

### 11.5.3 Field drying

The drying of material while in the field is often difficult unless the appropriate techniques and equipment is used. Field driers that consist of a source of heat and a frame to enclose the heater and to support the collecting press of specimens are required. Pressurized lamps (kerosene or gas lamps) are very effective and have the benefit of providing light in the camp (Fig. 11.5). If electricity is available, then a hot plate, heating fan (Jenne 1968), or set of light globes makes an effective plant drier (Gates 1950; Hale 1976; Van der Merwe and Grobler 1969; Womersley 1969). Heat can be provided from naked flames produced by gas rings (Halle 1961; Croat 1979) or hot coals (Victor et al. 2004), but are not recommended, because dried pieces of plant material may fall into the heat source and result in a devastating fire. However, it must be remembered that whatever the source of heat, the risk of fire is always a possibility. Care must be taken at all times. If the field trip involves travelling by motor vehicle, then in dry environments, plant presses containing the botanical specimens can be attached to the roof-rack of a moving vehicle. The airflow through the ends of the press will effectively dry the specimens. However, the presses must be secure and frequently checked to make sure that they do not become loose. The consequences of an unsecured press on a travelling vehicle are usually disastrous for the specimens!

### 11.5.4 Field preservatives

Botanical specimens frequently begin to deteriorate in a plant press if they are not dried promptly. This is particularly a problem with specimens from the wet humid tropics where the leaves frequently fall off and/or the specimens become mouldy. This may happen within a couple of days of collecting. If it is not possible to dry botanical specimens in the field, then there are two preservative liquids that are available which can prevent mould developing in freshly collected botanical specimens, namely methylated spirits (readily available) and 70 per cent ethyl alcohol (with restricted availability). Previously a solution of formaldehyde (known as formalin) was also used, but the previous two liquids are safer to use.

The botanical collections are pressed for up to twelve hours. After this, the specimens are removed from the press, with any damp enclosing newspapers replaced with dry sheets of newspaper. The collections are inserted into a polythene bag or tube (Fig. 11.6). When all the specimens are in the bag or tube (with one end of tube enclosed and sealed with alcohol-resistant tape), add about three average- sized cups of methylated spirit or ethyl alcohol solution (Fig. 11.6). Spread the preservative evenly across the open end of specimens, ensuring that sufficient liquid has soaked throughout the material. Since the preservation is effected by the vapor of methylated spirit or ethyl alcohol, it is not necessary that any free liquid be present. Close the open end of tube/bag thoroughly and tie the bundle with a simple crossed string (Figure 11.6)

(Womersley 1969).