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Tags and labels for seedlings and trees

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Tags and labels for seedlings and trees

Introduction

For any type of research pertaining to individual trees or their offspring, labeling or tagging is crucial to maintain their identity. Tagging is here entirely meant for the researcher and is usually limited to a number code; detailed information is stored elsewhere. For arboretum, botanical garden or other educational plantings, information is addressed to visitors. Therefore the tags or signs on mature individual trees contain more specific information like species name, origin and sometimes other botanical or short ecological information. Small plants and large trees must necessarily be labeled differently, simply because of their size. As trees grow in height and girth, labels, signs or tags, and especially their attachment must be changed. Types of labels, the information contained and the required durability of labels depend on purpose. Short duration research on for example individual tree growth may only be used for a few years as long as the research is ongoing. In arboretum and parks permanent signs would typically be required. Any sign or label exposed to adverse condition will gradually deteriorate and writing will turn unreadable. Unfortunately, there is a correlation between price and durability. In addition, signs and labels can be lost due to other factors. Loosely attached labels can be lost, if the attachment (nail, wire) or attachment point (e.g. seedling branches) break. Birds, monkeys and sometimes even persons deliberately remove tags. It is therefore advisable to keep book records on tree positions (map with GPS positions or other precision points) in case labels are lost.

Tree seedling and sapling tags/labels

Type of tags: Seedling labels and tags are rarely supposed to last longer than a few years. As trees grow larger they must be replaced anyway. Three types of labels are listed here.

Laminated carton labels. Writing is best protected if written on the carton before lamination (not on the lamination). Permanent ink pens are used for writing. These types of labels are cheap but typically last only about one-two years in the forest.

'Butterfly' labels are narrow plastic strips that can be written on with permanent ink markers. They will remain readable for 2-3 years. They are used mainly for small plants or attached to small branches as the diameter of attachment should not be more than about 1 cm. They are very easy to attach, comes in a range of colors and are conspicuous, so they can easily be found again. Unfortunately, especially monkeys tend to be fond of them, sometimes removing them as fast as they are put up.

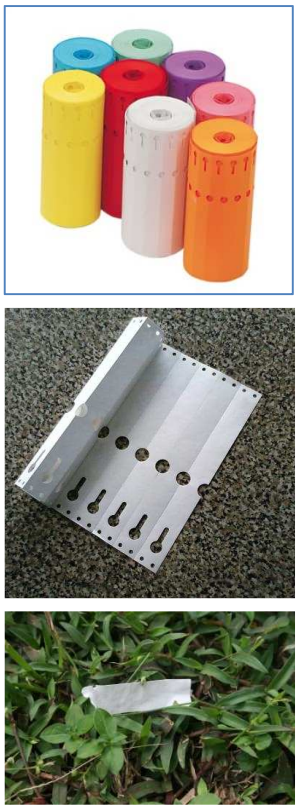

Fig. 1. Upper: Rolls of labels in in different colours. Centre: Section of roll of labels. Lower: Piece of label removed by monkey (notice tooth marks).

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Metal tags may be ready/factory-made or home-made from metal sheets (see box below). Ready-made tags are usually round or oval and provided with consecutive number e.g. 0001, 0002 …. 1000. Information is not contained on the tag but each consecutive number has corresponding tree information kept elsewhere (computer/ ledger). The metal tags are attached to the trees with preferably non-corrosive wire (e.g. copper). Metal tags can be home-made from metal (Zink or aluminum sheets). Square tags can be cut out by a metal scissor, round tags with a puncher/tine. Numbers in metal tags are punched using a letter & number metal punch stamp set (see box below). Letters or numbers scratched into the metal with a scratch tip will remain readable for quite some times but obviously need a trained eye to read.

Figure 2. Metal tags with number stamped in it

Grey metal tags can be difficult to find in dense green vegetation. It is therefore advisable to attach a conspicuous colored tag together with the metal tag. Numbers can also be written on the plastic tags as it is more visible, but as the writing wears off, the stamped metal tags remain readable. The method is illustrated on the picture to the right, here used on climbing *Daemorops* (rattan) stems for phenology research. Since these species do not have secondary diameter growth, wire attachment is suitable.

Fig. 3. Combination of conspicuous plastic tags and durable metal tags used for long term studies of climbing palms.

Signs for mature trees

Number tags of the same type as the ones used for seedlings may be used for large trees as well except that on large trees they are fastened to the tree with a nail or a screw. However, where the purpose is to provide information for visitors, labels should contain some basic information like local and scientific names, family and, if imported, origin. Signs should be 'inviting' i.e. at a reasonable size and easy to read. Because the signs are envisaged to be permanent, high quality 1-1.5 mm thick plates are used. Writing may be done by manual letter stamp method. However, high tech engraving machines are available, which can make decorative signs on high quality material.

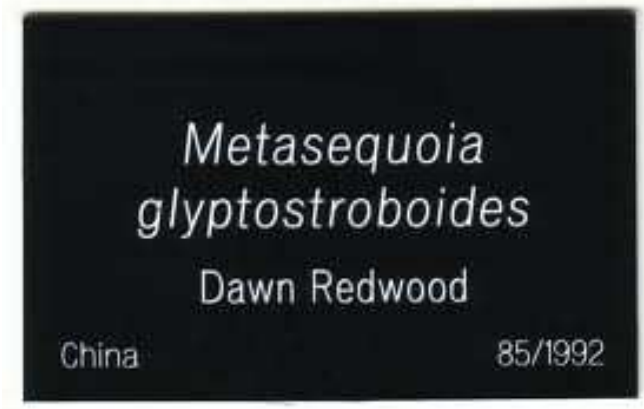

Fig. 4. Decorative arboretum sign with scientific name, common name, origin , reference number, and planting year

When trees grow

Trees grow in girth and anything that is fastened to or around stems or branches will eventually be overgrown by new bark. For young trees it is customary to fasten labels and tags with wire that allows the diameter to expand several centimeters without strangulating the stem or branches. When diameter expands to critical size, labels are either removed, or, if still needed, re-fastened with another longer wire. Nails will gradually be overgrown by new bark as the tree grows. A few centimeters space between tree and nail head will allow some expansion. The nails may then regularly be pulled out as the tree grows. However, it is easier to untighten

screws with a few turns counterclockwise. Screws should preferably be non-corrosive (brass) with star or torx head.

Fig. 5. Different methods of attachment of signs and tags to trees. Upper: nail has been overgrown as the tree grows. The sign will eventually be lost. Right and lower: Attachment by nail and screw. The latter can be unscrewed as the tree grow

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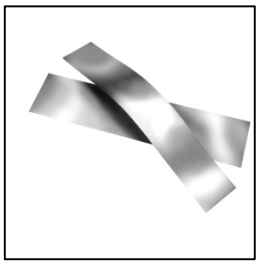
Equipment and tools to make small metal tags

1. Sheet material: Thin (0.2-0.3 mm) Zink or aluminum sheets. Cut open cans may be used as cheap re-cycling



2. Cutting tools: For very thin material a metal sheet cutter (square tags) or a hole puncher (for round tags, 2-4 cm in diameter). For thicker material must be used special equipment e.g. a metal sheet cutting block or a hole saw.

3. Engraving letters and numbers. Letter & number metal punch stamp set.

4. Making holes for wire attachment. Holes in thin plates may be made by a nail. Thicker ad harder plates holes are made by drilling (2 mm drills) or a metal hole puncher.