For herbarium handbook

***Collecting palms* – W.J. Baker & J. Dransfield**

In most cases, there is little point in collecting a palm that has neither flowers nor fruit. Rattans (climbing palms) are the exception to this rule – they have many informative features in the leaf and leaf sheath, and sterile collections are still very worthwhile.

Palm specimens require particularly thorough descriptive notes because many features cannot be represented in the herbarium for practical reasons. Where possible note the number of stems, stem height and diameter, internode length, presence of modified roots, the number of leaves in the crown, leaf length, leaf sheath length and width, presence or absence of a crownshaft, leaf petiole and rachis length, leaflet number on each side of the rachis, leaflet arrangement, inflorescence length and position (above, below or within the crown), inflorescence peduncle and rachis length, the number of orders of branching in the inflorescence, and the colour of inflorescence bracts, branches, flowers and fruit.

A small understorey palm can sometimes be made to fit a herbarium sheet in its entirety by judicious removal of some leaves and stem. The majority of palms, however, are simply too big to be treated in this way and must be reduced significantly to be accommodated in the herbarium. A typical palm specimen consists of numerous items sampled from representative parts of each organ. Because palm collections contain so many parts, take great care to label every item with a tag to avoid confusion later.

Collect a sample of the stem with at least two nodes represented. For robust palms, it is usually possible to cut out a thin strip of stem that includes the outer surface. Take a leaf sheath and split it down the middle, folding the material as necessary, or preserving the upper and lower portions if too large. If the leaf is small, you may be able to collect it whole, folding it to fit a herbarium sheet. In most cases, however, you will need to cut it up. For pinnate leaves, take a portion of the base of the petiole, a portion of the top of the petiole with the first leaflets, a middle section with rachis and leaflets, and the tip of the leaf. Remove the leaflets from one side of the rachis if they are too big. Fold the remaining leaflets to fit a herbarium sheet in a manner that allows them to be easily unfolded for study. For fan leaves, take a portion of the base of the petiole, a portion of the top of the petiole including the hastula and lower segments on one side, then remove a portion from both the centre and the side of the leaf.

If the inflorescence is too large to collect whole, cut it to preserve a basal portion, a mid section and a tip. Try to retain evidence of the maximum number of branching orders and preserve bracts where possible. Make sure you have good flowers and/or fruit in the specimen. You may not be able to obtain both from a single palm. If flowers are not visible, you may be able to find some inside a closed inflorescence bud. If no ripe fruits are available, you may be able to find fruits or seeds on the ground around the palm – even germinating seedlings contain useful information. Spirit material of palm flowers and fruit can be particularly useful.

Rattan collecting follows similar principles, but it is important to collect the climbing whips and to note whether they arise from the leaf tip (cirrus) or leaf sheath (flagellum). Do not attempt to remove the leaf sheath from the stem or split it in any way. Simply, cut a length of stem with sheaths including at least one leaf base.

Further reading:

Baker, W.J. & J. Dransfield. 2006. Field Guide to the Palms of New Guinea. Royal Botanic Gardens, Kew.

Dransfield, J. 1979. A Manual to the Rattans of the Malay Peninsula. Forest Department, Ministry of Primary Industries, Malaysia.
Dransfield, J. 1986. A guide to collecting palms. *Annals of the Missouri Botanical Garden* 73: 166–176.