

# TWIG IDENTIFICATION

The use of twigs in the identification of woody plants is a valuable tool for naturalists, not only in winter, but also throughout most of the year. Except for a brief period in late spring and early summer when the previous year's buds are opening and next year's buds have not yet appeared, twigs can be used like fingerprints to identify the individual species of deciduous trees and shrubs. The following few pages are intended to provide a basic idea of the diagnostic components of twigs and some of the forms these components take, and to show drawings of some of the species found at Ivy Creek. For minute twig features a hand lens will be necessary. Gross features such as color, smell and taste of the species found at Ivy Creek are covered in the "tidbits" section of this notebook. The features described below are pictured in the twig drawings that follow.

## BUDS

Buds contain the young undeveloped leaves, flowers and shoots for the coming year. Buds of certain species are covered with protective scales (bud scales); others are not (naked). The normal position for buds is either in the upper angle between the leaf and the stem (axillary or lateral buds) or at the tip of the twig (terminal buds). The terminal bud once formed limits the growth in length for the season.

## BUD SCALE SCARS

These are scars left by the terminal bud of the previous season. They are narrow closely spaced scars that circle the twig. As each grouping of bud scale scars marks the end of one growing season, they can be used to count the age of the twig. They also reveal the difference in growth increments year to year by the degree of spacing between the bud scales of each season.

## LEAF SCARS

When a leaf falls from a twig it leaves a scar. On the surface of the leaf scar are found minute patches or dots (bundle scars), remnants of the connection of vascular tissue between the twig and the leaf.

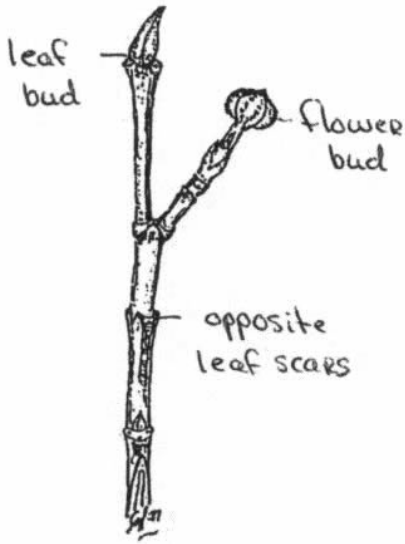
## LENTICELS

These are small raised patches or stripes, that provide aeration to the twig.

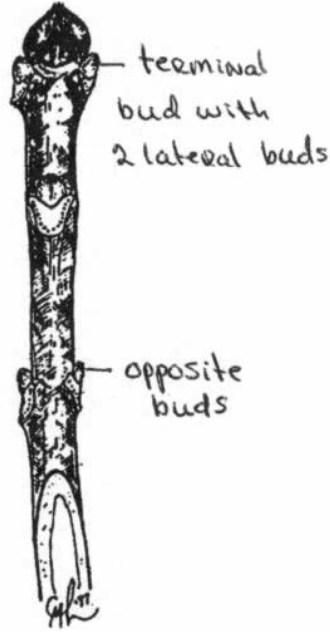
## STIPULE SCARS

These scars are the remnants of leafy appendages that were attached to the base of the previous season's leaf petiole. Stipule scars are found only in certain woody species. They occur in pairs, one on either side of the top of the leaf scar. In some species they completely encircle the twig.

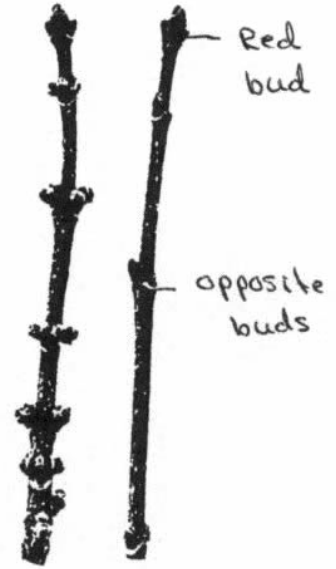
# TWIGS OF TREES FOUND AT IVY CREEK



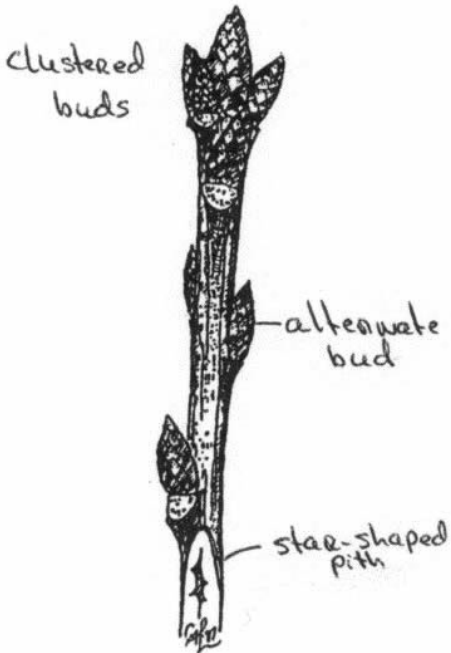
Flowering Dogwood



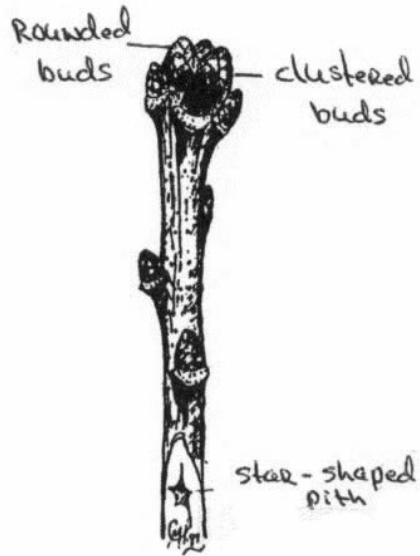
White Ash



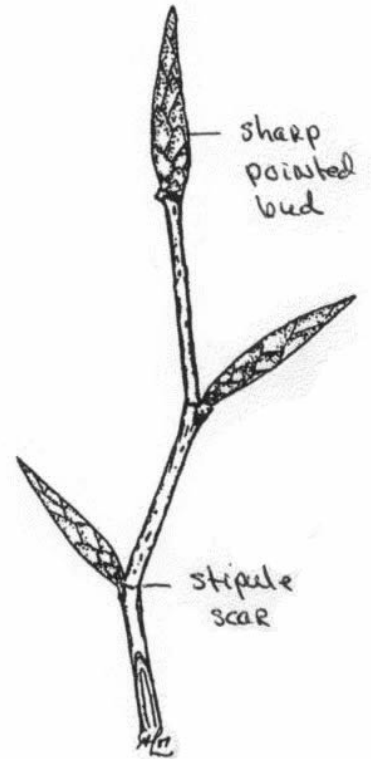
Red Maple



Red Oak



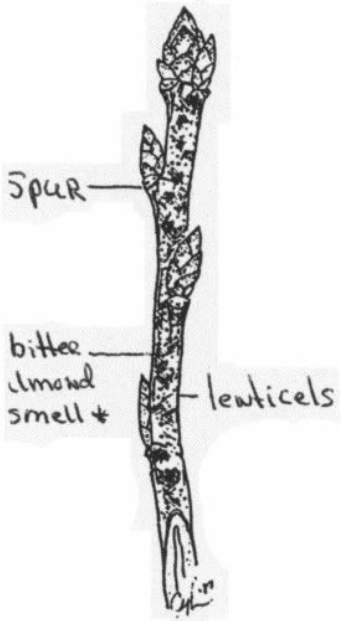
White Oak



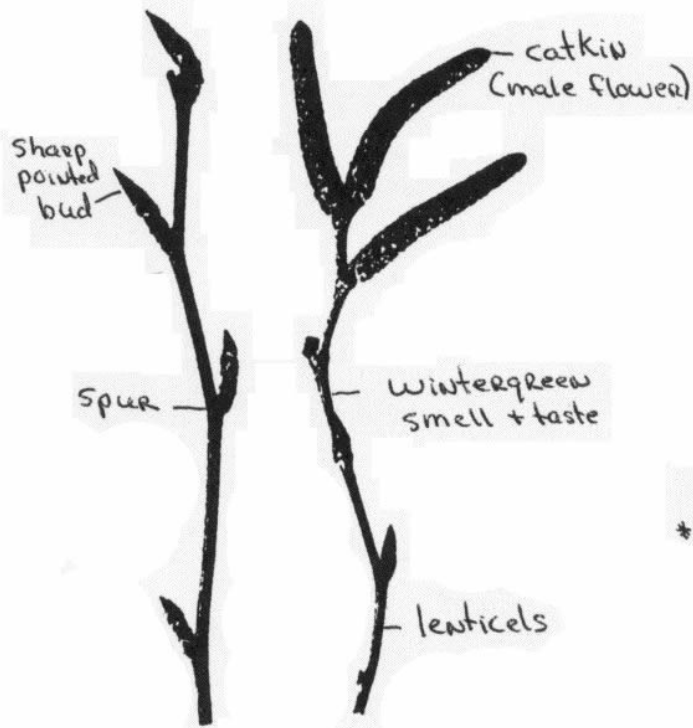
American Beech

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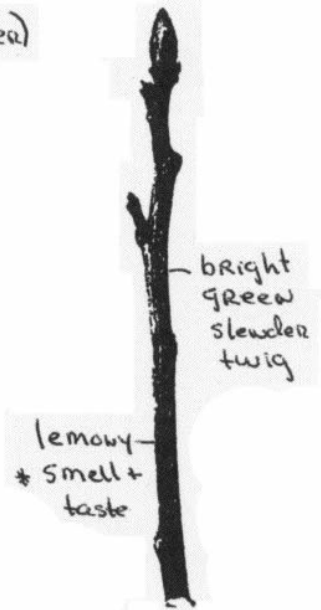
To Smell Scratch Twig



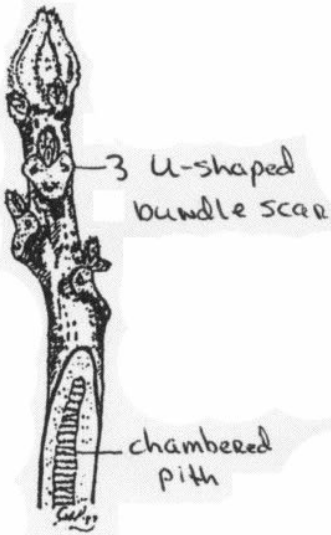
Black Cherry



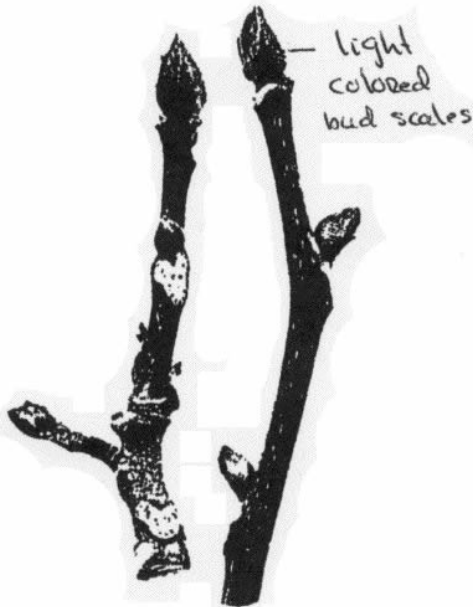
Black Birch



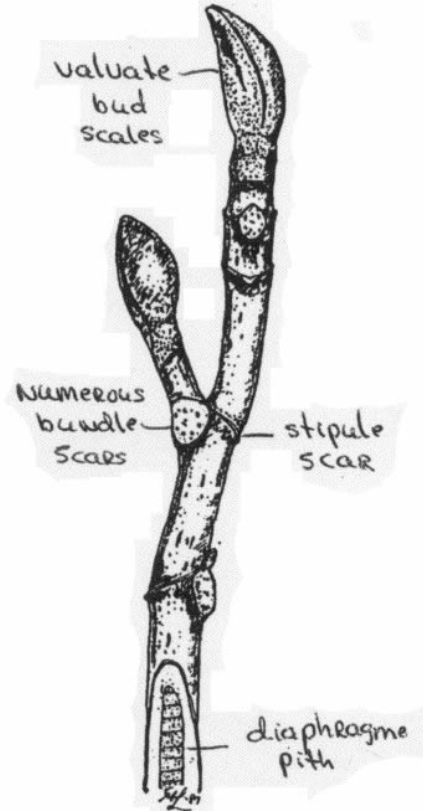
Sassafras



Black Walnut



Mockernut Hickory



Tulip Tree

## PITH

The central portion of the twig (pith) is usually of a different color and texture than the surrounding tissue. Sometimes the texture of the pith is continuous (solid) and is either of one texture (homogeneous) or broken at intervals by darker tissue (diaphragmed); sometimes the pith tissue is lacking (hollow); and sometimes the tissue is divided by horizontal partitions into hollow irregular cavities (chambered). The best way to view pith texture is to slice the twig lengthwise. In some species the shape of the pith revealed in a cross cut, shows distinctive shapes (starlike in oak species).

## SPURS

Spurs are stocky dwarf twigs, which have very little growth between their nodes (points on the twigs where leaves, buds or flowers are attached). Only certain species contain spur shoots (e.g. birch, apple, cherry, black gum).

## THORNS AND SPINES

Thorns are modified branches (e.g. locusts); spines are modified leaves or stipules (e.g. roses, raspberries).

## TWIG CHARACTERISTICS

