Winter Tree Identification

Pennsylvania has about 134 native trees plus many more that are naturalized or non-native! Winter and early spring ID requires us to pay close attention to the clues beyond leaf shape:

- Leaves on the ground; potential fruits still on the tree that may have dried
- Branch and bud arrangement
- Bark and overall growth habit (shape of the tree, how the tree grows, if branches are straight, whimsically twisty, etc.).
- Where the tree is growing (damp and cool bottom area, up in an abandoned field)
- What other trees are around that tree (certain trees like to grow with others!)

Branch Arrangement:

- **Opposite** – similar to how your own arms come out from your torso. Two branches will leave the stem at the same point, directly across from each other.
    - Maple (Acer spp.), Ash (Fraxinus spp.), Dogwood (Cornus spp.), Buckeye (Aesculus glabra), Box Elder (Acer negundo), Nannyberry (Viburnum lentago); Black Haw (Viburnum prunifolium)
- **Alternate** – Buds and branches in an alternating, staggering pattern. This is *the vast majority of trees*.
    - Oaks (Quercus spp.), cherry (Prunus spp.), hickory (Carya spp.), walnut (Juglans nigra), birch (Betula), elm (ulmus), beech (Fagus grandifolia), redbud (Ceris canadensis), serviceberry (Amelanchier), hawthorn (Crataegus), sassafras (Sassafras albidum), tulip (Liriodendron tulipifera), willow (Salix), sycamore (Plantus occidentalis), apple (Malus spp.), black locust (Robinia pseudoacacia), spicebush (Lindera benzoin)…and more!
- **Whorled:** A circle of branches around the trunk: three or more buds and branches come out of the main stem.
    - Norway spruce eastern white pine, and catalpa
        - Pine and spruce will grow one whorl per year, which can tell you how old the tree is; they have whorled branch tiers.

For Conifers: Needle arrangement matters!

- **Pines (Pinus):** Needles in bundles (fascicles) of 2, 3, or 5.
    - **Forest pines:** Eastern White pine (P. strobus) 5 per cluster; Red Pine (P.resinosa) 2 per cluster; Scotch Pine (P.sylvestris) 2 per cluster and twisted with orange upper bark
    - **Poor soil pines:** Jack/Scrub Pine (P. banksiana) – 2 needles per cluster; Virgina pine (P. virginiana) 2 needles per cluster; Pitch pine (P. rigida) -3 per cluster
- **Eastern Hemlock (**Tsuga canadensis) – Short, flat needles with rounded tips and distinct white bands underneath; tiny cones less than 1” in length

- **Spruce Family (Picea):** Spruce needles are four-sided, stiff, sharp, and attached two twigs on Woody Pegs. Cones hang downward. Red spruce (Picea rubens) is the most common in our forests.

Bark: Bark is another important clue. Barks can vary greatly in the same tree species based on the age of a tree. Use a combination of *bark and buds/branches* to distinguish many trees in winter time!

- **Smooth bark:**
  - Tight, gray, elephant-skin smooth: American beech
  - Smooth but with horizontal lines – Black Cherry or Birch species (young)
  - Smooth gray with subtle stripes going down the length of the branch – Striped maple
- **Peeling/shaggy bark:**
  - Paper-like peeling, shiny: River (Yellow) birch, Paper Birch (rare)
  - Long shaggy strips: Shagbark hickory
- **Shallow furrows and ridges:**
  - Bitternut hickory (Carya cordiformis) (also look for yellow buds on this tree)
  - Pignut hickory (Carya glabra) – brown buds
- **Deep furrows and ridges:**
  - White oak (light gray, chunky plates of bark when older)
  - Dark, ridge with "ski tracks" or long, vertical stripes – Northern Red Oak
  - Tight, diamond pattern – Ashe trees
  - Interlacing ridges or "ropey" bark with alternate leaves- Elm
- **Flaky/scaly:**
  - Small, flaky plates of a dark color – Black cherry (mature)
  - Thin, curling scales – Black Birch (mature)
- **Patchy or Camouflage:**
  - Mottled, peeling in patches with white, green, brown: American sycamore (almost always found near water or in areas prone to flooding)
- **Warty:** Corky warts – Hackberry
- **Thorns:** Comes in many different shapes and sizes
  - Long and thin, or treelike on trunk (Hawthorn, Crataegus spp.)
  - Small, numerous thorns (Devil's Walking Stick, Aralia spinosa)
  - Thorns on branches with ridged bark (Robina pseudoacacia)
- **Dark, charred look**: "broken plates" – Black Oak (Quercus velutina)

Smell: Certain trees and shrubs in our ecosystem have strong and distinct smells.

- Black cherry – smells like almond/amaretto; Black birch – smells like wintergreen; Sassafras – smells like fruit loops; Spicebush – smells warm and sweet

Buds: Look at bud arrangement, color, and composition for even more clues!

Morel Trees: Where to look!
Elm – Morels will fruit 1-3 years after elm death. **Ash** – Green or white ash**. Tulip** – South-facing slopes early in the season (now!); north facing slopes later**. Apple** - You can often find abandoned apple orchards; look near edges and decaying roots**. Sycamore** – Flood plans and river bottoms**. Occasionally**: Find near Black cherry, walnut, shagbark hickory, white oak, red maple