Mounting Tree Cores

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Cores will be glued into grooved wooden blocks (available commercially, or you can make your own), then sanded. It is important to let the cores air-dry in their straws for several days after collecting, since a wet core is likely to shrink and crack if it dries after gluing. All the "field" information on the straw will need to be written on the wooden block. (Multiple cores will be glued into any one wooden block and later cut apart; it is therefore important that all the information be written on the blocks "within the bounds" of the core so it is not later cut away.)

1. *Carefully* remove the core from the straws. Cores from some species such as eastern hemlock are notorious for breaking up ("ring shake"); if your core has broken, you will need to glue in all the pieces, fitted together like a jigsaw puzzle. (Remember that you may later measure individual ring widths, so avoid gaps between two sections that have separated.)
   o Various "implements" can be used to help push the core out of the straw (push from the bark end so that the rough bark doesn't snag): chopsticks, the spoon of an increment borer, a bicycle spoke, filing cabinet rod…
2. It is <u>imperative</u> that the core be glued into the mount with its "plumbing" vertical, i.e., just the way it was oriented in the tree. The grain (vessels and fibers) should be at right angles to the finished surface, otherwise you may not be able to see the ring boundaries after it is sanded.
   o If cores are twisted they can be straightened out using steam (from a tea kettle, for example).
   o View the "end" of the core (you can use a magnifying lens if it helps) to insure that the long vessels (tracheids) are vertical or "pointing up."
   o The "sides" of the core often appear shiny (side view of the long tracheids) or rough (torn tracheids).

3. To allow the glue to dry, cores will be taped to the mounts (or tied with string, secured with binder clips…). Therefore any identifying information will need to be written on the mounts beforehand in indelible ink (Sharpies). Transfer the info from the straw:
   o Species code, DBH, Core A/B, Plot #, bark/pith [center], and date when core was collected.
4. Any water-soluble glue can be used to mount the cores (eg., Elmer's), which should dry within a couple hours. If the cores are improperly mounted, it is possible to soak them in water, remove them, and remount them.
   o Glue the core with "vertical plumbing" and the bark to the right as you look at it. (As with the straws, mark "bark" (or alternatively, "pith" [tree center]) on the mount.
   o The core needs to be held securely in the mount until the glue dries, or else it will curl up as it absorbs glue. Options include heavy weights, binder clips, string, or masking tape.
   o If using tape, have several strips ready to use after you glue the core. Use enough tape along the length of the core to insure good contact (don't let it buckle, and especially don't allow small pieces to fall out of a core that has broken.) Leave a little folded-down "tab" on the tape to make it easy to pull off later.
5. Use a sufficient amount of glue (run a bead the length of the core) to be sure that the core adheres well to the mount. The core mounts are not cheap, so minimize space between successive cores glued into each one (just ½" or so to allow them to be cut apart with a saw). Using your Sharpie, draw a line on the side of the mount indicating approximately where the cut will occur. Verify that all your information (species, DBH, etc.) will "stay with the core" after it is cut.