Ferns and Flora of The Wenonah Woods Conservation Area

Introduction

For a number of years I have enjoyed photographing wildflowers and other subjects of natural interest in Wenonah's conservation areas. In identifying and photographing the wildflowers and recording information on the photos, I have, as a consequence, created a record of the ferns and flowering plants found in Wenonah's natural areas. It has occurred to me that those records, supplemented by continued observation and aided by memory could be used to compile a formal list of the conservation area's natural flora. The document that appears below is the result of an effort to do just that. Wenonah is a small community and the size of its conservation lands is really quite modest. Nevertheless, these areas contain a variety of habitats and possess an impressive diversity of plant species. We are fortunate to have them.

Organization

The species list is divided into five sections: Ferns, Fern Allies, Herbaceous Plants**,** Shrubs and Grass-like Plants. Within each section the species are grouped by an alphabetical listing of botanical family. Within each family the species are generally grouped by genus and also ordered by approximate season of bloom.

Each species entry will consist of the common name, botanical name in parenthesis, season of bloom in bold type and a short paragraph length section describing or commenting on the species. All non-native plants are identified as such in bold type at the beginning of the comments section. Finally, I have included very general indications of some of the locations in the conservation area where the species have been seen.

At the end of the document are indices by common name of both herbaceous plants and shrubs.

What's in The List

The criteria for including a species in the list is simply that I have seen that plant growing in (or in a few instances, very near) the Wenonah Woods conservation area, and that the species identification has been clearly established. In almost every case I have also photographed that species in the conservation area. For many perennials that form long-lived patches, the confirmation of location is unambiguous. One can return to the same location year after year to observe these plants. With many annual and biennial species, however, species location and even presence can be fleeting and uncertain. These species, particularly those that were represented in the conservation areas by just one or two plants, may be at one location one year and at another or possibly absent the next. What can be said with certainty is that these plants have been seen in the conservation area and will likely continue to be present there, even though their presence in any given year or location can not be predicted.

What's Not in The List

The list does not include tree species. The only exceptions are the inclusion with the shrubs of a few smaller, prominently flowering understory trees, such as the Flowering Dogwood.

Also absent are the many species of open field and meadow habitats found in our region. The conservation area does not contain these habitats. Indeed, Wenonah no longer contains these habitats as almost all non-wooded open space has been lost to residential development. A few meadow habitat species are occasionally found in the conservation area or in very close proximity, such as at some of the sunnier trail entrances. These I have included on the list. For example, the Common Milkweed that grows along Hayes Ave. near the Break Back Run Trail entrance is included and is a noteworthy entry due to the importance of that plant in the life cycle of the Monarch Butterfly.

This list is based on observation over a number of years. Nevertheless, I am sure it contains its share of omissions, inaccuracies and errors. Should anyone who reads this list know of any species inadvertently omitted from it or any errors contained within it, I would be pleased to hear from him or her so that appropriate additions and corrections can be made. One of the first steps in the development of sound conservation practices for any area is to identify what is in it. I hope this list of Wenonah's ferns and flowering plants makes a contribution to that effort.

Richard A. Dilks
July 10, 2004

Table of Contents

Ferns and Fern Allies of The Wenonah Woods Conservation Area

Ferns

Family: *Polypodiaceae (True Ferns)*

Bracken (Pteridium aquilinum) Found on the Glen Trail and at Wenonah Lake. A rather large and common fern of world wide distribution. Distinctive 3 leaf structure.

Netted Chain Fern (Woodwardia areolata) Quite common but often overlooked and mistaken for the Sensitive Fern. Glen Trail, Eldridge Trail, Break Back Run, Wenonah Lake.

Christmas Fern (Polystichum acrosyichoides) Hardy. deep lustrous green in color, this fern stays green through much of the winter. Mantua Creek Trail, Monongahela Loop Trail, Comey's Lake

Hay-scented Fern (Dennstaedtia punctilobula) A locally common lacy-cut fern. It tends to form large patches, one of which can be seen on the path between Eldridge Trail and Indian Trail (the street).

Lady Fern (Athyrium filix-femina) One of our loveliest lacy-cut ferns. Quite common in our woods, it generally grows in compact circular clumps, rather than large patches. Stem can be green or in forma rubellum, pale wine color, and is only slightly scaly.

New York Fern (Thelypteris noveboracensis) A very common medium sized fern. It has a distinctive yellow-green color and is double cut and double tapered. It tends to form large patches.

Sensitive Fern (Onoclea sensibilis) Also called Bead Fern, it is one of the commonest ferns. Large, light green with broad leaves, it is found in moist woods, fields and roadsides, in shade or sun. In winter it's dried fertile leaf is prominent.

Spinulose Woodfern (Dryopteris spinulosa) A common and variable lacy-cut woodland fern. Often evergreen, it's densely scaly stalk distinguishes it from the Lady Fern. Found on several trails in Wenonah.

Family: *Osmundaceae (Flowering True Ferns)*

Cinnamon Fern (Osmunda cinnamonea) The fertile leaf is an upright golden club. Common in wet and swampy areas. This is the largest fern found in the Wenonah woods.

Royal Fern (Osmunda regalis) A large fern of wet areas. Considered common, it is not abundant locally. Several clumps can be seen at the north end of Wenonah Lake at the water's edge.

Family*: Ophioglossaceae (Succulent Ferns)*

Rattlesnake Fern (Botrychum virginiannum) Largest, most common and earliest appearing of the grape ferns. It fruits in May/June. Found in the Wenonah Lake woods and on Mantua Creek Trail.

Cut-leaved Grape Fern (Botrychum dissectum) This small succulent fern fruits in late summer/early fall. It is easily found on the Mantua Creek Trail. It occurs in two form locally: the *elongatum* & the locally less common *lacy-cut* or *typical* form.

Fern Allies

Family*: Equisetaceae (Horsetails)*

Field Horsetail (Equisetum arvense) The most common horsetail species and variable in form. It thrives in any soil but prefers damp sandy semi-shaded areas. It is the only horsetail found in Wenonah and is abundant at the north end of Break Back Run Trail, near Maple Ave.

Family: *Lycopodiaceae (Clubmoss)*

Ground Cedar (Lycopodium tristachyum) Also called Ground Pine, this clubmoss somewhat resembles Tree Clubmoss but is smaller,more delicate and locally less common. It prefers drier sandy shaded habitats. A large patch can be seen on the Glen Trail near the terminus of S. West Ave.

Tree Clubmoss ((Lycopodium obscurum) Larger than Ground Cedar, Tree Clubmoss prefers damp open woods and bog edges.Even so, the two are sometimes found growing together. A large patch can be seen near the Running Cedar patch on the Glen Trail near the terminus of S. West Ave. Also found on the Eldridge Trail.

Shining Clubmoss (Lycopodium lucidulum) Evergreen. A bright shining green, bristly-leaved plant. It grows in loose tufts and prefers rich acid soil in moist woods. Only one patch occurs in Wenonah, on the Break Back Run Trail.

Flora of The Wenonah Woods Conservation Area

Herbaceous Plants

Alismataceae (Water Plantain Family)

Common Arrowhead (Sagittaria latifolia) **July-Sept,** This is an aquatic plant of wet sites and shallow water along lake and stream margins and of marshes and swamps. It bears white flowers 1' to1.5" in whorls of three on an unbranched stalk. The flowers have 3 prominent petals, 3 sepals and numerous stamens. The large leaves are basal, arrow-shaped (varying from broad to narrow) with two long backward projecting lobes. Beneath the muck, rhizomes produce edible starchy tubers which are eaten by ducks and muskrats. Quite common along Mantua Creek and in it's marshes.

Anacardiaceae (Cashew Family)

Poison Ivy (Rhus radicans) **May-July.** The very common Poison Ivy with its compound leaf of three leaflets and its volatile rash-causing oil is well known. It can grow as a ground cover, erect shrub or a vine. Its fall foliage is yellow or red. Flowering specimens are less common. The green flowers are small (1/8 inch) and appear in small branching clusters in the axils. The fruit is gray or whitish and is eaten by song and game birds with no harmful effects. Very common on all trails.

Apiaceae (Parsley Family)

Aniseroot (Osmorhiza longistylis) **May-June.** This late spring-early summer blooming woodland plant grows 1-3' high with small umbels of tiny white 5 petaled flowers at the ends of branches. The leaves are fern-like with egg-shaped deeply lobed and toothed leaflets. The fruit is small, black and club-shaped, and can cling to clothing.The root is carrot-like and has a pleasant anise odor. Aniseroot is found on Eldridge Trail near the first footbridge over Monongahela Branch and on the Monongahela Loop Trail.

Short-styled Snakeroot (Sanicula canadensis) **May-July.** Short-styled Snakeroot is distinguished by its palmate leaf, which is divided into 3 leaflets, the outer 2 being deeply cleft. The very small (1/12") inconspicuous greenish flowers bloom in small clusters on stalks of differing length. The staminate flowers are no longer than the pistillate flowers (burrs), which form the small oval fruit, covered with hooked bristles. This plant, which is locally common, can grow up to 3' high.

Honewort (Cryptotaenia canadensis) **June-Sept.** Honewort bears very small (1/8") white 5 parted flowers in uneven umbels. The florets lack visible sepals and the clusters are irregular. The large alternate leaves (3-6") are palmately divided into 3 toothed and often lobed leaflets. Although not a showy wildflower because of its very small flowers, Honewort bears sizable and distinctive fruit which are blackish, oblong and ribbed. The leaves and roots are edible. The plant is 1-3' high. Also called Wild Chervil. Mantua Creek Trail.

Water Hemlock (Cicuta maculata) **June-August.** This tall (up to 6'), erect, smooth and much branched summer blooming plant of wet meadows bears loose dome-shaped clusters of tiny

white (1/6") 5-petaled flowers. Each large umbel is made up of a cluster of smaller umbels, each containing a cluster of florets. Bracts are absent. The compound leaves are doubly divided with lanceolate, toothed and sharp-pointed leaflets. The stem is usually purple or mottled or streaked with purple. All parts of this plant are highly poisonous and ingestion is fatal. Another common name is Spotted Cowbane. This native species is related to Poison Hemlock (Conium maculatum), the plant that killed Socrates. A large stand of this species is found in the open marsh near the confluence of Monongahela Branch and Mantua Creek. Also found in the Eldridge Trail wet meadow.

Apocynaceae (Dogbane Family)

Myrtle or **Periwinkle (Vinca minor)** **NON-NATINE. April-May.** This very common introduced trailing evergreen plant has escaped from cultivation and frequently forms large patches in woods. In spring it bears 1" blue flowers with 5 flaring lobes. The foliage is lanceolate, opposite, dark green and evergreen. Where it takes hold it can form a thick ground cover over extensive areas. Frequently cultivated, it is invasive and undesirable in natural areas. Large patches of Vinca minor can be seen in the area around Comey's Lake.

Araceae (Arum Family)

Skunk Cabbage (Symplocarpus foetidus) **Early spring.** One of the first signs of spring in the woodlands, the Skunk Cabbage sprouts so early the heat from its cellular respiration melts snow. Its strong fetid odor resembles decaying flesh and lures insects to pollinate it. Very common in swampy areas and along streams in Wenonah.the Skunk Cabbage produces a spathe (hood) and spadix (the club or "jack") that bears tiny male and female flowers. The fruit is a dense cluster of red berries. The tuber is edible when cooked and was a food source for the Indians. Also called Indian Turnip. Found throughout the conservation area in moist woods and along stream banks.

Jack-in -the-pulpit (Arisaema atrorubens) **April-June.** This common plant of moist woods is a member of the Arum family and like the Skunk Cabbage produces a spathe (hood) and spadix (the club or "jack") that bears tiny male and female flowers. The fruit is a dense cluster of red berries. The tuber is edible when cooked and was a food source for the Indians. Also called Indian Turnip. Common in moist woods throughout the conservation area.

Araliaceae (Ginseng Family)

Dwarf Ginseng (Panax trifolium) **April.** This tiny woodland perennial of early Spring produces an umbel of very small white flowers that rise on a thin stalk above a whorl of three compound leaves. It often forms large patches and is frequently found with Wood Anemones. Also called a Groundnut, its round white tuber is edible. Break Back Run Trail (with Wood Anemonies), Glen Trail, Monongahela Loop Trail.

Wild Sarsaparilla (Aralia nudicaulis) **May-June.** This member of the Ginseng family is a fairly common plant of upland and drier woods and can form small or large patches. A single large leaf rises above the flower stalk. The leaf is divided into 3 branching parts, each with 3 to 5 finely toothed ovate leaflets. The green flowers are borne on a leafless stalk in three (usually) hemispherical umbels. The ripened fruit is purplish-black. The aromatic rhizomes of this plant are used as a substitute for sarsaparilla. Mantua Creek Trail, Eldridge Trail, Monongahela Loop Trail.

English Ivy (Hedera helix)

NON-NATIVE.Fall. This well known plant is *a highly undesirable and aggressive invader* that forms a dense ground cover that kills and displaces native plants. As a climbing vine it weakens and eventually kills the trees it attaches to. It does flower in the fall (if growing in a sunny area), producing small greenish-white flowers. There are, unfortunately, several large areas of ivy infestation in the conservation area, including on Mantua Creeek Trail, Break Back Run Trail, the Pine Street entrance to Eldridge Trail and the area around the Teahouse.

Asclepiadaceae (Milkweed Family)

Common Milkweed (Asclepias syriaca)

June-August. The commonest Milkweed species (height up to 6') A. syriaca bears purplish to pink flowers in large ball-like slightly drooping clusters. The 1/4" flowers are fragrant with 5 recurved petals and an elevated central crown or hood divided into 5 parts, each with a plainly visible curved horn projecting inward from it. The large leaves are opposite, broadly oblong, gray-downy beneath and exude a milky juice if bruised as does the downy stem The fruit is a large rough-textured pod that splits open to release seeds with long silky hairs attached to one end for wind aided scattering. Milkweed is the sole food for Monarch butterfly larvae and contains cardiac glycosides that when ingested by the larvae makes them and the adult Monarchs toxic to birds and other predators. This is a plant of open fields not woodlands but Common Milkweed can be found on the woodland edge on Hayes Ave. near the entrance to Break Back Run Trail.

Swamp Milkweed (Asclepias incarnata)

June-August. This very attractive Milkweed species (height up to 4') bears deep pink or rose flowers in large erect clusters at the of tall branching stems. The 1/4" flowers have 5 recurved petals and an elevated central crown or hood divided into 5 parts, each with a plainly visible curved horn projecting inward from it. Each hood is about 1/8" with the horn longer than the hood.The leaves are long,opposite, lanceolate and taper to the tip. The juice of this wetland milkweed is less milky than that of most other species. The fruit is a large (2' to 4") elongated pod that splits open along one side to release seeds with long silky hairs attached to one end for wind aided scattering. Found in the wet meadow on Eldridge Trail.

Asteraceae (Sunflower Family)

Common Dandelion (Taraxacum officinale)

NON-NATIVE. March-Sept. This ubiquitous alien species with its many petaled yellow flower heads, deep tap roots and globular seed head is familiar to all. The common name, i.e." lions teeth", refers to the teeth of the leaves. Frequently seen in the conservation area.

Dwarf Dandelion (Krigia virginica)

May-August. This native plant somewhat resembles the Common Dandelion but is not closely related to it. Rather, it is in the same genus as the Two-flowered Cynthia. It is a low plant of dry sandy soil. The bright yellow flowers resemble those of hawkweeds; many petaled with the ends of the petals pinked. The flowers, usually solitary and 1/4 to 1/2 inch wide , rise on a long slender stalk. A small patch is found on gravelly soil off the Glen Trail near the Monongahela Branch as well as elsewhere in the conservation area.

Rattlesnake Weed (Hieracium venosum)

May-June. This native woodland hawkweed is known as much for its very attractive foliage as for its blooms. The leaves are basal, long, elliptical,

green and strikingly veined with deep red. The leaves appear in early Spring, before the flower stalk begins to grow. However, latter in the season, after the blooms have finished, the leaves loose their red veining. The bright yellow flowers are typical of the hawkweeds. Multi-petaled dandelion-like flowers with pinked petals appear in open clusters atop a very long thin usually leafless stalk. The fruit has pale yellow bristles and forms a dandelion-like head. The common name derives from the belief that this species is common in areas where rattlesnakes are found. Fairly common on parts of Mantua Creek Trail.

Panacled Hawkweed (Hieracium paniculatum) **July-Sept.** This is a woodland Hawkweed, typically blooming in late summer in dry woods. It bears bright yellow flower heads about 1/2" wide. There are about 9 ray flowers on each head and each ray has the typical pinked square tip. The slender flowering branches are widely spreading or drooping, each branch terminating in a single flower head. The stem is smooth. The leaves are alternate, lanceolate, smooth and slightly toothed. There is no basal rosette. The plant grows from 1' to 4' high. Seen on Break Back Run Trail, Eldridge Trail and elsewhere.

Common Fleabane (Erigeron philadelphicus) **April-August.** One of 4 Fleabane species in our area (all rather similar), this common composite plant bears white or pinkish flowers with numerous very narrow rays and a yellow disk, in loose clusters on erect hairy stems. Common Fleabane, also called Philadelphia Fleabane. A plant of fields and waste places, it is so common that it can frequently be found in sunnier areas along the trails and at trail entrances.

Jerusalem Artichoke (Heliathus tuberosus) **August-Oct.** This large, showy, rather common Sunflower usually grows between 5' and 10' tall with stout, rough, branching stems bearing bright golden yellow flower heads up to 3" across. The flower head has 10 to 20 ray flowers. The disk flowers are also yellow. The bracts beneath the flower head are narrow, long-pointed and spreading. The leaves are large (up to 10"), ovate to lanceolate, thick, rough and toothed. They are opposite below and alternate above, with winged stalks and 3 main veins. The stems are hairy. The tuber, cultivated by the Indians, is edible, and nutritious, containing natural sugars instead of carbohydrates. The common name is a corruption of the Italian "girasole", meaning "turning to the sun". The original range of this species was west of our region but it has spread east through cultivation. There is a stand if this species by a fence on the woodland’s edge at the southern terminus of Garfield Ave.

Tickseed Sunflower (Bidens aristosa) **August-Oct.** This large showy plant (up to 5 or 6 feet high) of the Bidens genus (Bur Marigolds, Beggar Ticks, Spanish Needles), blooms in late Summer, often forming large pure stands in wet meadows and fields. The vast sea of yellow flowers is one of the glories of late Summer. The flower head is about 2" wide and has 6 to 19 bright golden yellow rays. The central disk is also yellow. The numerous flower heads are borne on slender, leafy, much-branched stems. The leaves are opposite, long and pinnately divided into 5 to 7 toothed leaflets. They somewhat resemble the leaves of Marigolds. The fruit are the common long, two-pronged "tickseeds" that stick to clothing. Tickseed Sunflowers are seen in the wet meadow on Eldridge Trail. They are annuals and their abundance at a given site varies from year to year. I’ve seen the wet meadow filled with them some years while in other years only a few plants occur.

Larger Bur Marigold (Bidens laevis) **August-Oct.** This beautiful and showy late season flower is locally common in wet meadows, often forming large stands. It grows to about 3" tall. Its

flower is very similar to Tickseed Sunflower (B. aristosa), but its foliage is distinctly different. Also B. laevis seen to prefer wet areas while B. aristosa prefers damp sites to wet. Larger Bur Marigold bears bright yellow flower heads 1.5" to 2.5" across in small loose clusters. The ray flowers are broad, conspicuous and tend to lighten very slightly toward the tip. The flower bracts are long-pointed and entire. The leaves are opposite, lanceolate and coarsely toothed. This species is particularly wide spread. It is found not only in eastern N. America from N. Hampshire to Fla., but also on the Pacific Coast and in South America. Also called Smooth Bur Marigold. Seen in wet areas along Mantua Creek Trail.

Tall Beggar Ticks (Bidens vulgata)

August-Oct. Tall Begger Ticks, sometimes called Sticktights, belongs to the same genus (Bidens) as the showy Tickseed Sunflowers and Bur Marigolds. Both common names refer to the elongated barbed fruit (achenes) which have 2 to 4 long minutely barbed prongs or horns at their tip and which cause the fruit to cling to clothing or animal fur, aiding seed dispersal. The unshowy flower heads are borne in loose, open clusters on longish stems. They are yellow and usually composed entirely of tightly packed disk flowers, although a few small, yellow ray flowers may be present. Each flower head is surrounded by 10 to 20 long, thin and prominent bracts. The pinnately compound leaves have 3 to 5 leaflets, which are lanceolate and regularly toothed. The plant grows from 1' to 4' high. Seen on the Glen Trail near the rr tracks and likely occurs elsewhere as well.

Swamp Beggar Ticks (Bidens connata)

August-Oct. Swamp Begger Ticks grows in wet places and belongs to the same genus (Bidens) as the showy Tickseed Sunflowers and Bur Marigolds. The common name refers to the elongated barbed fruit (achenes) which have 2 to 4 long minutely barbed prongs or horns at their tip and which cause the fruit to cling to clothing or animal fur, aiding seed dispersal. The unshowy flower heads are borne in open clusters on longish stems. They are yellow and usually composed entirely of tightly packed disk flowers, although a few small, yellow ray flowers may be present. Each flower head is surrounded by around 5 very long, thin and prominent bracts. The simple leaves are narrowly lanceolate, stalked, coarsely toothed and sometimes lobed at the base. The heads are erect in fruit. The plant grows from 1' to 4' high. Seen in the wet meadow on Eldridge Trail.

Wild Lettuce (Lactuca canadensis)

July-Sept. Frequently found in disturbed areas, this native biennial is a tall plant (up to10") that bears small (1/4") yellow or reddish-yellow Hawkweed-like flowers in a large, elongated terminal cluster. The foliage exudes a milky juice when crushed and a slight bloom is present on the smooth stem and leaves. The leaves are large (up to 1') and variable: from the typical very deeply lobed to lanceolate, nearly entire and clasping. The dandelion-like seed head is composed of flat individual seeds with a bristly "parachute" for wind dispersal. The young leaves are considered edible. I've noted this plant on the Glen Trail and it likely occurs elsewhere also.

Tall Blue Lettuce (Lactuca biennis)

July-Oct. This tall plant, (It grows from 3' to 15' high.), is one of several Blue Lettuce (Lactuca) species and is found in moist thickets and clearings. . It bears small, very numerous, pale blue flower heads in a large branched terminal cluster and in smaller clusters arising from the leaf axils on the main stem. The flower heads are composed of numerous ray and disk flowers, all pale blue. The tall unbranched stem and the foliage are pale green. The leaves are large, deeply and sharply lobed and coarsely toothed. The wild lettuces are related to garden lettuce and bear similar flowers. Seen in the Eldridge Trail wet meadow and probably occurs elsewhere as well.

Common Mugwort (Artemisia vulgaris) **NON-NATIVE. July-Oct. T**his non-native plant (probably European in origin) is is found in fields, and waste places. It is a member of the genus Artemisia, commonly called Wormwoods, which also includes the silver-leaved garden Dusty Miller (A. stelleriana). Usually found in dry soil, it is a tall (to about 5'), rather undistinguished plant with small unshowy flowers. The pale greenish flower heads are about 1/6"wide and are borne in clusters lining the stems of the plant. They appear to be composed entirely of disk flowers. The foliage is pale green above and densely wooly white beneath. The leaves are alternate and untoothed. The upper ones can be lanceolate or linear but most of the leaves are deeply and irregularly lobed. This extremely common plant is seen in some sunny clearings and at trail entrances.

Tall Rattlesnake Root (Prenanthes trifoliata) **August-Sept.** This woodland plant can grow from 2' to 6' tall, although 3' is typical locally. It bears nodding bell-shaped cream-colored 1/2" flowers in loose clusters at the top of the plant and in short-stemmed clusters at the leaf axils. The flowers are made up of ray flowers only, with prominent protruding stamens. The sides of the flower are covered with cream-colored, petal-like pappus. More unusual than its attractive flower is the plant's irregularly shaped foliage. The lower leaves are usually divided into 3 angular and irregularly shaped and pointed lobes. The upper leaves can vary from angularly ovate to sharply lobed to lanceolate. The dark green leaves and the stem are smooth. Rattlesnake Roots (genus Prenanthes) were presumably once used as remedies for snake bite. Also called Gall-of-the-earth. Common in the conservation areas, it is found on Break Back Run, Mantua Creek Trail, Monongahela Loop Trail and elsewhere.

Common Ragweed (Ambrosia artemisiifolia) **July-Oct.** This very common, coarse, hairy-stemmed annual bears inconspicuous flowers in elongated clusters. The male flowers are small, yellow-green and packed with yellow stamens borne in heads of 15 to 20 florets each. Each plant contain hundreds of heads borne in slender 1" to 6" clusters near the top of the plant. The female flowers are small, greed and stalkless, borne in small clusters at the leaf axils. The leaves are alternate or opposite, light green and divided into narrow segments, irregularly toothed or lobed. Common Ragweed is wind pollinated. Its drab flowers do not attract insects but produce large amounts of pollen, which is carried by the wind and is a major contributor to "hay fever" allergies. The fruit is small, top-shaped and capped with 6 short spines. It is rich in oils and is relished by birds. The plant grows 1' to 6' high. Very common in the low and sunnier spots of many trails.

Great Ragweed (Ambrosia trifida) **August-Sept.** This is a common, very tall (up to 15'), rough, hairy plant with very small nodding green flowers arranged in erect, elongated clusters of from 1" to 10 ". The flowers are similar to those of Common Ragweed. The large leaves (up to 8" long) are opposite and palmately and deeply divided into 3 to 5 pointed lobes (or rarely entire). The fruit is beaked with 4 to 10 short points. Great Ragweed with its small, unshowy flowers is wind pollinated and thus produces large amounts of wind borne pollen during its blooming period in late summer and is a principle cause of "hay fever" allergies.A very common plant of roadsides, wasteplaces, wet meadows and stream banks, it is easily found in the Eldridge Trail wet meadow and along Mantua Creek and Monongahela Branch.

Boneset (Eupatorium perfoliatum) **July-Oct.** This is a plant of wet places and low woods. A member of the large Eupatorium genus, (which includes the Joe-Pye Weeds, White Snakeroot, Mistflower and at least 8 other species of Bonesets in our

region), this tall (up to 5' high), erect plant, branching at the top of the stem, is most noted for its large leaves, which, united at the base, completely surround and are pierced by the stem. The leaves are large (4 " to 8" long), light green, opposite, lanceolate and tapering to a point, wrinkled, fuzzy-hairy and toothed. The stem is also hairy. The flowers, typical of the Bonesets, are borne in dense, flat-topped clusters of small, dull white flower heads, each about 1/4" long (all disk flowers). The distinctive united leaves inspired the early belief that the plant could help bones to set. Its leaves were also used for a medicinal tea. Found in the wet meadow on Eldridge Trail.

Eastern Joe Pye Weed (Eupatorium dubium) **August-Sept.** Eastern Joe Pye Weed is a plant of damp areas and marshes It is the most common locally of the 4 species of Joe Pye Weed found in our region. The genus Eupatorium is a large one, which includes the Bonesets, White Snakeroot and Mistflower as well as the Joe Pye weeds. E. dubium is a tall, erect plant that can reach 8'. It bears a large, showy, pinkish-lavender, many-branched, terminal flower cluster, rounded or domed on the top and up to 5" across. The compound flowers are quite small (about 1/3" wide) and composed entirely of disk flowers. The stem is greenish and finely spotted with purple. The leaves are ovate, sharply pointed, toothed and are borne in whorls (typically of 4). They have 3 main veins, the outer 2 reaching half way up the leaf. The folklore origin of the common name is that Joe Pye was an Indian that used this plant to cure fevers. Colonists used it to treat typhus.This plant grows in the marsh along Mantua Creek Trail and in the Eldridge Trail wet meadow.

Sweet-scented Joe Pye Weed (Eupatorium purpureum) August-Sept. Sweet-scented Joe Pye Weed is another of the 4 species of Joe Pye Weed found in our region. It is a plant of rich woods, thickets and woodland edges. E. purpureum is a tall, erect plant but generally shorter than Eastern Joe Pye Weed.. It bears a large, showy, pale pinkish-lavender, many-branched, terminal flower cluster, rounded or domed on the top and up to 5" across. The flowers are distinctly paler in color than those of Eastern Joe Pye Weed. The compound flowers are quite small (about 1/3" wide) and composed entirely of disk flowers. The stem is solid, greenish but purple at the joints. The leaves are ovate to lanceolate, sharply pointed, toothed, have a single main vein and are borne in whorls of 3 to 7. When crushed the foliage smells like vanilla. Also called Sweet Joe Pye Weed. The only location for this species in Wenonah that I've found is a patch at the woods' edge near the southwest corner of Maple St.and N. Jefferson Ave.

White Snakeroot (Eupatorium rugosum) **August-Oct.** This member of the large Eupatorium genus (which includes the Bonesets, Joe-Pye Weeds and Mistflower) is locally very common in rich woods and woodland borders. Its solitary or clustered, firm, erect, stems bear flat-topped clusters of small fuzzy white flower heads composed entirely of disk flowers. The large clusters are themselves composed of numerous smaller, roundish sub-clusters. The individual disk flowers are quite attractive under magnification. They are 1/6" wide and have 5 white petals, recurving slightly at the tip. The leaves are opposite, ovate, stalked, long pointed and coarsely (sometimes sharply) toothed. The fruit is tiny and seed-like with white bristles. This species when eaten by cows can result in milk that is toxic and fatal to humans. Quite common in the conservation area.

Climbing Boneset (Mikania scandens) **August-Oct.** This twining vine is not a true Boneset (genus Eupatorium) but its flowers resemble those of Boneset. Climbing Boneset is found in moist woods, thickets, swamps and stream banks, where it can form a sizable growth over other plants. The pale pinkish or occasionally whitish flower heads are borne in branched flat-topped clusters arising from the leaf axils.

They are 1/4" wide and made up of 4 disk flowers surrounded by scale-like bracts. The leaves are opposite and triangular to ovate or heart-shaped and are wavy-toothed or entire. The fruit is tiny and seed-like with a tuft of whitish bristles. Also called Climbing Hempweed. Seen on Mantua Creek Trail in the wet meadow and along the small boardwalk through the swampy thicket. Likely occurs elsewhere as well.

Sweet Goldenrod (Solidago odora)

August-Sept. Sweet Goldenrod is a medium sized species, typically growing 2' to 4' high. It is found locally in both dry oak woods and in open dry clearings and fields. The yellow flowers are borne in slightly arching one-sided clusters which form the large pyramidal terminal cluster. The flower heads are about1/6" long and bear 3 to 4 rays on each head. The leaves are alternate, narrowly lanceolate, stalkless, entire and 2" to 4" long with small translucent dots. Both the stem and leaves are smooth. The crushed leaves often have an anise scent, although some plants are odorless, and a tea can be brewed from them. A small patch of this goldenrod is found in the dry oak woods between Mantua Creek and Monongahela Branch, west of the railraod.

Blue-stemmed Goldenrod (Solidago caesia)

August-Oct. Blue-stemmed Goldenrod is found mainly in a woodland habitat, and occurs in clearings and thickets as well. It is a smaller species, generally growing 1' to 3' high. It has a green or purplish, often arching, smooth stem with a whitish bloom. Small scattered clusters of yellow flower heads, arising from the leaf axils, are borne along much of the length of the stem. A terminal cluster can also be present. The flower heads are 1/4" long with 3 to 4 rays. The leaves are up to 5" long, lanceolate, stalkless, tapering at both ends, toothed and sharply pointed. It is an attractive woodland plant of late summer and fall. Also called Wreath Goldenrod. This plant is seen on Mantua Creek Trail, particularly in the area around Clay Hill.

Slender Goldenrod (Solidago erecta)

August-Oct. Slender Goldenrod, also called Erect Goldenrod, is a woodland species that grows 2' to 3' high. It bears a long, cylindrical, unbranched terminal cluster that is typically about 1/3 the length of the plant. The bright light yellow flower heads have 6 to 9 ray flowers. The bracts are broad, blunt and non-spreading. The basal (when present) and lower leaves are lanceolate or oblong, toothed and long-tapering toward the stem. The upper leaves are much smaller, lanceolate and entire. The leaves and stem are smooth. Found on Mantua Creek Trail and on the western portion of the Wenonah Lake Loop Trail.

Late Goldenrod (Solidago gigantea)

August-Oct. Late Goldenrod is one of the common species of tall and showy "plumey" Goldenrods. It is a plant of both dry and wet open sites. Plants can grow up to 7' tall. The small bright yellow flower heads are borne on outwardly arching branches forming a terminal pyramidal cluster. The flower heads are about 3/16/" or 1/4" long with numerous ray flowers. The leaves are alternate, lanceolate and sharply toothed. They are 3-veined with 2 prominent veins parallel to the midrib. The main stem is smooth and usually covered with a whitish bloom. Despite its common name, I have not noticed this species blooming later than other Solidago species. Goldenrods are perennials. There are about 125 species in N. America and 1 species in Europe. About 70 species occur in the Northeast. I have seen this plant growing along Mantua Creek, west o the rr trestle. A number of other tall “plumey” Goldenrods are very common in our area but most are plants of fields and roadsides.

Rough-stemmed Goldenrod (Solidago rugosa) **August-Oct.** Rough-stemmed Goldenrod is a locally very common species of tall and showy "plumey" Goldenrods. Its habitat varies from fields to thickets to woods. Plants can grow up to 7' tall, but more typically are 3' to 5'. The small bright yellow flower heads are borne on outwardly arching branches forming a terminal pyramidal cluster. Flowers contain 6 to 10 rays. It is a very variable species and generally characterized by a rough or hairy stem and leaves that are rough and deeply veined with a single main vein and numerous branching side veins. Seen along Mantua Creek Trail and elsewhere.

Maryland Golden Aster (Chrysopsis mariana) **August-Oct.** This lovely late summer and fall wildflower is typically found in dry sandy fields but also occurs in dry, sandy open woods. It grows from 1' to 2.5' high. It bears bright golden-yellow flower heads about 1" across. The ray flowers are widest in the middle and the same color as the disk flowers. The seed heads are spherical with winged dandelion-like seeds. The bracts have small glands. The stem, when young, is silky and the leaves are smooth. The leaves are alternate, stemless but not clasping, entire and lanceolate, although those at the base are widest between the middle and the tip. Seen on the Wenonah Lake Loop Trail on the west side of the lake. I have also noted this species several years ago in dry oak woods near the Glen Trail, south of the Monongahela Branch.

White Wood Aster (Aster divaricatus) **August-Oct.** This lovely perennial woodland Aster is locally abundant, blooming in late summer-early fall. The often zigzag stem bears somewhat flat-topped clusters of up to 1" white flower heads. The flower head has 6 to 10 white ray flowers and a central yellow disk that turns bronzy-purple. The bracts are whitish with green tips. The fruit is dry, seed-like and tipped with whitish bristles. The leaves are alternate, up to 7" long, smooth stalked, heart-shaped, long-pointed and coarsely toothed. The plant grows 1' to 3' high. It is common in the conservation area, particularly on Break Back Run Trail.

Small White Aster (Aster vimineus) **August-Nov.** This Aster bears numerous, small (under 1/2") white flower heads, mostly clustered along one side of arching and widely diverging branches on a smooth and sometimes purple tinged stem. Each head has 15-30 white ray flowers and the yellow disk turns a bronzy pink as it matures. The green tipped bracts are narrow and neither stiff nor wide-spreading. The stem leaves are up to 5' long, linear to lanceolate and untoothed or obscurely toothed. Branch leaves are smaller and usually untoothed. Although references assign to A. vimineus a field or meadow habitat, I have noticed it most often in open woods, usually in single or scattered plants, not in patches. Also called Small-flowered White Aster. Seen on Mantua Creek Trail and Eldridge Trail.

Calico Aster (Aster lateriflorus) **August-Oct.** This common and attractive Aster bears several small (under 1/2") flower heads on one side of straggly, divergent branches. Each flower head contains 9 to 15 white or purple-tinged ray flowers surrounding a central disk. The disks are yellow, maturing to a strong purple, single plants often showing both disk colors at the same time. (Hence the common name Calico.) The bracts have a greenish midrib. The leaves are alternate and lanceolate to elliptical, usually with a few sharp teeth near the middle. The plant grows 1' to 4 ' high. Although the references indicate the habitat for the Calico Aster as fields, borders and thickets, I frequently have seen it in open woods. Seen on Break back Run Trail and Mantua Creek Trail.

Panicled Aster (Aster simplex)

Sept.-Oct. This very tall perennial Aster (up to 6') is quite common locally, forming large colonies in wet meadows and filling them with white or lavender tinted flowers in the fall. The large patch of Panicled Asters in the wet meadow off Mantua Creek Traili provides one of the most dramatic wildflower displays in Wenonah. The Panicled Aster bears loose, branched clusters of white or lavender tinged 1" flower heads. The ray flowers are thin and numerous. The disk flowers are golden-yellow but turn reddish-purple to brownish with age. The flower bracts are narrow and green-tipped. The leaves are stemless but not clasping, lanceolate and sharp-pointed. They can be toothed or entire. Panicled Asters spread by underground rootstocks to form large colonies. There are many varieties, differing in color, size of the ray flowers, leaf form and serration.

Balsaminaceae (Touch-me not Family)

Spotted Touch-me-not (Impatiens capensis)

Julu-Oct. This native annual belongs to the same genus as the garden Impatiens. It is a plant of wet meadows, stream banks and moist shady places. Once it gains a foothold in a suitable spot it spreads rapidly, frequently forming dense stands. It is a tall (to 5') leafy plant with succulent, translucent stems and 1" unusually shaped flowers hanging pendantly from short stems. The flower is golden-orange spotted with rusty red, and consists of a large calyx lobe with a sharply-spurred sac (the spur is bent underneath and parallel to the flower), 2 green sepals and 3 orange petals, 2 of them 2-lobed, open at the mouth of the flower. The fruit is a swollen capsule that explodes when touched, dispersing the seeds; hence the name Touch-me-not. The leaves are alternate, thin, ovate and bluntly toothed. This plant is often visited by Hummingbirds (I've seen A Humming bird feeding at I. capensis in the Eldridge Trail wet meadow.) but bees and butterflies are also important pollinators. The watery stem juice can reputedly relieve the itching of Poison Ivy. Also called Jewelweed. It is common in low et areas and along stream banks throughout the conservation area.

Bignoniaceae (Bignonia Family)

Trumpet Creeper (Campsis radicans)

June-Sept. This very attractive woody vine of low woods, thickets and woodland edges bears 2.5" long trumpet-shaped reddish-orange flowers in small clusters. The corolla is 5 lobed. The large leaves are pinnately compound, with 7-11 sharply toothed, ovate, pointed leaflets, each about 2.5" long. The fruit is a 6" long capsule. Aerial rootlets, growing from the stem are used for climbing. This vine is attractive to hummingbirds and is often cultivated. NJ is the northern limit of its natural range but it has naturalized as far north as New England. In the conservation area, Trumpet Creeper is found on the Glen Trail, north of the Momgahela Branch, below the railroad embankment. Also noted on the Monongahela Loop Trail. These are shady locations that tend to retard flowering.

Boraginaceae (Forget-me-not Family)

Smaller Forget-me-not (Myosotis laxa)

May-Oct. This native Forget-me-not is found in wet places and along quiet streams. It bears very small (1/8 to 1/4 ") light blue tubular flowers with golden yellow centers. The flowers have 5 rounded petals and calyx lobes 1/2 the length of the calyx. The stems are downy and sprawling or weakly erect and the leaves are oblong or lanceolate and 1-3" long. Found in the Eldridge Trail wet meadow and a marshy area near The Glen Trail

SpringForget-me-not (Myosotis verna) **May-June.** This native Forget-me-not is a plant of dry woods and banks and blooms in spring and early summer. It produces tiny white 5 petaled flowers in long racemes on hairy stems. The leaves are alternate, oblong clasping and .5 to 1.5" long. The fruit is coarsely hairy, roundish and tapers to a point. The plant is 3" to 15" high. I have seen only one plant of this species in Wenonah, in the wood near the east end of Monongahela Loop Trail (1997).

Virginia Stickseed (Hackelia virginiana) **June-Oct.** This Boraginaceae (Forget-me-not) family member is a large (1' to 4' high) plant of dry woods, blooming in summer and fall. It bears tiny (under 1/8") white 5 petaled flowers in one-sided racemes. Stem leaves are elliptical or lanceolate and 1" to 8" long and up to 4" across. The fruit is a prickly bur and the stem is hairy and widely branched. . I have seen only one plant of this species in Wenonah, on The Glen Trail (1997).

Brassicaceae (Mustard Family)

Common Winter Cress (Barbarea vulgaris) **NON-NATIVE. April-August** but most notable in spring. This common, early blooming mustard with bright yellow flowers often forms large showy patched in fields and on roadsides. Seen occasionally in the conservation area. I've noted it in the wet meadow on Eldridge Trail and on N. Hayes Ave.

Small-flowered Bitter Cress (Cardamine parviflora) **March-August.** A small weedy plant with minute white flowers. Found occasionally in the conservation area as well as in waste places and lawns.

Spring Cress (Cardamine bulbosa) **April-May.** The flowers are white with four petals arranged as a cross. They are borne on an elongated cluster atop a smooth stem. The plant is found in damp woods, by streams and in marshy areas. Also called Bitter Cress. This plant is seen occasionally in spring along stream banks and in open marsh near Mantua Creek.

Honesty Plant (Lunaria annua) **NON-NATIVE. April-May.** This biennial has escaped cultivation. It produces fragrant, showy 4 petaled pinkish lavender, white or magenta flowers in clusters. Its leaves are large and coarsely toothed. The seed pods are distinctive 1 inch across flat shinny translucent discs which appear in early Fall. The Honesty Plant is also known as Money Plant, Moneywort, Dollar Plant and Moonwort. Seen occasionally on Mantua Crek Trail and Thr Glrn Trail. A large patch occurs in the wooded area on Hayes Ave., across from the ball field.

Garlic Mustard (Alliaria officinalis) **NON-NATIVE. May-June.** This non-native member of the Mustard family is quite common locally in woods, thickets and roadsides, and can form large patches. It bears 1/3"' white 4 petaled flowers in terminal clusters. The leaves are long-stemmed, "grape-like" in shape, bluntly toothed and smell of garlic when crushed. The pods are long and thin. Seen in the low areas on most of the trails.

Dame's Rocket (Hesperis matronalis) **NON-NATIVE. May-June.** Escaped from cultivation, this tall plant bears showy white or purple four-petaled flowers. It is a common roadside plant in our area and has been noted on Mantua Creek Trail.

Campanulaceae (Bluebell Family)

Venus's Looking Glass (Specularia perfoliata) **May-August.** This native annual bears blue-violet 3/4" 5 petaled flowers set singly in the leaf axils of a single upright stem. The leaves are scalloped-

toothed, shell-shaped and clasp the stem. Growing to about 18" high this common plant often appears in gardens and other cultivated areas. The genus name may refer to the shininess of the seeds or the resemblance of the leaves to an ancient Greek mirror. Very common. Look for it in the sunnier spots of the woods and at trail entrances.

Indian Tobacco (Lobelia inflata) **June-Oct**. This small Lobelia is an annual, common in open woods, fields and waste places, often in poor soil. It grows from 6" to 36' high. The stem is slightly hairy and may be simple or branched. It bears several small light blue or blue-violet flowers in leafy, elongated terminal clusters. The flowers are 1/4" long and 2-lipped. The upper lip is 2-lobed and the lower lip is 3-lobed and bearded. After flowering, the calyx surrounding the fruit becomes distinctly inflated and balloon-like, up to 1/3" across. The fruit is a ribbed capsule, enclosed within the swollen calyx. The leaves are light green, thin, alternate, ovate and wavy-toothed. The root is poisonous. Found on Mantua Creek Trail.

Cardinal Flower (Lobelia cardinalis) **August-Oct.** This late summer-autumn blooming Lobeila is a strikingly handsome wildflower. It is found on stream banks, pond edges and moist meadows. Locally it is quite uncommon. Cardinal flower is often cultivated and planted in moist sites in gardens (e.g. Leamings Run and Longwood Gardens). It bears numerous brilliant red tubular flowers in an elongated cluster on as erect stem. The 1.5" flowers are 5 petaled with two lips. The upper lip with 2 lobes and the lower with 3 lobes. The united stamens form a tube around the style and extend beyond the corolla. The flowers resemble long-necked scarlet birds. The leaves are alternate, lanceolate and toothed. The plant stands from 2' to 5' high. It is pollinated chiefly by hummingbirds as the tube is too long for most insects. Its bright red color is unusual for a Lobelia (usually blue or white). Overpicking has made this species scarce in many areas. The plant is uncommon locally and currently grow in only two locations in Wenonah.

Caprifoliaceae (Honeysuckle Family)

Japanese Honeysuckle (Lonicera japonica) **NON-NATIVE.May-July.** This extremely common woody vine is a native of Asia and has escaped from cultivation. A fast growing climber that can engulf a woodland and strangle trees, it is a serious competitor with native flora The white tubular flowers (turning yellow with age) are very fragrant and the fruit is a shiny black berry. Common throughout much of the conservation area.

Caryophyllaceae (Pink Family)

Common Chickweed (Stellaria media) **NON-NATIVE. Spring-Fall.** This common plant of disturbed areas, lawns, gardens and roadsides is native to Eurasia. It is a weak-stemmed, much branched, low plant. The white flowers are 1/4 inch wide with 5 petals so deeply cleft that they appear as 10. Look for this plant at trail entrances and grassy areas. Extremely common and widespread.

Starry Campion (Silene stellata) **June- Sept.** A native member of the Pink family and the genus Silene (which includes the common alien Bladder Campion and the scarce native Fire Pink), Starry Campion is a delicate wildflower of open woods . It is pollinated by butterflies and many kinds of moths. It has deeply fringed 5 petaled white flowers clustered atop tall stalks. The green sepals are united and bell-shaped. The leaves are lanceolate, smooth, entire, virtually stalkless and attached to the stalk in whorls of 4. This species is quite uncommon. In

the Wenonah woods. I have only seen one specimen in the woods on the west side of Comey;s Lake in 2002 and one on Breakback Run Trail some years earlier.

Celastraceae (Staff-Tree Family)

Asiatic Bitersweet (Celastrus orbiculatus)

NON-NATIVE. May-June. This alien plant is a native of Asia and has escaped from cultivation in the Northeast where it is replacing the native Climbing Bitterrsweet (C. scandens). Asiatic Bittersweet is a twining woody vine that bears thick clusters of small green flowers in the leaf axils in late Spring and early Summer. The flower is under 1/2" wide and has 5 pointed petals and 5 prominent whitish stamens. The leaves shiny green leaves are blunt toothed and nearly round. The most colorful part of this plant is its fruit. Maturing in Fall and persisting into Winter, the golden-yellow spherical fruit covers the now leafless stems. When mature, the yellow-gold covers peel back to reveal the bright scarlet fleshy seeds. Fairly common in the conservation areas, particularly some sections of the Glen Trail.

Commelinaceae (Spiderwort Family)

Spiderwort (Tradescantia virginiana)

May-July. This showy native Spiderwort bears blue or purple (rarely white) flowers with 3 broad petals and prominent yellow stamens, in a terminal cluster above a pair of long, narrow, leaf-like bracts. The sepals and flower stalks are hairy. The leaves are long, linear, pointed and are folded lengthwise, forming a channel. The plant is so named because its leaf arrangement suggests a spider. The flowers open only in the morning. The petals then wilt and turn into a jelly-like fluid. This is a plant of woodland borders and is common along the railroad tracks, north of Mantua Ave. In the conservation area, Spiderwort has been planted by the bridge over the Mongahela Branch on the Clinton St Trail Extension.

Asiatic Dayflower (Commelina communis)

NON-NATIVE. June-Oct. This common introduced plant is native to Asia. It is found in open disturbed areas, roadsides and wooded borders, usually in moist, shaded places and often around dwellings. The flowers of the Asiatic Dayflower bloom for only one day. The plant often forms colonies by rooting from the stem nodes. The stems of this species are largely reclining but have upright leafy branches with deep blue flowers at the top, protruding from a heart-shaped enfolding leaf. The 1/2" to 1" flowers have two rounded blue petals above and one small and inconspicuous white petal beneath. There are 3 sepals. The leaves are alternate, somewhat fleshy, oblong to lanceolate with long-pointed tips and rounded bases sheathing the stem. Seen in clearings and at trail entrances.

Convolvulaceae (Morning Glory Family)

Hedge Bindweed (Convolvulvus sepium)

May-Sept. This native member of the Morning Glory family is a smooth twining vine that bears 2-3" morning glory-like pink flowers with white stripes (or occasionally white). The leaves are triangular, usually with squared lobes at the base. The similar non-native Field Bindweed (C. arvensis) has smaller flowers, arrow-shaped lobes at the base of the leaves and generally grows on the ground. Bindweed is similar to the Morning Glory but has 2 rounded stigmas rather than one. This is a plant of moist thickets and stream banks. Noted in the Eldridge Trail wet meadow.

Common Dodder (Cuscuta gronovii) **July-Oct.** Found in low moist ground and, this is a climbing, parasitic vine with dense clusters of small white flowers on an orange-yellow stem. The seeds of this plant germinate in the soil but the roots eventually die as the the Dodder twines around the stems of the host plants and absorbs their sap through tiny suckers. The flowers are 1/8" wide, bell-shaped and 5 petaled. The leaves of this plant are reduced to a few minute scales. Also called Love Vine. Seen in the Eldridge Trail wet meadow and along Monongahela Branch, Mantua Creek and Break Back Run.

Cucurbitaceae (Cucumber Family)

One-seeded Bur Cucumber (Sicyos angulatus) **August-Sept.** This large-leaved vine of moist thickets and stream banks flowers in late summer and fall. Its stems are covered with sticky hairs and it bears clusters of small greenish-white 5 petaled flowers on stems arising from the leaf axils (staminate flowers in long-stalked clusters and pistillate flowers in short-stalked clusters). The fruit are 1/2" long and stalkless, borne in small clusters of 10. They are prickly, and each contains a single seed. The large leaves are broad with 5 pointed lobes and heart-shaped at the base. They resemble Grape or Maple leaves. Seen on Eldridge Trail and Mantua Creek Trail.

Dioscoreaceae (Yam Family)

Wild Yamroot (Dioscorea villosa) **June-August.** This twining vine of moist woods and thickets bears tiny, 6 parted, yellow-green flowers in drooping racemes or spikes, with the staminate and pistilate flowers in separate clusters. The leaves are alternate, entire, broadly heart-shaped and long pointed. The conspicuous fruit is borne in a drooping raceme. It consists of 3 thin, attached, semicircular wings. It is green, turning brown as it dries. Also called Wild Yam. Not at all common in the conservation area. I have only seen one plant, several years ago in the damp thickets of Mantua Creek Trail.

Ericaceae (Heath Family)

Trailing Arbutus (Epigaea repens) **April.** Trailing Arbutus is a low trailing plant and one of the very first woodland species to bloom. It favors exposed sites where it is not smothered by leaf litter. The1/2 " white or pinkish flowers are fragrant and bloom in small clusters at the ends of branches. The corolla is tubular, hairy within and flares into 5 lobes. The leaves are leathery and oval, and may have hairy margins The trailing stems are covered with rusty red hairs. This lovely early spring wildflower has become rare. It is sensitive to environmental disturbances such as lumbering or grazing. It has also become a victim of over picking. It prefers sandy or rocky strongly acid soil, and forms a symbiotic relationship with microbes in the woodland soil. It is therefore, extremely difficult to transplant or cultivate and is always best left undisturbed. *As of 2004 there is just one small patch at each of two locations. As recently as 1 or 2 years ago there were two healthy patches at one location and five patches at the other. The future of this delicate plant in Wenonah's woods is uncertain.*

Euphorbiaceae (Spurge Family)

Ipecac Spurge (Euphorbia ipecacuanhae) **April.** Ipecac Spurge is a low spring blooming plant, producing small yellow-green flowers. Its fleshy leaves vary greatly in shape and color. Its only occurrence in Wenonah is in the dry sandy open woods between Monongahela Branch and Mantua Creek.

Cypress Spurge (Euphorbia euphorbiaas) **NON-NATIVE. March-June.** This European native produces a flat-topped cluster of yellow flowers at the summit of a stem covered with needle-like light green leaves. A species of open areas rather than woodlands, it can be seen at trail entrances (e. g. at Hayes Ave).and woodland borders.

Fabaceae (Pea family)

Hairy Bush Clover (Lespedeza hirta) **July-Sept.** This is an erect plant of dry fields and woods .It bears small, white pea-like flowers in dense clusters at the top of the plant. The leaf has 3 entire, ovate leaflets. The plant typically grows two feet high or more. A few specimens of this species are found in the dry woods between Monongahela Branch and Mantua Creek, west of the railroad.

Wild Indigo (Baptisia. tinctoria) **June–August.** This is a smooth bushy perennial of dry open woods and fields that bears bright yellow 1/2" pea-like flowers in sparse terminal racemes. The leaves are palmately compound with 3 ovate to wedge-shaped leaflets that turn blackish when dried. The stems are blush when young. The fruit is a short round pod, tipped with a style. The plant is a colonizer of burnt fields. The foliage turns black when dried. Several plants are found in a section of dry woods along the Mantua Creek Trail.

Panicled Tick Trefoil (Desmodium paniculatum) **July-Sept.** Tick Trefoils bear small pink to magenta pea-like flowers in loose racemes or branched clusters. Their distinctively jointed fruit, known as loments, break into 1-seed segments (commonly called "Beggar Patches"), which are covered with hooked hairs and easily attach themselves to clothing or animal fur, thus facilitating seed dispersal. It is a natural velcro. The leaves are divided into 3 leaflets, the middle one distinctly stalked. They are alternate and entire. There are about 2 dozen species of Tick Trefoil, distinguished by their fruit and leaf shape. Panicled Tick Trefoil is a plant of dry woods and fields and has long and quite narrow leaves which have a stalk of 1/2" or more. The flowers are 1/4" long or more and the flower clusters are widely branched. The plant grows 2' to 4' high. This species is found in the dry woods between Mantua creek and Monongahela Branch, west of the rr tracks.

Showy Tick Trefoil (Desmodium canadense) **July-Sept.** Showy Tick Trefoil is, a plant of moist woods and borders and is as the name implies, the showiest of the Tick Trefoils with 1/2" flowers on 1/3' pedicels (flower stems). They are borne in dense terminal racemes. The plant is erect and bushy (2' to 6' in height) and downy to hairy. The leaflets are oblong with lanceolate stipules at the base of the leafstalks. The seed pods have 3 to 5 joints and are very sticky when mature. This species is seen on the Glen Trail in the clearing just north of the Monongahela Branch.

Hairy Small-leaved Tick Trefoil (Desmodium ciliare) **July-Sept.** Hairy Small-leaved Tick Trefoil typically has a bushy appearance that resembles the Bush Clovers. It has long unbranched stems, small leaves with ovate leaflets (each less than 1.5") and hairy leaf stems of less than 1/2". The main stems are usually hairy as well. The flowers are less than 1/4" long, ranging from pale to deep pink-lavender and are borne on a long, loose raceme. The seed pods are more roundish than those of other local species. This species was noted in the dry woods between Mantua creek and Monongahela Branch, west of the rr tracks where it was growing along with Panicled Tick Trefoils.

Naked-flowered Tick Trefoil (Desmodium. Nudiflorum) **July-Sept.** Naked-flowered Tick Trefoil is a woodland species and is smaller and considerably more delicate and attractive than the other Tick

Trefoils in our area. It bears delicate rose-lavender and white flowers with elongated lower lobes. The blossoms are in a loose raceme on a long thin stem rising above the foliage. A leafstalk rises near the base of the flowerstalk, bearing at its top a cluster of leaves, each with 3 broad leaflets. It grows from 1' to 3' high. A good-sized patch of this species occurs on the Mantua Creek Trail, just west of Clay Hill.

Groundnut (Apios americana) **July-Sept.** This very attractive mid to late summer blooming climbing vine of low moist sites bears maroon to reddish brown pea-like flowers in compact racemes arising from the leaf axils. The flowers are 1/2" long and have a distinctive , sweetish odor. The keel (two fused lower petals) is scythe-shaped and upturned. The leaves are 4" to 8" long, entire and pinnately compound, with 5 to 7 ovate to lanceolate leaflets. The vine can grow up to 10' long. The plant has a cord-like rootstock with edible tubers. The seeds are also edible. Groundnut was a food source for Indians and also used by the Pilgrims. Also called Wild Bean. I have seen this plant on the western shore of Wenonah Lake and along Mantua Creek.

Hog Peanut (Amphicarpa bracteata) **August-Sept.** This is a twining vine of moist woods and thickets which often climbs over other plants and produces 2 types of flowers. The flowers of the upper branches are 1/2" long, pale purple or lilac (occasionally white), 2-lipped, tubular and borne in clusters hanging from the leaf axils. The flowers on the lower or creeping branches are inconspicuous and without petals. The leaves are pinnately divided into 3 ovate, entire and short-pointed leaflets. The fruit of the upper flowers is flattened, oblong to linear and 3-4 seeded. The fruit of the lower flowers is fleshy, ovate or pear-shaped and often subterranean. Birds feed on the seeds from both flower types and hogs eat those below ground. Found at the borders of the wet meadow on Mantua Crek Trail and near the Monongahela Branch, near its confluence with Mantua Creek.

Geraniaceae (Geranium Family)

Wild Geranium (Geranium maculatum) **May.** This lovely and showy wildflower is found in woodlands, meadows and thickets. It is in the same genus as numerous smaller flowered cranesbills. The Wild Geranium produces rose-purple 5 petaled flowers in loose clusters of 2 to 5 at the ends of branches above a pair of deeply 3-5 lobed leaves. Also called Spotted Cranesbill. This plant is not rare in our area but is quite uncommon in Wenonah.s woods.

Hypericaceae (St. Johnswort Family)

Canada St. Johnswort (Hypericum canadense) **July-Sept.** Canada St. Johnswort is found in wet or moist sandy and muddy sites, wet meadows, pond shores and stream banks. It usually grows from 4" to 20 " high. It bears small (1/4") bright yellow flowers in small, loose terminal clusters at the ends of numerous ascending branches. The flowers have 5 petals and about 12 stamens. The fruit pods are cylindrical, tapering to a point, and in contrast to the yellow flowers are a deep, bright red. The leaves are opposite, narrow, entire and 1" or less in length. They have 1 to 3 main veins. Seen on the west shore of Wenonah Lake.

Spotted St. Johnswort (Hypericum punctatum) **July-Sept.** A rather small plant, Spotted St. Johnswort is found in damp woods, clearings, fields and roadside ditches. It bears small (1/3" to 2/3") bright yellow 5 petaled flowers in clusters at the ends of ascending branched stems. Stamens are numerous (20 or more). As the name implies, the petals have black dots over much of their surface (not just on the margin), more

prominently on the back of the petal than the front. The sepals are black-dotted as well. Occasionally the flowers will bear streaks rather than dots. The leaves are up to 2" long, opposite, entire, ovate or elliptical with rounded tips. They may have small basal lobes which extend around the stem as if clasping it. Not common in Wenonah's conservation areas but I've seen it on Mantua creek Trail.

Marsh St. Johnswort (Hypericum virginicum) **July-Sept.** This beautiful wetland perennial St. Johnswort is found in swamps, bogs, wet meadows and on the shores of ponds. It typically grows from 8" to 24" high. Unlike most Hypericum species, its flowers are pink. They are borne in clusters at the top of the leafy stem or in the axils of the paired leaves. The flowers are 1/2" to 3/4" wide and have 5 pale pink petals, slightly darkening toward the center and delicately striped. There are also 5 sepals, sometimes purple-reddish in color. There are 3 groups of 3 stamens each and 3 large yellow-orange glands in the center of the blossom. The flowers tend to open late in the day. The leaves are up to 2.5" long, opposite, light green, ovate and very blunt, entire, stalkless and heart-shaped at the base. They are dotted with translucent glands. Some botanists place Marsh St. Johnswort in a separate genus, Triadenum, due to its stamen arrangement. This plant grows at the water's edge of Wenonah Lake.

Dwarf St. Johnswort (Hypericum mutilum) **July-Sept.** Dwarf St. Johnswort is a diffusely branched plant of wet or moist open sites including fields, clearings, open woods and wet meadows. It can grow up to 3' high and bears tiny (1/5") bright yellow flowers in small loose clusters on the ends of branching stems. The flowers have 5 petals and around 9 long thin stamens. The leaves are about 1" long, opposite,stalkless, blunt, entire and ovate or broadly elliptical. It is considered a common, widespread and variable species, although I have not found it particularly abundant locally. I have only seen one plant in Wenonah, on the Glen Trail along the rr embankment north of Monongahela Branch.

Iridaceae (Iris Family)

Larger Blue Flag (Iris versicolor) **May.** This is a showy native Iris of northeastern wetlands. Insects attracted to the sepals must crawl under the tip of a style and brush past a stigma, thus facilitating pollination. The violet-blue flowers have 3 attractively veined and yellow based non-bearded sepals and 3 petals. They open on a sturdy stalk among tall sword-like leaves that rise from a basal cluster. The term flag is from the middle English "flagge" meaning rush or reed. Although not rare in our area, this species has been noted in only one location in Wenonah's wetlands.

Yellow Flag (Iris pseudacornus) **NON-NATIVE. May-June.** This showy iris is a native of Europe that has escaped from cultivation and established itself quite well in wet areas. It is quite common along Mantua Creek. Generally found in clumps, its sword-like leaves are often taller than the flower stem. One to several bright yellow 3" flowers are borne on a robust stalk. There are 3 backward curving, non-bearded sepals and 3 smaller upright petals.

Stout Blue-eyed-Grass (Sisyrinchium angustifolium) **May-July.** This very attractive member of the Iris family bears 6 parted blue 1/2" flowers with yellow centers singly or in a small umbel, at the end of a long flattish stalk. Each flower petal (or sepal) ends with a tiny bristle tip. The leaves are long, narrow and grass-like. The stem bears a leaf-like bract at its middle, from which the long flowering stems branch. The lower stem is distinctly winged. Of at least 5 species of Blue-eyed Grass in

our region, only this one seems locally common. Also called Pointed Blue-eyed Grass. Seen on Mantua Creek Trail, Glen Trail and elsewhere.

Lamiaceae (Mint Family)

Ground Ivy (Glechoma hederacea) **NON-NATIVE. March-July.** This European native, with its roundish and scalloped. leaves and small lavender flowers, is a very common plant of lawns and moist waste places. It roots readily at the nodes and spreads rapidly, often forming a ground cover at woodland edges. It is highly invasive and frequently found in the conservation area.

Lyre-leaved Sage (Salvia lyrata) **May.** This perennial salvia of open woods and fields bears 1" lavender-blue flowers in several whorls, forming an interrupted spike on a square stem. The tubular flowers are two lipped, the lower lip longer than the upper, and have two stamens. The exposed lower lip provides an excellent landing platform for bees. The basal leaves are deeply lobed and long-stemmed, forming a rosette. Stem leaves are few and short-stemmed. A few specimens of this plant are seen near the Wenonah Lake Loop Trail entrance, north of the parking area.

Northern Bugleweed (Lycopus uniflorus **June-Oct.** This plant of wet meadows and other damp sites bears very small and inconspicuous stemless white flowers in clusters at the leaf axils for nearly the entire length of the stem, surrounding the stem like a ring at these points. The flowers are about 1/8" long and irregularly tubular with flaring lobes. The leaves are opposite, light green, coarsely toothed and up to about 4"long. There are about 10 similar species of Lycopus (Bugleweeds and Horehounds) in our region. Seen in the Eldridge Trail wet meadow.

Mad-dog Skullcap (Scutellaria lateriflora) **July-Oct.** This is one of a number of Skullcaps native to our region and locally the most common. It is found in moist woods, thickets and wet meadows. The flowers are just under 1/2" long and are borne on long, one-sided racemes growing from the leaf axils. The flowers are composed of a long, somewhat flaring calyx, typical of the mint family. They are blue-violet with an arching, hooded upper lip and a flaring lower lip with a whitish center. The common name "Skullcap" comes from the small hump at the top of the calyx. The leaves are opposite, ovate, coarsely toothed and 1" to 5" long. Found in the Eldridge Trail wet meadow, in the marsh along Mantua Creek Trail and along the boardwalk over the former Greene’s Lake.

Horse Balm (Collinsonia canadensis) **July-Sept.** This tall (3' to 5' high) member of the Mint family is typically found in moist woods. Its stout square stem bears loose, branching clusters of light yellow, lemon-scented unusually-shaped flowers. The flowers are 1/2" long with 5 petals fused into 2 lips. The lower lip is very long and fringed at the tip . The stamens and the pistil prominently protrude beyond the corolla. The leaves are very large (up to 8" long), opposite, ovate and coarsely toothed. When crushed they have a strong citronella odor. A tea can be made from the leaves and the rhizome was used medicinally. Also called Richweed and Stoneroot. Found on Break back Run Trail, Monongahela Loop Trail and probably elsewhere.

Liliaceae (Lily Family)

Trout Lily (Erythronium americanum) **April. Spring ephemeral.** This lovely, small native yellow lily is found in rich woods, often as a ground cover over large areas. I have noticed that although it colonizes both moist and dry sites, it seems to bloom only in the

low moist ones. By late spring the foliage completely withers away. The "trout" refers to the resemblance of the mottled green and brown leaves to the markings of the Brook Trout. It is also called Dogtooth Violet and Yellow Adder's Tongue. Mantua Creek Trail, Eldridge Trail and Break Back Run Trail (near the Hayes Ave. entrance).

Canada Mayflower (Maianthemum canadense) **May-June.** A very common and lovely mid and late Spring wildflower, it forms huge patches and covers the forest floor like a carpet, spreading by rhizomes. The short, often zigzag stem bears 2 or 3 smooth ovate leaves, heart-shaped at the base, and a small dense cluster of tiny white star-shaped flowers. The berries are initially green, then a speckled dull red in late Summer and finally bright red in Fall. It is also sometimes called Wild or False Lily-of-the-valley. Common on the Glen Trail, Eldridge Trail and Monongahela Trail.

Smooth Solomon's Seals (Polygonatum biflorum) **May-June.** This well known woodland plant has an unbranched arching stem, beneath which hangs from the leaf axils a row of greenish white bell-shaped flowers in clusters of 1 to 4 (usually 2). The flowers, often hidden by the leaves, have 6 lobes and 6 stamens. The fruit is a dark bluish or black berry that ripens in late summer. The common name is derived from roundish scars found on the rootstock, which is edible. Seen throughout the conservation area.

Indian Cucumber Root (Medeola virginiana) **May-June.** This interesting member of the Lily family is considered scarce but locally it is quite abundant, especially on Break Back Run Trail and the woods at the head of Wenonah Lake. Although not showy, it is an unusual species. The lance-shaped leaves appear in two whorls, one of 5-10 leaves near the middle of the stem and the other of 3-5 at the top. Several yellowish-green flowers emerge from the center of the top whorl on stalks the nod down below the leaves. The flowers are typical lilies in structure and appearance. There are 3 recurved petals and 3 recurved petal-like sepals. There are 6 reddish stamens and the 3 styles are long and spreading, giving the flower a spider-like appearance. The fruit are dark bluish-purple berries and as they ripen in fall, the lower portion of the top whorl of leaves turns red. The root is long, white and was a food source for the Indians.

False Hellebore (Veratrum viride) **May-July.** The large strongly ribbed leaves of this tall (5 feet) wetland plant are conspicuous. The leaves and rootstock are poisonous The yellow-green, 6 parted flowers are star-shaped and hairy. They are borne in a large branching terminal cluster. I have only seen one specimen of this species in Wenonah, in a swampy area near the Hayes Ave, terminus of Break Back Run Trail in the 1990's.

Wild Spikenard (Smilacina racemosa) **May.** This member of the Lily family is a common woodland plant. Its feathery creamy white pyramidal masses of flowers borne at the end of the stem are distinctive. The flowers are quite small (1/8") and have 3 petals, 3 petal-like sepals and 6 stamens. The long, elliptical leaves are dark green, conspicuously parallel veined and arranged alternately along a single stalk. The berries are first green speckled with red, then ripen to ruby red. Also called False Solomon's Seal, as that plant's general shape and leaf arrangement is quite similar but its flowering is very different. Quite common throughout the conservation area. A large patch occurs on Mantua Creek Trail.

Common Greenbrier (Smilax rotundifolia) **May-July.** This is a ubiquitous shrubby vine of woods & thickets. and is most noted for its thorny stems. In some areas, such as portions of the Glen

Trail, it forms dense impenetrable thickets and provides good cover for wildlife. Deer also feed on it when little else is available. It flowers infrequently but does produce small umbels of greenish flowers which later develop into blue-black fruit. Common throughout the conservation area.

Common Daylily (Hemerocallis fulva) **NON-NATIVE.June-July.** This showy and very common Eurasian native was introduced into the garden and has escaped to roadsides, borders and fields where its large 6 parted tawny orange flowers are a familiar sight in Summer. This plant (along with the garden Hosta) has been deliberately introduced into the conservation area at some of the trail markers and is found elsewhere as well.

Field Garlic (Allium vineale) **NON-NATIVE. June-August.** This non-native species, introduced from Europe, has become very common in lawns, pastures, meadows and roadsides. It is found in open and low, damp areas in the conservation area. The plant has a strong garlic taste and bears purplish or greenish 6 parted flowers in a terminal umbel. The flowers are often replaced by long-tailed bulblets. It has a single-parted spathe and long, narrow, cylindrical and hollow leaves.

Turk's Cap Lily (Lilium superbum) **July-Sept.** This perennial is the largest and most spectacular of the native lilies, growing from 3' to 7' tall. Up to 40 flowers have been recorded on a single plant. The large (up to 3"), somewhat drooping flowers are borne singly on long stems arising from the upper most whorl of leaves. They are composed of 3 sepals and 3 petals, colored alike. Their tips curve back until they almost touch, disclosing 6 long stamens, each with a prominent brown anther and a somewhat shorter style and stigma. The flower is brilliantly colored and there seems to be with some variation of coloration within the species. The petal/sepals are solid red to orange on their outer half, yellow with dark red spots on the inner half and bear a green streak at the base, which forms a star where the 6 petal/sepals come together. The smooth, untoothed leaves are lanceolate and generally form a series of whorls on the stem, but are occasionally alternate. The Indians used the bulb for soup. Small patches of this Turk's-cap Lily are found locally, usually in moist woods and thickets, blooming in July. Not common in Wenonah, it is one of our loveliest wildflowers.

Lythraceae (Loosestrife Family)

Purple Loosestrife (Lythrum salicaria) **NON-NATIVE.June-Sept.** This introduced perennial is native to Europe and is found in wet meadows and flood plains. This showy magenta-flowered plant often grows in large colonies and covers acres of wetlands. *This plant is a serious threat to our wetlands and the wildlife that live in them. Called "The Beautiful Killer", it spreads rapidly, forming huge monocultures that crowd out native plants. Its root system actually tends to suck water out of the soil, further degrading the health of wetland areas. It is not a food source for waterfowel and other wildlife but displaces native plants upon which wildlife depend*. The plant has an erect stem up to 4' high and bears a very showy terminal spike of magenta flowers. The flowers are up to 3/4" wide with 4 to 6 petal, often wrinkled. There are 3 types of flowers, each with different stamen or pistil lengths. The leaves are up to 4" long, entire, lanceolate and somewhat clasping the stem (The lower leaves are both clasping and downy.). They grow in pairs or sometimes in whorls of three. The native Swamp Loosestrife (Decodon verticillatus) is also in the family Lythraceae, but our other native Loosestife species are in the genus Lysimachia which is in the family Primulaceae (Primrose F.).*Unfortunately, there is a large and expanding infestation of Purple Loosestrife in the*

Mantua Creek marsh, just up stream from the Mantua Ave. bridge. Serious thought should be given to the feasibility of Purple Loosestrife control or eradication measures at that site.

Malvaceae (Mallow Family)

Swamp Rose Mallow (Hibiscus palustrus) **July-Oct.** This large showy Hibiscus is found both in coastal salt marshes and in freshwater and upper valley wetlands. It grows from 3' to 8' tall. Its very large (4" to 7" across), 5 petaled and musky odored flowers are usually borne singly on short stalks from the leaf axils. They can be pink or white. Some varieties have a purple-crimsom center. The numerous stamens are united into a central column around the style with their anthers pointing outward. Five style branches and stigmas protrude from the end of the column. Narrow green leaf-like bracts are present below the calyx. The fruit is a 5-parted capsule. The stem and underside of the leaves are whitish-downy. The leaves are up to 4" long, ovate or 3-lobed, toothed and pointed. They have a rounded or heart-shaped base. Fairly common in low marshes near the Delaware River, this species can form large and dramatic stands. Not common in Wenonah, but I have seen a few plants along the banks of Mantua Creek near the Mantua Creek Trail.

Monotropaceae (Indian Pipe family)

Indian Pipes (Monotropa uniflora) **June-Oct.** This unusual and very attractive woodland plant is a saprophyte, deriving its nourishment from decayed organic matter through a fungal relationship with its roots, rather than through photosynthesis. It is a white (sometimes pinkish) waxy plant with a thick translucent stem and numerous scaly bracts but no true leaves. It is terminated by a solitary flower. The flower is 1/2" to 1" long with 4 or 5 white or salmon pink petals, 10 to 12 stamens and a single pistil. The flower is at first somewhat bell-shaped and nodding but turns upright in fruit. The fruit is an ovoid capsule, enlarged and erect when mature. The plant will turn black after the fruit has fully matured or if it is picked and dried. It grows 4" to 10" high. Also called Corpse Plant. It can be found on most of the trails, including Break Back Run Trail, Mantua Creek Trail and Wenonah Lake Loop Trail.

Nymphaeaceae (Water Lily family)

Common Spatterdock (Nuphar advena) **May-Sept.** This common aquatic plant of ponds, streams and marshes bears 1.5" to 3" cup-like yellow flowers with 6 showy petal-like sepals and numerous small yellow stamen-like petals. The large heart-shaped leaves are widely notched and held above the water on rounded stalks. The leaves and stems of this and other pond lily species die back each year and contribute to the organic buildup in lakes and marshes. Some references use the common name "spatterrdock" for this species. However, others calll N. advena "Southern Pond Lily" and referring to N. variegatum as "Spatterdock". This species is easily seen along Mantua Creek from the bridge at Mantua Ave.

Onagraceae (Evening Primrose Family)

Enchanter's Nightshade (Circaea quadrisulcata) **June-July.** A plant of damp, shady rich woods. Despite its name this species is a member of the Evening Primrose family (Onagraceae) not the Nightshade family (Solanaceae). It bears small (under 1/4") white flowers on elongated terminal clusters up to 8". The flowers have 2 deeply cleft petals, that look like 4, and 2 recurved sepals. The leaves are long, dark green,

opposite, ovate, pointed and slightly toothed. They decrease in size as they reach the flower clusters. The fruit is a nut-like bristle-covered ovoid that bends down at maturity and sticks to clothing. This is one of the few 2 petaled flowers. The genus name derives from a poisonous member of this genus supposedly used by the mythical enchantress, Circe. Common on Mantua Creek Trail, near the Mantua Ave. entrance. Also found on Breakback Run Trail and elsewhere.

Common Evening Primrose (Oenothera biennis) June-Sept. This common biennial is night flowering with flowers opening at twilight and closing by noon. The plant takes two years to complete its life cycle. Basal leaves are established the first year and flowering occurs in the second. The roots are edible and the seeds are a food source for birds. Large (1" to 2") lemon scented, yellow, 4 petaled flowers arise from long floral tubes, usually in clusters near the top of the plant. Each flower has a cross-shaped stigma at its center. The stems are hairy and often purple tinged. The leaves are alternate, wavy-edged, slightly toothed and lonceolate. The fruit is a 1" oblong capsule. This is really a plant of open field and roadsides but it is occasionally seen in sunnier spots in the conservation area and at trail enteances.

Purple-leaved Willow Herb (Epilobium coloratum) August-Oct. This plant of swamps and wet meadows grows 1' to 3' high and bears its numerous, small flowers singly on longish stems arising from the upper leaf axils. The flowers are scattered over much of the area of the plant like Xmas tree ornaments. The flowers are pink or white and small (1/4" or less) with 4 petals, each notched at its tip. The base of the flower forms a narrow, stalk-like tube. The leaves are alternate and narrowly lanceolate with numerous, fine, sharp teeth. They are gray-green or sometimes purplish. The seed hairs are brown. Seen in the wet meadow on Eldridge Trail.

Orchidaceae (Orchid Family)

Pink Lady's Slipper (Cypripedium acaule) **May.** This beautiful, and somewhat uncommon, perennial woodland plant is one of our largest native orchids. It is found both in low sandy and higher rocky woods, and even occasionally in moist woods. It can be solitary or occur in large patches that provide a spectacular mass bloom. It propagates poorly and is difficult to grow. The flower should never be picked. It is said that to do so will kill the plant. The genus name means Venus' Slipper. A single flower appears on a leafless stem (It is our only Lady's Slipper without stem leaves. The large basal leaves appear in pairs. They are oval, ribbed, dark green above and silvery hairy below. It is also called a Pink Mocassin-flower. Two small patches occur in Wenonah.

Downy Rattlesnake Orchid (Goodyera pubescens) **July.** This lovely woodland orchid with its beautifully veined leaves is found in dry or moist oak and coniferous woods. Locally it blooms in July. Also called Downy Rattlesnake Plantain, it is the commonest of the 4 referenced Rattlesnake Orchids. The ovate leaves are dark green with striking white net-like veining, including a prominent central stripe. The leaves, some of which at least are evergreen, form a basal rosette out of which rises a single bracted but leafless wooly flower stalk. The small (1/4") white flowers consist of the upper sepal and 2 united petals forming a hood over a cupped lip petal. The side sepals are ovate and concave. Two patches of this lovely wildflower occur in Wenonah's woods

Cranefly Orchis (Tipularia discolor) **July-Sept.** This unusual Orchid blooms in late summer. At the time of blooming the plant has no foliage. The flowers appear in a long and loose

raceme on a single erect, leafless stem approximately 12" high. A single ovate but pointed leaf, 3" to 4" long, dark green above and purple below, grows in the fall, after flowering and withers in the spring. The flowers are pale yellow and purplish, often mottled, with 5 outer petals and an inch long spur, twice as long as the flower itself. The common name refers to the flower's resemblance to the Crane Fly. Its preferred habitat is humus rich acid soil in pine or oak woods. This orchid is found from S. Mass. south but is rare in the northern part of its range. It is locally uncommon. I have seen only one specimen, in Wenonah in open woods in August 1992. Also call Cranefly Orchid.

Orobanchaceae (Broomrape Family)

Beechdrops (Epifagus virginiana)

August-Oct. This unusual species is a parasitic plant that grows on and receives its nourishment from the roots of Beech trees. Locally it is fairly common in woodlands and, of course, always in the vicinity of the American Beech (Fagus grandifolia). It bears delicately marked whitish and purple striped tubular flowers, 4-lobed and somewhat 2-lipped, scattered along the stems. The upper flowers are 1/2" long and the lower ones, only 1/5" long, are bud-like, never open, are self fertilized and produce seeds abundantly. The plant has several erect branches, diverging from the main stem near the base. They are tan to brown with small brownish scales but no true leaves. The plant grows 18" tall and dried stalks often persist through the winter. Found on Break Back Run Trail and elsewhere.

Phytolaccaceae (Pokeweed family)

Pokeweed (Phytolacca americana)

July-Sept. This is a tall, stout, succulent, branching plant with reddish stems. Its height is from 3' to 10'. It bears racemes of small (1/4") white, or rarely pinkish, flowers with 5 petal-like roundish sepals around a tiny green pumpkin-like center. The flower and leaf stems turn bright purple as the fruit matures. The fruit, borne in a long raceme, is a green berry, turning a shiny deep purple when ripe. The leaves are large (up to 12"), alternate, entire, elliptic-lanceolate and tapering at both ends. The juicy purple berries were used as a dye by colonists. Both the berries and the roots are poisonous, although the shoots are edible if gathered green. I have heard that birds eat the berries without harm, but become intoxicated. This is a plant of fields and thickets. I've seen it on the damper portions of Monongahela Loop Trail, Glen Trail and Mantua Creek Trail.

Phrymaceae (Lopseed Family)

Lopseed (Phryma leptostachya)

June-Sept. Lopseed is the only species and genus in its family. It is native to both eastern North America and Asia and is a plant of rich woods and thickets. It bears tiny (1/4") white or purple flowers in pairs on slender, elongated spike-like clusters on the main srtem and diverging branches. The carolla is two-lipped with the lower lip much longer than the upper. The large leaves (up to 6" or more) dwarf the flowers and are dark green, opposite and coarsely toothed. The fruit is enclosed in a calyx that hangs down against the stem. A small patch of this species occurs on Monongahela Loop Trail near the Rt 553 bridge.

Polemoniaceae (Phlox Family)

Garden Phlox (Phlox paniculata) **July-October.** The perennial Garden Phlox is a native wildflower of the eastern U.S. and is often cultivated. Out side its native range it has frequently naturalized from cultivated stock. The native plants have the familiar magenta-pink blossoms but escaped cultivated varieties vary in color. Locally color variation most typical are white, white with pink centers and white-pink bi-colors. The fragrant flowers of this tall plant (up to 6') are borne in a large terminal pyramidal cluster. They have 5 petals, united into a trumpet-shaped corolla with spreading lobes. The stem is erect and smooth. The leaves are opposite, entire, broadly lanceolate (widest near the center) and have prominent side veins. Garden Phlox has often been used as a medicinal herb. Also caled Fall Phlox and Perennial Phlox. Seen occasionally in the conservation area. A plant was noted in flower near Mantua Creek Trail south of the terminus of S. West Ave. in Aug. 2004.

Polygonaceae (Buckwheat familt)

Pink Knotweed (Polygonum pensylvanicum) **May-Oct.** This native Knotweed is found in damp sites such as stream banks, wet meadows and shores. It can grow up to 4' high. It bears dense, erect, terminal, spike-like clusters, 1" to 2.5" long, (usually more than 2), of small pink flowers. The flowers are 1/8" long, without petals but with 4 to 6 pink petal-like sepals. The leaves are alternate, entire, lanceolate, long-pointed and tapering at the base. They form distinctive sheaths where they join the stem. The sheaths are fringeless (unlike Lady's Thumb). The upper part of the stem bears numerous, short, glandular hairs. The lower part of the stem is smooth. The seeds of this and other Polygonum species are eaten by songbirds and waterfowl. Also called Pennsylvania Smartweed and Pinkweed. An attractive plant. I have seen it in the Eldridge Trail wet meadow and along the Monongahela Branch near its confluence with mantua Creek.

Lady's Thumb (Polygonum persicaria) **NON-NATIVE. June-Oct.** This is one of the Knotweeds or Smartweeds and is an extremely common alien weed species. It bears small spikes of pink to purple flowers without petals on simple or branching pinkish stems. The leaves are lanceolate and sometimes have a dark area near their center. The leaf sheaths are fringed with tiny hairs. Extremely common in damp clearings and disturbed areas. Found in abundance on the damp low portion of Monoingahela Loop Trail and on the Glen Trail near Monongahela Branch.

Climbing False Buckwheat (Polygonum scandens) August-Oct. This plant is found in moist woods and thickets and is in the same genus as the Knotweeds, this late Summer vine bears tiny yellowish-green 5 petaled flowers in upright racemes along the thin jointed vine which often trails over shrubs and other plants. The sheath of the stems are not fringed and the calyx of the flower is winged on the back. The leaves are entire, heart-shaped and sharply pointed. The most prominent and showy parts of the plant are the thick racemes of pale yellow-green winged seeds which hang in pendulous clusters. The seed are thin, ovate and are notched at the tip. Found in the Eldridge Trail wet meadow and likely along Monogahela Branch and Mantua Creek as well.

Nodding Smartweed (Polygonum lapathifolium) July-Oct. This large Smartweed is found in damp soil, on pond edges and wasteplaces. It can grow up to 6' and bears arching 1/3" wide spikes of usually pink (but sometimes white or purplish) flowers. The flowers have 5 petal-like sepals and are tiny and bell-like when opened. The leaves are quite large, alternate, entire and lanceolate. The smooth stem is jointed with a mostly fringeless sheath. There are about 35 Smartweed and Knotweed

species in our area. The seeds are eaten by songbirds and water fowl. Also called Pale Smartweed and Dock-leaved Smartweed. Found usually on the edge of Wenonah Lake, near the dam.

Halberd-leaved Tearthumb (Polygonum arifolium) June Oct. This is a weak-stemmed, sprawling plant of low thickets and wet meadows. The midrib of the leaves below and the 4-sided stems are armed with tiny backward pointing prickles. Very small white or pink flowers are borne in sparse clusters of a few flowers at the ends of stems. The flowers have 4 lobes and usually 6 stamens. The leaves are alternate, entire, broadly arrow-shaped with two flaring, pointed lobes at the base. They are 2" to 6" long. Prominent in the Eldridge Trail wet meadow and along the boardwalk over the former Greene's Lake.

Japanese Knotweed (Polygonum cuspidatum) **NON-NATIVE. August-Sept.** This large, erect, bushy, alien plant is native to Japan and has escaped from cultivation to fields, thickets, borders and roadsides. It is locally quite common and most noticable during its blooming season in late summer with its many clusters of white flowers. The plant grows from 4' to 8' in height and bears a multitude of small white 5-petaled flowers in elongated branching clusters mostly from the axils. The stems are thick, hollow and often streaked with purple. The leaves are alternate, large, entire and trianular or broadly arrow-shaped. A rhizomatous perennial, its other common names are Japanese Knotwood and Mexican Bamboo. A large patch of this plant is located at the north end of the old road leading north from the parking lot at Wenonah Lake.

Jumpseed (Tovara virginiana) **July-Sept.** This plant is most often found in moist woods in moderately acid soil. It bears very small, stalkless, greenish-white, 4 petaled flowers on a single, thin, sparsely flowered spike 4" to 12" long. In contrast, the leaves are quite large (up to 6"), ovate or elliptical, entire and alternate. The stem is jointed. The common name refers to the way the mature seed springs from the stalk when touched. This species is relatively common in the conservation area, often forming small patches. Although not showy, it is an attractive woodland plant. Also called Virginia Knotweed. Seen on Break Back Run Trail, Monongahela Loop Trail and elsewhere.

Pontederiaceae (Pickerelweed family)

Pickerelweed (Pontederia cordata) **June-Oct.** This emergent aquatic plant is found in the quiet waters of fresh water marshes and the edges of ponds, lakes and streams. The leaves and flower are held above the water while a portion of the stem and creeping rhizomes are submerged. The violet-blue flowers are borne on an elongated spike. The small (1/3") funnel-shaped flowers are two-lipped, both 3 lobed, (the center of the upper one with 2 yellow spots). The large leaves are basal, heart-shaped and taper to a rounded point. The plant is foraged by deer. Its seeds and leaf stalks are edible. Pickerelweed grows in the marsh along Mantua Creek and can be seen among the Spatterdock when one looks upstream from the Mantua Ave, bridge

Primulaceae (Primrose family)

Whorled Loosestrife (Lysimachia quadrifolia) **June-July.** This native Loosestrife of open woods, borders and shores blooms in early to mid-Summer. It bears delicate, yellow, 5 petaled, stalked star-like flowers rising from the axils of the whorled leaves. The flowers are 1/2", often with red at the center and sometimes streaking into the lobes. The stamens and pistil protrude prominently in the flower's center. The leaves are lanceolate, entire and in whorls of 3 to 6 (usually 4). It grows 1 to 3 feet

high. Also called Four-leaved Loosestrife. Mantua Creek Trail, Glen Trail, Wenonah Lake woods.

Fringed Loosestife (Lysimachia ciliata) **June-August.** This wetland plant's erect stem is either simple or branched and bears yellow 3/4" flowers rising singly on stalks in the axils of the leaves. The flowers are usually pointing outward or downward and their 5 roundish petals are minutely toothed or come to a sharp point. The leaves are opposite, long, entire and lanceolate to ovate with leaf stalks fringed with spreading hairs. The plant grows from 1 to 4 feet high. Found in the wet meadow along Mantua Creek Trail.

Seedbox (Ludwigia alternifolia) **June-Sept.** This is a many branched, smooth stemmed plant of wet soils and shores that bears solitary yellow flowers on short stalks in the upper leaf axils. The flowers are 4 petaled, 1/2" wide and framed by 4 broad, green, unequal sepals. The leaves are alternate, entire and lanceolate, tapering as both ends. The distinctive, box-like fruit is square on top and filled with many seeds. It opens first by an apical pore, eventually splitting open. I've noted Seedbox on the Glen Trail neat Monongahela Branch and at the small pond on Jefferson Ave.

Portulacaceae (Purslane family)

Spring Beauty (Claytonia virginica) **April. Spring ephemeral.** One of the loveliest spring flowers, this perennial is spectacular in large patches. The 5 petaled flowers are white or tinged with pink, with pink stripes on the petals and pink anthers. It grows from a small tuber, which is edible. After flowering the foliage dies down and disappears from sight until the following Spring. One of the glories of the Mantua Creek Trail is the immense Spring Beauty patch that contains hundreds of thousands of flowers.

Pyrolaceae (Pyrola Family)

Striped Wintergreen (Chimaphilia maculata) **June-July.** This lovely summer-blooming wildflower of dry woods is conspicuous throughout the year because of its evergreen leaves, striped with white along the midvein. The leaves are dark green, whorled or scattered on the stem, lanceolate and toothed. The flowers, blooming here in late June and July, appear in small clusters at the top of the stem. They are white or pinkish, nodding, fragrant and waxy with 5 petals. The 10 stamens flare out slightly to the side and the large green pistil is a conspicuous knob in the center of the flower. The fruit is a roundish brown capsule that persists through the winter. Also called Spotted Wintergreen. Abundant in an area on Mantua Creek Trail south of Clay Hill and found on other trails as well.

Ranunculaceae (Buttercup Family)

Marsh Marigold (Caltha palustris) **April.** This lovely and showy early spring perennial with its bright yellow Buttercup-like flowers and large shiny green leaves blooms in marshes, wet meadows and along stream banks. It is abundant in the Mantua Creek Trail-wet meadow in April-May, bringing bright color to the marsh.

Wood Anemone (Anemone quinquefolia) **April.** This delicate early spring wildflower has a whorl of three deeply cut leaves and a single stalked white flower. It often forms large patches in woods, thickets and borders. It is also called a Windflower for the way it can tremble in the breeze. Glen Trail, Monongahela Loop Trail, Break Back Run Trail (near the Hayes Ave. entrance).

Lesser Celandine (Ranunculus ficaria) **NON-NATIVE. March-May.** This species has escaped from gardens and established itself in low damp woods, thickets and along streams. A low plant with heart shaped leaves, it produces showy yellow flowers. *It is a* ***highly invasive and undesirable alien species which has established colonies*** *at the north end of Comeys Lake and on Break Back Run Trail.*

Small-flowered Crowfoot (Ranunculus abortivus) **April-July.** The crowfoots share the genus Ranunculus with the showier buttercups. The Small-flowered Crowfoot is a branching plant with long-stalked roundish or kidney-shaped toothed basal leaves. The yellow flowers are 1/4 " with the sepals wider than the petals. This is the commonest crowfoot locally. Also called Kidney-leaf Buttercup and Small-flowered Buttercup. Not uncommon on Mantua creek Trail, Eldridge Trail, at Wenonah Lake and elsewhere.

Cursed Crowfoot (Ranunculus sceleratus) **April-August.** This is a crowfoot of very damp to wet sites. The basal leaves and stem leaves are all deeply lobed and divided into 3 segments. The pale yellow flowers are up to 3/8 " wide and the stem is hollow and fleshy. The common name crowfoot refers to the similarity of the deeply cleft leaves to a bird's foot. Not common in Wenonah. A plant was seen in the 1990's near the Monongahela Branch west of the RR tracks.

Tall Meadow Rue (Thalictrum polygamum) **June-August.** This very tall (up to 8') Summer blooming perennial of sunny swamps, low moist woods and wet meadows bears numerous branched and plumy clusters of white flowers. The flowers are 1/3" wide with no petals and greenish-white sepals that fall early. Both male and female flowers appear on the same plant (unlike Early Meadow Rue) or are partially unisexual, the female with several pistils and usually some stamens, the male with many erect, thread-like white stamens with yellow anthers. The compound leaves are 3 times pinnate and bluish-green to olive green. They are divided into roundish 3-lobed leaflets about 1" long. The fruit are seed-like in rounded clusters, the lower ones bent backward. This attractive wildflower is often visited by bees and butterflies. Also called Fall Meadow Rue. This plant is found on Mantua Creek Trail, in the Eldridge Trail wet meadow and along the Monongahela Branch.

Virgin's Bower (Clematis virginiana) **August-Sept.** This beautiful and showy native Clematis is one of the most attractive of late summer flowers, often trailing over fences or other shrubs along moist roadsides or riverbanks. A climbing vine, it bears many clusters of white flowers on stems arising from the leaf axils. The 1" flowers lack petals but have 4 to 5 white petal-like sepals and numerous stamens or pistils. Male and female flowers are borne on separate plants, females with sterile stamens. The fruit, produced by the female flowers, are 1-seeded with plumy tails in globose heads. These swirls of feathery plums (the "bower") are especially showy in late summer and autumn. The leaves are compound with 3 coarsely toothed (sometimes lobed) ovate leaflets about 2" long. This plant is conspicuous along the banks and thicket edges of Mantua Creek just upstream from the Monongahela confluence. It also blooms along Mantua creek near the Mantua Ave. bridge.

Rosaceae (Rose Family)

Wild Red Raspberry (Rubus idaeus) **May-June.** This species of thickets and roadsides bears small white 5 petaled flowers and the familiar bright red fruit.. The leaves are large, divided usually into 3 broadly ovate, pointed and toothed leaflets. A few bushes are found in the scrubby woods near Comey's Lake.

Thimbleberry (Rubus occidentalis)

May-June. Also known as Black Raspberry, this plant bears 1/2 inch white 5 petaled flowers in late Spring and early Summer. The petals are no longer than the sepals. The stem is conspicuously whitened and bears small hooked prickles. The fruit is purple-black. Seen near the entrance of Mantua Creek Trail on Mantua Ave.

Indian Strawberry (Duchesnea indica)

NON-NATIVE.May-June. Called the Indian Strawberry because it is an introduction from India, this plant of fields and waste places is not a true strawberry (genus Fragaria) but a strawberry like trailing plant. It bears bright yellow 3/4" 5 petaled flowers, each rising from the axil of a 3 parted leaf. There are also 5 sepals and behind themare 5 3-toothed leaf-like bracts, which extend beyond the petals ans sepals. The 3 leaflets are toothed and ovate to elliptical. The fruit matures to red and resembles the wild strawberry but is inedible.This species is prominent near the W. Elm St. entrance to Break Back Run Trail.

Dewberry (Rubus flagellaris)

May-June. This is a trailing plant with 1 inch white 5 petaled flowers. The flowers and leaves appear on a smooth erect stem that grows out of the prickly trailing stem. The leaves are divided into 3 ovate and toothed leaflets and are not shiny. The fruit is black. This plant prefers dryer sites. Also called Prickly Dewberry. It is not particularly common in the conservation area. I've seen it on Mantua Creek Trail.

Swamp Dewberry (Rubus hispidus)

June-July. This species prefers moist sites in woods swamps or clearings. A trailing plant very similar to Dewberry (R.flagellaris) it differs in that the leaves are shiny and the trailing and erect stems are both covered with small backward pointing bristles. The white flowers of this summer blooming species are smaller (3/4") and borne in loose terminal or axillary clusters. The fruit is red to black. Two patches occur on the Eldridge Trail.

Rough Avens (Geum laciniatum)

June-August. This Avens bears 1/2" flowers on hairy stems from late Spring in June through the Summer. *It is usually found in damp or wet meadows*. The flower has 5 white petals which are *shorter* and less prominent than the 5 broad and pointed sepals. The center parts of the flower form a bristly ball in fruit. There are basal leaves with 1 or 3 large terminal leaflets and several smaller leaflets along the stalk. The leaves are toothed. Similar to White Avens. Eldridge Trail wet meadow.

White Avens (Geum canadense)

June-Oct. This Avens bears 1/2" flowers on smooth or slightly hairy stems in Summer and sometimes in Fall as well. *It is usually found in open woods and thickets.* The flower has 5 prominent white petals which are *as long or longer* than thee 5 pointed sepals. The center parts of the flower form a bristly ball in fruit. There are basal leaves with 1 or 3 large terminal leaflets and several smaller leaflets along the stalk. The leaves are toothed. Similar to Rough Avens. Noted on the Eldridge Trail and likely grows elsewhere as well.

Rubiaceae (Bedstraw Family)

Cleavers (Galium aparine)

May-July. This is a weak-stemmed sprawling plant is found reclining on bushes in woods and thickets. It bears small (1/8") white, 4 petaled flowers in clusters of 1-3, growing on stalks rising from the whorled leaf axils. The leaves, stems and fruit have backward hooked bristles, which give rise to the common name. Also called Goosegrass. I've seen a large patch along

Monongahela Branch, near the confluence with Mantua Creek. Likely occurs elsewhere in the conservation area as well.

Partridgeberry (Mitchella repens) **June-July.** This very attractive trailing, evergreen plant of both moist and dry woods bears 1/2" to 3/4" long, fragrant, tubular flowers in pairs with 4 spreading lobes, fringed on the inside. The flowers are white, occasionally pinkish, as are the buds. The evergreen leaves are roundish, opposite and a shiny dark green often with white veins. The ovaries of the paired flowers fuse to form a bright red, edible, berry-like fruit. Despite its name, the fruit does nor seem to be an important food source for wildlife. Quite common in our woods, it is found on Break Back Run Trail, Glen Trail, Eldridge Trail and elsewhere.

Marsh Bedstraw (Galium palustre) **June-August.** A weak stemmed plant of wet places, this Bedstraw bears very small white 4 petaled flowers in loose, sparse clusters at the ends of long, thin flower stems. The 1/2" to 3/4" leaves are entire, thinly lanceolate and are borne on whorls of 4 to 6 at numerous points along the long, thin square stems. Although not showy, this is an attractive and delicate plant. Seen in the Eldridge Trail wet meadow.

Saxifragaceae (Saxifrage Family)

Golden Saxifrage (Chrysosplenium americanum) **April-May.** This is a creeping plant that forms mats in springy wet areas and on shallow water. It is also called **Water Carpet**. It bears tiny green or yellowish flowers at the ends of branches. There are 4 fleshy petals and a dark red ring at the center of the flower, from which arise 8 pinkish-orange stamens. The leaves are under 1" roundish and obscurely toothed.It can be seen in the water by the footbridge on Mantua Creek Trail and in slow moving water in the wet meadow on Eldridge Trail.

Scrophulariaceae (Snapdragon Family)

Corn Speedwell (Veronica arvenis) **NON-NATIVE. March-August.** This small Speedwell bears tiny (less than 1/5 inch) blue or white nearly stalkless flowers. This unassuming species is one of the earliest spring blooming species of fields, waste places and lawns. A large patch is found at the Maple Street terminus of Break Back Run Trail.

Cowwheat (Melampryum lineare) **May-August.** This small, native, summer blooming woodland annual of mostly dry but also moister woods bears tubular creamy white flowers in the axils of the upper leaves. The flowers are two lipped with bright yellow on the lips. The leaves are long and lanceolate, often with 2-4 bristlly teeth at the base. Seen on Eldridge Trail, in the woods on the west side of Wenonah Lake and probably occurs elsewhere as well.

Clammy Hedge Hyssop (Gratiola neglecta) **May-Sept.** This small, inconspicuous plant of muddy areas and wet meadows bears small (1/3 to 1/2") cream colored or yellowish tubular flowers with 4 notched whitish lobes. The leaves are opposite, lanceolate and slightly toothed. The stem is low and usually branched. The plant is 3 to 12" high. Seen on the creek marsh near Mantua Creek Trail.

False Pimpernel (Lindrnia dubia) **June-Oct.** This small native plant of wet places bears attractive 1/4 to 1/2" pale purple and white irregular flowers on long stalks growing from the axils. The flowers are tubular with 4 flaring lobes, 3 below and 1 above as a hood. The leaves are opposite, ovate .5 to 1.5" long and often obscurely toothed. The plant is low and often branching near the base. This plant was

noted in a weedy clearing at Monongahela Branch, just west of the RR tracks.

Turtlehead (Chelone glabra) **August-Sept.** An inhabitant of our local wet meadows, this is the most common of the 4 species of Turtlehead found in the eastern US and the only species native to NJ. It bears a tight terminal cluster of 1" to 1.5" white (or pink-tinged) tubular, 2-lipped flowers. The upper lip arches over the hairy lower lip, giving the impression of a turtle's head. (Chelone is Greek for tortoise.) The leaves are 3" to 6" long, opposite, lanceolate and sharply toothed. This species grows to about 6' high. Found in the Eldridge Trail wet meadow and in the marsh along Mantua Creek Trail.

Sparganiaceae (Bur Reed Family)

Branching Bur Reed (Spargantium androcladum) June-August. This is an erect, grass-like aquatic plant that bears whitish-green flowers in dense round ball-like heads on zig-zagy stems. The upper heads bear the staminate flowers. The lower pistilate heads develop into bur-like fruits composed of numerous nutlets which taper at the top and bear at their tip a pistil with 1 stigma. The leaves are alternate, long and broadly grass-like. They are rather stiff and strongly ridged on the back, making them distinctly 3-sided (triangular in cross section). There are 8 Bur Reed species in our area. As emergent plants (partly in and partly out of the water), that frequently form dense stands along the edges of shallow lakes and ponds. The seeds are eaten by birds and muskrats feed on the entire plant. Seen in the Eldridge Trail wet meadow and along the boardwalk on Monongahela Brok Trail.

Typhaceae (Cattail Family)

Common Cattail (Typha latifolia) **May-July.** This marsh perennial spreads by creeping rootstocks and often forms dense stands in shallow water, providing a favorable habitat for Red-winged Blackbirds, other marsh birds and muskrats. The rootstock and other parts of the plant are edible. This common, tall, stiff plant bears a yellowish club-like spike of tiny male flowers directly above a brown cylinder of female flowers. The male flowers fade after the pollen is shed, leaving a bare spike. The leaves are bluish-green or gray-green, flat, sword-like and taller than the flower stem. The plant can grow up to 9' high. Common Cattails grow in the marsh along Mantua Creek and are easily seen from Mantua Creek Trail.

Urticaceae (Nettle Family)

Clearweed (Pilea pumila) **July-Oct.** This unassuming member of the nettle family is found in low moist shady woods. It has a soft, translucent stem and lacks stinging hairs. It rarely exceeds 12” and bears small (1/6”) greenish-white flowers in the leaf axils. The leaves are ovate, opposite and conspicuously veined. Found in damp woods and near streams in the conservation area.

False Nettle (Boehmeria cylindrica) **July-Oct.** Found in low moist shady areas. This plant is in the Nettle family but not in the same genus (Urtica) as the true or stinging nettles. It lacks stinging hairs. Unlike other non-stinging nettles such as Clearweed, it does not have a translucent stem. It bears tiny, green flowers in small, head-like clusters on spikes growing from the axils of the opposite leaves. Small leaf clusters typically appear at the ends of the spikes. The flowers are under 1/12". The male flowers have 4 calyx lobes and are in interrupted spikes.

The female flowers are toothed, tubular and in continuous spikes. The opposite leaves are ovate, coarsely toothed, pointed up to 3" long. Seen in the Edridge Trail wet meadow and along the Monongahela Branch.

Wood Nettle (Laportea canadensis)

July-Sept. The stem of this plant bristles with stinging hairs. Although there are fewer stinging hairs than on Stinging Nettle (Urtica dioica), handling this plant can still cause a stinging irritation. It is a plant of low moist woods and stream banks. It bears small clusters of greenish flowers on stout stems arising from the leaf axils. The flowers are about 1/6" long and without petals. Female flowers are on loose elongated clusters in the upper axils and have 4 sepals and 1 pistil. The male flowers are in shorter clusters in the lower axils and have 5 sepals and 5 stamens. This is the only Nettle with alternate leaves. The leaves are large (up to 8" long), thin, ovate, sharp-pointed, coarsely toothed and can be prominently veined. The fruit is dry, seed-like and crescent-shaped. This species does not seen to be locally common. I've seen this plant along Mantua Creek west of the rr trestle and along Monongahela Branch west of the Glen Trail.

Verbenaceae (Vervain Family)

Blue Vervain (Verbena hastata)

July-Sept. This tall (up to 6'), attractive perennial has flowers on thin, showy candelabra-like spikes. Bumblebees are among the important pollinators. The blue (rarely pink) flowers are 1/8" wide, tubular with 5 flaring petals and open a few at a time on the square, grooved stem and its branches. The leaves are 4" to 6" long, opposite, lanceolate, double toothed and rough-textured. This plant is found locally in the wet meadows and occasionally on roadsides, blooming from mid to late summer. Found in the Eldridge Trail wet meadow.

White Vervain (Verbena urticifolia)

July-Sept. This tall (up to 6') plant bears very small white flowers on long, thin, more or less interrupted spikes, which arise both from the top of the stem and the leaf axils. The flowers are very small and inconspicuous (under1/8" wide), tubular with 5 unflaring petals and open a few at a time on the square, grooved stem and its branches. The leaves are large, opposite, ovate, long-pointed and coarsely toothed. Although a large plant, it is not showy and can be easily overlooked in the thickets and waste places where it is found. I've seen White Vervain in a small clearing just north of Mongahela Branch on the Glen Trail.

Violaceae (Violet Family)

Common Blue Violet (Viola papilionacea)

April-May. A common sight in moist spring woods and by far our most common wild violet, the Common Blue Violet can form large patches with many thick clumps filled with blooms. It is a common and beautiful wildflower, found on all Wenonah's trails. The blue and white Confederate Violet is a cultivated variety of V. papilionacea that has escaped to the wild. A large patch of this variety is found in the wet meadow on Eldridge Trail.

Marsh Blue Violet (Viola cucullata)

A common violet of wet places (marshes, swamps and damp woods), the Marsh Blue is similar to the Common Blue. However, the flowers of the Marsh blue are darker toward the center and the hairs on the insides of the petals are short and swollen at the tip. The flowers are usually long-stalked, growing above the leaves. The leaves also tend to be narrower than the more broadly heart-shaped Common blue. I suspect there may be cross breeding

between the Common blue and the Marsh blue. There seem to be intermediate forms with regard to such characteristics as dark-centered petals, swollen or slender hairs and leaf shape.

LeConte's Violet (Viola affinis) A small beautiful and locally uncommon violet. The flower of LeConte's Violet is about half the size of the Common blue flower and a distinctly lighter pale blue color (not the rich blue -purple of the Common Blue). The flower has a conspicuous white throat and the lower petal is tufted inside at the base. The flowers are generally borne above the leaves on long thin stems. The leaves are narrowly heart-shaped. The only place I have seen this species is on the Eldridge Trail wet meadow, where there is a colony, the size and exact location of which varies from year to year.

Northern White Violet (Viola pallens) The small Northern White Violet is found in wet woods and beside brooks and streams. Its fragrant flowers are less the 1/2 inch long and white except for the purple veining on the lower petal. The smooth leaves are about as wide as long and roundish with a blunt tip. It spreads by slender runners. The species is considered relatively common. Seen at the north end of Wenonah Lake and on Eldridge Trail.

Primrose-leaved Violet (Viola primulifolia) This rather late spring blooming violet is one of the less common species in our area. I have seen it in bloom in late May. It prefers the moist soils of meadows and open woods. It has basal leaves only, which are egg-shaped or oblong, abruptly narrowing to the stalk. The flower is white. I have only seen one small patch near the Glen Trail in the late 1990's.

Vitaceae (Grape Family)

Fox Grape (Vitis labrusca) **May-July.** Fox Grape is a high climbing vine having broad leaves, deeply heart-shaped at the base. The flowers are without petals, small, greenish and borne in branched clusters. Fox Grapes are found in *moist or dry thickets*. The leaves usually have *3 shallow lobes* and low teeth. The undersides of the leaves are whitish, hairy or wooly. A tendril or flower cluster is present opposite most of the leaves. The fruit is *purplish,* musky and 3/4" in diameter. Fairly common in the conservation area. I've noted then on Mantua Creek Trail and elsewhere.

Summer Grape (Vitis aestivalis) **May-July.** All are high climbing vines having broad leaves, deeply heart-shaped at the base. The flowers are without petals, small, greenish and borne in branched clusters. Summer Grapes are found in *dry woods and thickets*. The leaves usually have *3 to 5 lobes* and are toothed. The undersides of the leaves are whitish, hairy or wooly. A tendril or flower cluster is present *opposite only every third leaf.* The fruit is *black,* acid and 1/4" to 1/2" in diameter. Also fairly common in the conservation area. I've noted them on Break back Run Trail and elsewwhere.

Virginia Creeper (Parthenocissus quinquefolia) July. This very common climbing vine is familiar on roadsides, woodland borders, thickets and hedgerows. It climbs by tendrils and often covers trees, utility poles or drapes itself over other shrubs. The leaves are palmately divided into 5 coarsely toothed elliptical leaflets. The tendrils end in small disks. (The similar P. inserta has tendrils without disks.) Virginia Creeper blooms in Summer, locally in July. It produces small brownish flowers with 5 petals and 5 prominent yellow stamens. The flowers are borne in branching clusters on reddish stems. The fruit ripens in Aug-Sept., forming clusters of deep blue berries. The most prominent characteristic of the species is its bright scarlet Autumn foliage, which makes it one of the most

colorful plants of the October countryside. Also called Woodbine. It is common throughout the conservation area.

Shrubs and Small Trees

Anacardiaceae (Cashew Family)

Smooth Sumac (Rhus glabra)

June-July. This locally common shrub bears small 5 petaled yellow-green flowers in large pyramidal clusters. The fruit is berry-like, also in large conspicuous pyramidal clusters, velvety and a rich reddish brown. The compound leaves are pinnately divided into numerous *sharply toothed leaflets*, and turn a brilliant scarlet in the Fall. The stem is *smooth* with a whitish bloom. The plant can grow up to 10 ' high. This is a plant more common to fields and waste places than woodlands. Look for it at woodland edges and trail entrances.

Dwarf Sumac (Rhus copallina)

July-August. This Sumac is also locally common. It bears small 5 petaled yellow-green flowers in large pyramidal clusters. The fruit is berry-like, also in large conspicuous pyramidal clusters, covered with short hairs and a rich reddish brown. The compound leaves are pinnately divided into numerous *shiny leaflets that are entire or with a few blunt teeth* and turn a brilliant scarlet in the Fall. Between the leaflets are *winged midribs*, along the stem. The branches are *finely hairy* and contain a milky sap. The plant can grow up to 10 ' high. Also called Shining and Winged Sumac. This is also a plant more common to fields and waste places than woodlands.

Aquifoliaceae (Holly Family)

Smooth Winterberry (Ilex laevigata)

May-June. This deciduous holly has shining elliptical leaves that are finely toothed along the entire margin. It bears small white flowers in May-June in loose short-stemmed clusters in the leaf axils. As is typical with hollies, each shrub is either male or female. The plant produces numerous showy bright red berries in fall, when the deciduous leaves turn bright yellow and red, making a colorful display. The red berries remain into the winter after the leaves have fallen and are a valuable food source for birds. The shrub can grow up to 10 feet high. It grows on and near the shores of Wenonah Lake.

Araliaceae (Ginseng Family)

Hercules' Club (Aralia spinosa)

August-Sept. This tall shrub or small tree (up to about 12' in height and more tree-like than bush-like in shape) is a member of the Ginseng family and is sometimes called the Devil's-walking-stick for the numerous sharp spines that line the trunk and stems and even, at times the leaves. It bears small whitish-yellow 5-parted flowers with 5 protruding stamens. The flowers are borne in numerous small umbels, which are themselves borne on branching stems in great, massive, cloud-like clusters. When in bloom, the clusters attract large numbers of Honey Bees. The compound leaves are very large (up to 3') and 2 times pinnate. Each main leaf stem has pinnately branching stems along which the leaflets are pinnately arranged. The leaflets are ovate, pointed and toothed. The fruit is a small berry, first purple then purplish-black, borne in massive clusterd like the flowers, on fruit cluster stems that turn pinkish purple and make a colorful display in Autumn. When the plant shows its Autumn foliage of bright yellow and gold, the display becomes even more colorful. On the Monongahela Loop Trail, near the bridge at Rte. 553. It also grows along the highway on the Deptford side.

Betulaceae (Birch Family)

Hazel Alder (Alnus serrulata) **March-April.** Also called the Common or Tag Alder, this early spring blooming shrub is common along the streams and in wet areas of the conservation area. It is the only Alder native to the Southeast.

Speckled Alder (Alnus rugosa) **March-April.** Also called the Gray or Tag Alder, and similar to the Hazel Alder, this shrub also blooms in early spring. Common in Canada, NJ is close to its southern limit on the Atlantic coast.

American Hazel (Corylus americana) **March-April.** The preformed staminate catkins of this very early spring blooming shrub resemble birches and alders, but the buds are oval and the fruit is a nut surrounded by leafy bracts or husks. It is native to the Eastern U.S. and Canada. I have only noted one specimen of this species, in the woods off Break back Run Trail.

American Hornbeam (Carpinus caroliniana) **April.** This small, almost shrubby tree is found in moist rich soils, mainly along streams and in ravines, in the understory of hardwood forests. Its gray bark is thin smooth and sinewy. Its flowers appear in drooping catkins in early spring. Fairly common in Wenonah.

Caprifoliaceae (Honeysuckle Family)

Black Haw (Viburnum prunifolium) **April-May** This large Viburnum shrub can grow up to 20' in height. It bears flat-topped clusters of white fragrant flowers and produces oval and finely toothed leaves. Mantua Creek Trail, Break back Run Trail.

Arrowwood (Viburnum recognitum) **May-July.** This common Viburnum shrub is one of 3 species of Arrowwood in our region. It bears prominent flat-topped clusters 2-3" wide of small (1/5") white 5 petaled flowers. The leaves are ovate (rounded or heart-shaped at the base), coarsely toothed and prominently veined beneath. *The twigs and flower stems are smooth*. The fruit is clustered berries that ripen to blue-black in Fall. Southern Arrowwood (V. dentatum) is similar but its twigs and stems are downy. Downy Arrowwood (V. rafinesquianum) has less prominent veins, shorter leaf stalks and narrow stipules. Common through the conservation area.

Southern Arrowwood (Viburnum dentatum) **May-July.** This shrub is very similar to V. recognitum. It bears prominent flat-topped clusters 2-3" wide of small (1/5") white 5 petaled flowers. The leaves are ovate (rounded or heart-shaped at the base), coarsely toothed and prominently veined beneath. *The twigs and flower stems are downy.* The fruit is clustered berries that ripen to blue-black in Fall. Arrowwood (V. recognitum) is similar but its twigs and stems are smooth. Of the two species of Arrowwood I've seen in Wenonah, this seems the less common.

Maple-leaved Viburnum (Viburnum acerifolium) **May-August.** This Viburnum is a shrub of upland hardwood forests. It bears small (1/4") white 5 lobed flowers of uniform size in flat-topped clusters 1.5 to 3" wide. The leaves are3 lobed, maple-like and hairy with minute black dots beneath. In Fall they turn a beautiful and distinctive purplish-pink. The fruit forms in clusters of purplish-black berries.The shrub is also called Dockmackie. It is not common in Wenonah's woods. I've seen a few small specimens on Break Back Run Trail. It may occur elsewhere as well.

Common Elder (Sambucus canadensis) **June-July.** The common Elder, also referred to as Elderberry, bears large (2-10") flat-topped clusters of small white 5 petaled flowers in early Summer. The leaves of this soft woody and smooth-stemmed species are pinnately compound and opposite. Each leaf contains 5 to 11 elliptic to lanceolate toothed leaflets. The stems contain prominent white pith, which is easily removed. The clustered fruit is purplish-black and berry-like and is well known for its use in making jams and wine. This plant grows in moist to wet areas and stream banks. It can be seen along Mantua Creek and in the Eldridge Trail wet meadow.

Celastraceae (Staff-Tree Family)

Burning Bush (Euonymus alatus) **NON-NATIVE. May-June.** This shrub is native to Asia and has escaped cultivation to naturalize in rich woods and thickets. It is locally common and can grow 8' to 9' tall. The common name, Burning Bush, refers to the Fall foliage. In a sunny location the leaves turn bright scarlet, while in a shaded location the fall foliage turns a rosy-pink. Its other common name, Winged Euonymus, refers to the flat corky ridges frequently present on the stems. Some bushes have wide and prominent ridges while others very small and inconspicuous ones. They all seem to be E. alatus, which as a cultivated shrub may have naturalized in several varieties. In late Spring it bears small (1/2") pale greenish flowers in small clusters along the branches. They have 4 thick waxy petals and resemble those of the Strawberry Bush (E. americanus). The leaves are about 2.5" long, opposite, ovate, pointed and toothed. The fruit consists of a purplish-brown outer hull that peels away to reveal bright red-orange fleshy berries,usually in pairs.The fruit will persist in Fall after the leaves fallen. Seen on Break Back Run Trail and elsewhere.

Strawberry Bush (Euonymus americanus) **June.** This attractive small shrub (up to 6" high), also called a Bursting Heart, is more noted for its colorful fruit than for its flowers. The flowers grow on short stems coming out of the axils so that the flowers seem to spread over the leaves. The flowers have 5 thick, waxy, brownish-purple petals and pale yellow centers. The striking fruit forms in Fall, with a bright magenta, rough, warted drooping pod that opens at the bottom to reveal the scarlet seeds. The leaves are opposite, dark green, shining and finely toothed. Can be found on most of Wenonah's Trails.

Running Strawberry Bush (Euonymus obovatus) **August-Sept.** This plant can be considered a *trailing shrub or a vine*. It is often found trailing low to the ground, where it can form dense patches as a ground cover. It also has the ability to climb as a vine. The dark green, shining leaves are toothed and widest toward the tip. The flowers bloom in late July and Aug. in small, stalked, crowded clusters. The blossoms have 4 thick, waxy but rather narrow white petals surrounding a green center with 4 protruding stamens. The fruit appears in Fall when the cream colored pod peels back to reveal the shining bright red seeds. Can be found on most of Wenonah's Trails.

Clethraceae (White Alder Family)

Sweet Pepperbush (Clethra alnifolia) **July-August.** This attractive, tall (to 10'), many branched leafy shrub is common in local woodlands and is found in moist sandy woods and swamps, generally along the coast. It often forms sizable patches. A summer blooming plant, it bears long, up right racemes of very fragrant white flowers. The scent is similar to Honeysuckle and often when walking in the

woods one will notice the scent even before seeing the flowers. The flower is 1/3" long with a protruding style and 10 stamens. The leaves are dark green, ovate, sharply toothed above the middle and untoothed at the base. They turn yellow in the fall. The fruit is a small globular capsule with a persistent style. The fruit remain in long thin clusters long past flowering. A very common shrub in Wenonah's woods, it is found on all our trails.

Cornaceae (Dogwood Family)

Flowering Dogwood (Cornus florida) **April-May.** Flowering Dogwood is one of the most beautiful trees in eastern North America with its showy white spring flowers, red fruit and scarlet Fall foliage. The wood is hard and used for such things as mallet heads and jeweler's blocks. A small tree, it grows in the understory of hardwood forests, in old fields and roadsides. The actual flowers are very small (3/16") with 4 yellowish-green petals and are crowded into a head bordered by 4 large broadly elliptical white petal-like bracts. The elliptical leaves appear entire but in fact are minutely toothed. A common understory tree in Wenonah's woods.

Silky Dogwood (Cornus amomum) **June-July.** Silky Dogwood is found in wet or moist sites and bears small white 4 petaled flowers in broad, branching flatish clusters. The stalks of the flower clusters are silky-hairy and reddish in color as are the twigs and small branches. The pith of young stems is brown. The clustered fruit is bluish to black. The leaves are rounded at the base with 3-6 pairs of veins and abruptly short-pointed. Common in the consercation area. A good place to see this plant is on the boardwalk on Mantua Creek Trail.

Ericaceae (Heath Family)

Early Low Blueberry (Vacinium angustifolium) April-May. This early blooming shrub is rather low (up to about3") and common in open dry woods, particularly oak-hickory or pine woods. It is also seen in drier sites of mixed deciduous woods. The small bell-shaped flower are white or tinged with pink and appear in small clusters. The leaves are elliptical, finely toothed, green on both sides and under 1/2 inch wide. The fruit is first green, then ripens to deep blue and is a valuable food source for wildlife. Common in the conservation area, particularly in the woods east of Wenonah Lake.

Black Highbush Blueberry (Vacinium atrococcum) April-early May. This species is very similar to the Highbush Blueberry (V.corymbosum). It is distinguished by its earlier blooming period and its fruit, which is shining and black rather than blue. The flowers are white or pinkish, bell-shaped, slightly constricted near the tip and hang in small clusters. The leaves are entire. This shrub can grow up to 15' in height. Frequently seen in the conservation area, particularly in the wood around Wenonah Lake.

Black Huckleberry (Gaylussacia baccata) **April-May**. This low shrub (grows 1 to 3 feet high) is locally common in oak-hickory woods and mixed deciduous woods. It bears reddish bell-shaped flowers is short one-sided clusters. The leaves are elliptical and entire. They are covered with tiny resinous shining amber dots, which can be seen under magnification The fruit is black or bluish and sweet but seedy. Frequently seen in the conservation area, particularly in the wood around Wenonah Lake.

Dangleberry (Gaylussacia Frondosa) **May.** Locally this low shrub is very common in the oak-hickory woods near Wenonah Lake but I haven't encountered it in other local habitats. It is a plant of dry woods. The small "dangling" flowers hang in loose clusters on stems longer than the flowers. They are pale green (sometimes pinkish) with stamens not protruding. The leaves are elliptical and pale beneath. The fruit is blue with a bloom and sweet.

Fetterbush (Leucothoe racemosa) **May-June.** This shrub grows 5' to 10' high and bears white bell-shaped 1/3" flowers in long one-sided racemes. The calax lobes are long and sharply pointed. The leaves are somewhat shinny, alternate or clustered, lanceolate to oblong, pointed and finely toothed. Found at Wenonah Lake and on Mantua Creek Trail.

Pinxter Flower (Rhododendron nudiflorum) **May.** This much branched deciduous shrub, also called Pink Azalea, is one of the showiest and most beautiful in eastern woods. It is tolerant of dry woods but is also found in moist sites and on the edges of swamps and bogs. The "nudiflorum" is a reference to the fact that the shrub flowers before the leaves have fully expanded. The pink (sometimes almost white) tubular, vase-shaped and slightly fragrant flowers appear in terminal clusters. The flowers are 5 lobed with 5 long curved stamens and one style. This shrub commonly grows to about 6', but I've seed at least one specimen that nearly reached 10' in height. An alternate botanical name for this species is R. periclymenoides. Found on most trails.

Mountain Laurel (Kalmia latifolia) **June.** This beautiful native shrub is common in many open woodland habitats. It can grow up to 20' and large plants have been known to live over 100 years. The leaves are evergreen, shining and pointed at both ends The pink buds open into white or pinkish 3/4 inch flowers in showy terminal clusters. The flower has 5 united lobes, each having two pockets with a stamen tucked into each. Common in Wenonah's woods. The best stand is in the woods to the east of Wenonah Lake.

Fabaceae (Pea family)

Japanese Wisteria (Wisteria floribunda) **NON-NATIVE. May.** This well known climbing shrub with its showy lavender flower clusters is another alien garden escapee that has colonized areas in Wenonah's woods. This plant can overtake native shrubs and trees and kill them through strangling and shading. Its presence in natural areas is undesirable. Numerous small Japanese Wisteria plants can be seen near the Pine St. entrance to the Eldridge Trail and in the area around Comey's Lake. Growing in these shaded areas, they have remained small and never flower.

Hamamelidaceae (Witch Hazel Family)

Witch Hazel (Hamamelis virginiana) **Oct.-Nov.** This large woodland shrub is among the last plants to flower, blossoming in October and persisting into November. It bears clusters of 3/4" spidery yellow flowers in the leaf axils (or on naked branches from which the leaves have already fallen). The flowers have 4 very elongated, narrow and crumpled petals. The petals have the ability to curl back into a bud when the temperature drops and then expand again when it gets warmer. The twigs are smooth and zigzagy, and the buds are hairy. The leaves are up to 6" long, ovate, wavy toothed and unequal at the base. They turn yellow in Autumn. The shrub grows between 10' and 15' tall. The 1/2" fruit capsule is ovoid and 2 chambered. When it opens, the seeds are expelled explosively for up to 20'. The bark and leaves have long been used as a topical astringent

and the branches sometimes for dowsers. Quite common in the conservation area.

Lauraceae (Laurel Family)

Spicebush (Lindera benzoin) **April.** This deciduous shrub blooms in early Spring, producing small pale yellow flowers on its twigs and branches before the leaves appear, and has been called " the forsythia of the wilds". It produces red berries in the Fall which when dried can be ground as a spice. The twigs and aromatic leaves can be used for tea. The Spicebush Butterfly is so called because this shrub is one of its host plants. Its foliage is bright yellow in Fall.

Magnoliaceae (Magnolia Family)

Sweet Bay (Magnolia virginiana) **June.** This attractive small deciduous tree (to 60 feet) bears large (2.5") white very fragrant flowers in June. The flowers have 6-12 petals. The fruit is a typical magnolia cone and dark red. The leaves are oblong, leathery, entire, dark shiny green above and whitish and finely hairy below. The bark is gray, smooth and aromatic. An attractive ornamental, the Sweet Bay was introduced into European gardens as early as 1688. Several good sized Sweet Bays grow on the margin of Wenonah Lake.

Umbrella Magnolia (Magnolia tripetala) **May.** This magnolia tree grows to about 40 ' in height. It produces very large white blossoms (7-10" across) with 3 cup-shaped pale green sepals and 6-9 shorter white petals. It also has a disagreeable odor. The very large leaves are reverse ovate (broadest beyond the middle), entire, crowed and short-stalked. They are 10-20" long and 5-10" wide. The arrangement of the spreading leaves somewhat resembles the ribs of an umbrella. The bark is light gray, smooth and thin The fruit is a typical magnolia cone, rose red and maturing in Autumn. Found on the Glen Trail, the larger flowering specimens near the low swampy area north of Monongahela Branch.

Oleaceae (Olive Family)

Common Privet (Ligusrum vulgare) **NON-NATIVE**. **May-June.** This non-native shrub has escaped from cultivation. It bears small white flowers in dense panicles. The 1/4" flowers are tubular with 4 flaring lobes. The leaves are entire, lance-shaped and opposite. Privet can grow up to 20' high. It is very common on the east side of Comey's Lake and seen occasionally elsewhere.

Rosaceae (Rose Family)

Garden Plum (Prunus domestica) **NON_NATIVE April.** This species is native to Europe and western Asia, but has been naturalized in the US. It produces the edible domesticated plum. It blooms in early spring, producing white 5 petaled flowers on hairy stalks in clusters. The leaves are elliptical, wavy saw-toothed and hairy below. One medium-sized tree grows on the east shore of Wenonah Lake. I do not know it to occur elsewhere in the conservation area.

Sour Cherry (Prunus cerasus) **NON-NATIVE. April-May.** Originally native to the Crimea, this tree was introduced into cultivation in western Asia and southeastern Europe in ancient times. It was later introduced into and become naturalized in North America. It bears white 5 petaled flowers, 2-5 flowers on stalks in clusters with the leaves. The leaves are ovate, short-pointed, toothed and slightly shiny above. The fruit is the red edible sour cherry, maturing in summer. This alien species occurs occasionally in and near the conservation area.

Common Chokecherry (Prunus virginiana) **May-June**. This is a small native tree or shrub, often forming thickets in moist soil. It can grow to about 20 feet. The small white 5 petaled flowers are borne in long cylindrical racemes. The fruit, maturing in summer, is small, dark red to blackish and astringent or bitter. Tent caterpillars often construct their webs in the branches of this species. Occurs in and near the conservation area.

Common Blackberry (Rubus allegheniensis) **May-June.** This common shrub with its arched prickly stems often forms dense thickets in dry fields and on woodland edges. It bears 1" white 5 petaled flowers in racemes in late Spring and early Summer. The raspberry-like fruit changes from green to bright red as it ripens, and finally to black at maturity in July. The Blackberry thickets provide cover for wildlife and the fruit is an important wildlife food source. Some botanists divide the Common Blackberry into numerous species. Found in many parts of the conservation area.

Muliflora Rose (Rosa multiflora) **NON-NATIVE.May-June.** This long cultivated rose has naturalized and become extremely common in fields, roadsides, hedgerows and woodland borders. It forms dense impenetrable masses and provides good wildlife cover. It is particularly noticeable in mid-June when its numerous white blossoms seem to be everywhere in field borders and thickets. The fragrant, small (approx. 1"), white flowers are 5 petaled with numerous yellow stamens and pistils. Very common in the conservation area.

Swamp Rose (Rosa palustris) **June-August.** A lovely rose and one of a number of native species of single petaled pink-flowering roses, distinguished generally by inconspicuous details of plant structure and habitat. The Swamp Rose grows in wet soil on mash edges and swamps. It is a bushy shrub without long arching flower stems. The leaflets are dull green and very finely toothed. The thorns are stout and usually hooked. The stipules are very narrow.Found on Mantua Creek Trail along the edge of the marsh.

Rubiaceae (Bedstraw Family)

Butonbush (Cephalanthus occidentalis) **June-August.** This is a shrub of wet places and is found in swamps, wet meadows and the borders of ponds and streams. It grows from 3' to 10' high. In Summer it bears a mass of small (1/3") tubular white flowers in spherical clusters about 1.5" in diameter. The corolla of each flower has 4 spreading lobes, 4 stamens and a style that protrudes far beyond the rest of the flower, giving the cluster a pin-cushion appearance. The individual styles resemble tiny matches with brown and yellow heads. The leaves are up to 6" long, opposite or whorled, entire, ovate and pointed. The globose fruit clusters, sometimes tinged with red, are prominent in Fall and fed on by Mallards. Buttonbush is noted for its ability to withstand flood conditions. Found in and on the borders of the wet meadow on Mantua Creek Trail.

Styracaceae (Snowbell Family)

Carolina Silverbell (Halesia carolina) **Not Native To the Northeast. April**. This shrub or small tree can reach 30' in height. It is a native of the Southeast, particularly the Southern Appalachians, and is found in our area as an escaped ornamental. It is common in the Great Smoky Mts. In spring it produces 1" white (rarely pink) bell-shaped, 4 lobed flowers. I have seen one blooming Silverbell on Mantua Creek Trail. It is undoubtedly an escapee from cultivation.

Grasses, Sedges and Rushes of The Wenonah Woods Conservation Area.

Grasses, sedges and rushes are, of course, flowering herbaceous plants. However since these families are often popularly thought of as separate from "wildflowers", I have placed the grasses and grass-like plants in their own list. Unlike the other lists in this document which strive to be comprehensive, the list for grasses, sedges and rushes is limited to some of the more common or more interesting grass-like plants in the conservation area. It is not attempt to catalogue every species found in or near Wenonah's woods. For some species my references do not provide a common name. In these instances, the botanical name alone is used.

Gramineae (Grass Family)

Reed Canary Grass (Phalaris arundinacea) **Perennial. May-June.** A tall grass with wide leaves, it forms large colonies in wet places. Inflorescence is rather narrow; white, green or purple tinged, turning tan. Scales are papery. This grass is fairly common in the Eldridge Trail wet meadow and along Mantua Creek.

Hair Grass (Deschampsia flexuosa) **Perennial. June-August.** Hair grass grows in clumps in sandy soil in sun or thin shade and is common in dry oak woods. It has large tufts of straight wiry basal leaves. The wispy inflorescence occupies the upper portion of the stem and is delicately branched. The flowers are bronze or purple. This grass grows on the Eldridge Trail and in the woods on the west side of Wenonah Lake.

Long-awned Wood Grass (Brachyelytrum erectum) Perennial June-August. This grass grows in woods and on woodland roadsides, often in large patches,forming a ground cover. Once established it spreads rapidly and is difficult to eradicate. The wide leaves are pale green. The long, narrow flower stalks hug the stem and the clusters have a long bristle at the end. Quite common. It carpets the path on the Glen Trail along the rr embankment leading to the Monongahela Branch.

Rice Cutgrass (Leersia oryzoides) **Perennial. June-August.** This is a plant of wet meadows and marshes.The leaves of Rice Cutgrass are prickly and can cause cuts if rubbed against. It is a close relative of cultivated rice. The small yellow-green flower clusters stay close to the branch and often overlap. Branches droop slightly. Rice Cutgrass occurs in the wet meadow on Eldridge Trail.

Wild Rice (Zizania aquatica) **Annual. August-Sept.** A very tall grass (up to 10 ft.) with wide leaves and a large inflorescence- The female flowers in the upper portion, hugging the branches and the male flowers below, drooping down, yellow or purplish. The "rice" is a food source for ducks and geese as well as humans. A very large stand of Wild Rice grows in the wet meadow on Mantua Creek and is visible just up stream from the bridge at Mantua Ave.

Tall Dropseed (Sporobolus asper) **Perennial. August-Sept.** Found in dry open woods or fields, Tall Dropseed grows in tufts with long narrow dried leaves. The inflorescence is long, often stays partially hidden within the sheath and is purple, then tan. I have seen this grass in the dry oak woods between the Monongahela Branch and Mantua Creek, west of the rr embankment.

Giant Reed (Phragmites communis) **Perennial. August-Sept.** This very large colonial grass of wetlands has a world wide distribution. Its tenacious invasiveness is the result of environmental disturbances. Spreading by rhizomes, it crowds out other

native plants and in doing so destroys diverse wildlife habitats. It's large plumy inflorescence is purple in flower then gray.Extremely common along the Delaware River and its tributaries. Locally, Giant Red is seen in wet areas bordering the creek on Mantua Creek Trail.

Wood Reed Grass (Cinna latifolia) **Perennial. August-Sept.** A moderately tall grass of the woods.The large inflorescence is many branched and sometimes drooping. It is pale green to pale purple, then tan. I've seen this grass in the woods along Break back Run Trail. It probably occurs elsewhere as well.

Manna Grass (Glyceria obtusa) **Perennial. August-Sept.** A moderately tall (to 4.5 ft.) grass of wet places. The flower clusters are plump with overlapping scales, and the inflorescence is dense, with all branches pointing upwards. I've seen this species growing on the west shore of Wenonah Lake.

Deer Tongue Grass (Panicum clandestinum) **Perennial June-August.** This common Panicum is found in thickets, woodland edges and sunny clearings. It often grows in clumps and has stiff wide leaves, and hairy stems. The flowers are roundish, hard, and borne singly on the end of the stems; and resemble those of Switch Grass. Quite common in the conservaton area.

Fall Panicum (Panicum dichotomiflorum) **Annual. August-Sept.** A tall late Summer grass, it often grows in sprawing clumps. The leaves are rather wide and the stem is flat and smooth. The inflorescence is many branched and green or purple. Although generally a grass of fields and roadsides, I have seen this grass growing along the west shore of Wenonah Lake.

Switch Grass (Panicum virgatum) **Perennial. August-Sept**. This was a Tall Grass prairie grass in the Mid-West. In the East it often grows in leafy clumps in dry soil and sandy roadsides. The flowers are borne singly at the end of the branches and the grain is hard and bony. The flower is purple, then tan. This grass grows along the woodland border on Ogden Rd., just west of Wenonah Lake.

Cyperaceae (Sedge Family)

Carex pensylvanica **Perennial. April.** This is one of the first woodland plants to bloom in the spring. It is common in dry oak woods. This small plant (to 16") has long thin leaves and stems. The inflorescence is brown to reddish-purple and in flower is covered with pale yellow flower parts. The flower stalks disintegrate by late spring, but the leaves remain throughout the year. Last year's dried growth is visible below this season's leaves. Found in the dry oak woods east of Wenonah Lake.

Carex lurida **Perennial. May-June.** This sedge grows in clumps in wet soil. Flower sacs are small,slightly inflated, with a straight beak. Common in wet open areas. Seen in the Eldridge rail wet meadow, in the marsh along Mantua Creek Trail and near the confluence of the Monongahela Branch and Mantua Creek.

Carex stipata **Perennial. May-June.** This plant of wet placest has a spongy fat triangular stem The inflorescence of this sedge is yellow-green then turns gold-brown while the stem stays green. The sacs ars slightly inflated and widest at the base. Seen in the Eldridge Trail wet meadow.

Carex crinita **Perennial. May-June.** A large sedge that grows in clumps in wet areas. The stem is triangular. Both the male and the bristly female inflorescences droop,

hanging from thin branches along the length of the stem. This sedge grows in the marshy area near the confluence of the Monongahela Branch and Mantua Creek.

Carex laxiflora — **Perennial. May-June.** A member of the laxiflorae group within the genus Carex. It grows in leafy tufts which remain through the year. The stalks which contain leafy bracts, the female blunt-tipped sacs and the elongated male flower wither by mid-summer. I've seen this species around Clay Hill on Mantua Creek Trail.

Carex laxiflorae group. sp.? — **Perennial. May-June.** This small and very attractive sedge is **not identified** but, I believe, in the laxiflorae group of the genus Carex. It is quite common in local deciduous woods. The leaves grow in graceful cascading tufts, low to the ground and remain green in winter. The female sacs are almost hidden behind bracts low among the leaves and disappear by late summer. Common in well drained woodland sites on Break Back Run, Glen Trail and Eldridge Trail.

Carex languinosa — **Perennial. May-June.** Often grows in large patches. The thin stems and small flower clusters are inconspicuous among the long grass-like leaves. Although references list the habitat as meadows and shores, I have found the plant commonly in woods. Seen occasionally in the woods off Break back Run Trail and Mantua Creek Trail.

Tussock Sedge (Carex stricta) — **Pernnial. May-June/Aug..** This large sedge grows in wet places and forms tussocks up to 3 ft. high. It can bloom from May to Aug. but seems mostly to bloom in late spring. Male flower clusters are tan and shaggy. Female clusters are thin reddish brown and made up of small flat sacs. This prominent sedge is founf in the Eldridge Trail wet meadow and in the marshy area near the confluence of the Monongahela Branch and Mantua Creek.

Prickly Bog Sedge (Carex atlantica) — **Perennial. May-August.** A delicate thin-leaved sedge that grows in clumps in wet places, such as swampy woods. The stem is thin and triangular, with the sacs in small separated clusters along it's length. The sacs are weakly inflated,long, ovate and tapering to a point. The leaves and the stem beneath the leaves are rough to the touch. A patch of this attractive sedge grew for many years at the edge of a pool of still water just north of the parking lot at Wenonah Lake and to the right of the path. In the last year or two the water level there has risen slightly, drowning these plants at the pool's edge. I know of no other location in Wenonah where this species occurs.

Carex vulpinoidea — **Perennial. June-August.** This medium sized sedge is usually found in wet places. The species name means "foxtail". The inflorescence is narrow and asymmetrical with bristle-like bracts throughout. I've seen this plant growing in a wooded swampy area just off the Glen Trail and north of the Monongahela Branch.

Carex lupulina — **Perennial. June-August.** Grows in leafy tussocks. The female flower clusters are cylindrical with long leafy bracts underneath. The sacs are inflated and have long beaks and two small teeth at the tip. I've seen this plant in low moist woods on Mantua Creek Trail.

Carex intumescens — **Perennial. June-August.** Grows in clumps in wet soil. It is characterized by very inflated shiny sacs in a round flower cluster. There are long leafy

bracts under the cluster. Seen in a swampy area near the Monongahela Branch, off the Glen Trail.

Wool Grass (Scirpus cyperinus) **Perenniual. June-August.** A large handsome sedge that grows in clumps in wet places. It flowers in midsummer with numerous oval flower clusters on branches radiating out from the top of the stem. In late Summer and Fall the clusters in fruit produce a fuzzy brown "wool". A prominent plant in local wet meadows. Sen on the western shore of Wenonah Lake and in the Eldridge Trail wet meadow.

Cyperus diandrus **Annual. August-Sept** A plant of wet placesd and shores. The branches of the flower clusters radiate from a single point at the top of the stem, beneath which are three long bracts. The flower scales are in a flattened cluster tinged with red-brown. I've seen this plant on the wet western shore of Wenonah Lake with Canada St. Johnswort.

Juncaceae (Rush Family

Wood Rush (Luzula multiflora) **Perennial. April.** This small and attractive rush is one of the early flowering plants of the woods. The stems and leaves are tinted with reddish-brown and covered with wispy white hairs. The delicate flowers are deep red with feathery whitish flower parts. Quite common and seen on Break Back Run Trail, Glen Trail, Eldridge Trail and elsewhere.

Soft Rush (Juncus effusus) **Perennial. May-June.** A common rush growing in clumps in wet places. The inflorescence emerges from one point on the side of the leafless stem. The stems are tall (to about 3'), dark green, unbranched, round and hollow. Quite common in wet areas and moist woods. Seen on Glen Trail, near Wenonah Lake and elsewhere.

Juncus canadensis **Perennial. May-June.** This rush of wet places has round leaves with faint horizontal rings. The bracts are shorter than the inflorescence and the flowers always appear in clusters. The fruit is somewhat elomgated or bullet shaped. This species is highly subject to gall formation. Seen on Mantua Creek Trail.

Toad Rush (Juncus bufonius) **Annual. May-June.** This small rush of damp places has a world wide distribution. It has thin wiry stems and short thin leaves. Bracts under the flowers are lacking or very short. The flowers are cylindrical and tapering toward the top. Seen at the water's edge on the west shore of Wenonah Lake.

Path Rush (Juncus tenuis) **Perennial. June –August.** This extremely common rush is often found along paths in both woods and fields. It grows in clumps, has tough stems, curly bracts longer than the inflorescence and three-parted capsules. It is found in woods and clearings throughout the conservation area.

Grass-leaved Rush (Juncus marginatus) **Perennial. June-August.** Unlike most rushes, this plant of moist soil and shores has flat grass-like leaves. The flowers are in roundish clusters. The fruit is rounder than J. canadensis, thin-walled and papery. Seen at the water's edge on the west shore of Wenonah Lake.

Index By Common Name of Herbaceous Plants

* indicates a species of particular beauty or interest.

*Mayflower, Canada, 22
*Meadow Rue, Tall, 30
*Milkweed, Common, 7
*Milkweed, Swamp, 7
Mugwort, Common, 9
Mustard, Garlic, 15
Myrtle, 6
Nettle, False, 34
*Nettle, Wood, 43
Nightshade, Enchanter's, 25
*Orchid, Downy Rattlesnake, 26
*Orchis, Cranefly, 26
*Partridgeberry, 32
Phlox, Garden, 28
*Pickerelweed, 29
Pimpernel, False, 33
Pokeweed, 27
Poison Ivy, 5
Ragweed, Common, 10
Ragweed, Great, 10
Raspberry, Wild red, 31
*Rattlesnake Root, Tall, 10
*Rattlesnake Weed, 7
*Rose Mallow, Swamp, 24
Sage, Lyre-leaved, 21
*St. Johnswort, Canada, 20
*St. Johnswort, Dwarf, 21
*St. Johnswort, Marsh, 20
*St. Johnswort, Spotted, 20
*Sarsaparilla, Wild, 6
*Saxifrage, Golden. 32
*Sedbox, 29
*Skullcap, Mad-dog, 22
*Skunk Cabbage, 6
Smarteed, Nodding, 28
Snakeroot, Short-styled, 5
Snakeroot, White, 11
*Solomon's Seals, Smooth, 23
Spatterdock, Common, 25
Speedwell, Corn, 33
Spiderwort, 17
*Spikenard, Wild, 23
*Spring Beauty, 29
Spurge, Cypress, 18
Spurge, Ipecac, 18
Stickseed, Virginia, 15
Strawberry, Indian, 31
*Sunflower, Tickseed, 8
Tearthumb, Halbert-leaved, 28
Thimbleberry, 31
Tick Trefoil, Hairy Small-leaved, 19
*Tick Trefoil, Naked-flowered, 19
Tick Trefoil, Panicled, 19
Tick Trefoil, Showy, 19
*Touch-me-not, Spotted, 14
*Trumpet Creeper, 14
*Turtlehead, 33
Venus's Looking Glass, 15
*Vervain, Blue, 34
Vervain, White, 35
*Violet, Common Blue, 35
*Violet, LeConte's, 35
*Violet, Marsh Blue, 35
*Violet, Northern White, 35
*Violet, Primrose-leaved, 35
Virginia Creeper, 36
*Virgin's Bower, 31
Yamroot, Wild, 18
Willow Herb, Purple-leaved, 26
*Wintergreen, Striped, 30

Total: 168 species of herbaceous plants in 54 families.

Index By Common Name of Shrubs & Small Trees

*indicates a species of particular beauty or interest.

Total: 40 species of shrubs & small trees in 17 families.