

# A visual guide to collecting plant tissues for DNA

## Collecting kit checklist

- ✓ Silica gel<sup>1</sup>
- ✓ Resealable bags, airtight plastic container
- ✓ Empty tea bags or coffee filters
- ✓ Tags or jewellers tags
- ✓ Permanent marker and pencil
- ✓ Razor blade / Surgical scissors
- ✓ Ethanol and paper tissue or ethanol wipes
- ✓ Plant press and collecting book

## 1. Selection and preparation of fresh plant tissue:

### Sampling

From a single plant, harvest 3 – 5 mature leaves, or sample a piece of a leaf, if large (Picture A). Ideally a leaf area of 5 – 10 cm<sup>2</sup> should be enough, but this amount should be adjusted if the plant material is rich in water (e.g. a succulent plant). If leaves are small (e.g. ericoid leaves), sample enough material to equate a leaf area of 5 – 10 cm<sup>2</sup>. If no leaves are available, other parts can be sampled such as leaf buds, flowers, bracts, seeds or even fresh bark. If the plant is small, select the biggest specimen, but never combine tissues from different individuals.

### Cleaning

Ideally, collect clean fresh tissues, however if the leaf or plant material is dirty or shows potential contamination (e.g. aphids, mycelium etc.), clean it using an ethanol wipe (Picture B).

### Preparing material

The leaf material must be dried as quickly as possible to preserve the quality of the DNA. If leaves are large or very fleshy, cutting them into smaller fragments will speed up the drying process. On the other hand if the leaves are not big or fleshy, fragmentation should be

avoided. Breaking up leaf material will bruise the plant tissue, which will result in enzymes being released that cause DNA degradation. Ideally, leaf material should be cut into smaller fragments with thick midribs being removed (Picture C). If sampling robust leaf tissue (e.g. cycads, palms), use a razor blade or surgical scissors (Picture D).

### Succulent plants

If the leaves are succulent, use a razor blade to remove epidermal slices or scoop out parenchyma tissue (Picture E).



