs, seeps) occur. Voss (1985) notes that it also occurs in bogs on *Sphagnum* hummocks.

SOURCE: Gleason and Cronquist (1991); Chadde (2002); and Voss (1985).

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ROUGH BEDSTRAW

(*Galium asprellum* Michx.)

MADDER FAMILY (Rubiaceae) **C of C:** Native (6 MN)(7 WI) **IND. STATUS:** OBL

FIELD CHARACTERISTICS: A perennial herb spreading or reclining on other plants and much branched to 2 m. long. Stems are 4-angled and rough on the angles with downward-pointing (retrorse) barbs that cling to clothing. Leaves 6-whorled on the stem and 4-5 whorled on the branches. The narrowly oval leaves are widest above the middle, 1-2 cm. long and 4-6 mm. wide, with a sharp tip. The underside midvein and leaf margins are lined with barbs. Inflorescence consists of loosely arranged, few-flowered clusters that are both terminal and axillary. Flowers have 4 white petals that are 3 mm. long. Fruit is round and smooth. In flower May-August.

ECOLOGICAL NOTES: Rough bedstraw reaches it highest presence in alder thickets (Curtis 1971) and is also a common species of marshes, hardwood swamps, inland fresh meadows and streambanks.

SOURCE: Curtis (1971); Gleason and Cronquist (1991); Chadde (2002); and Black and Judziewicz (2009).