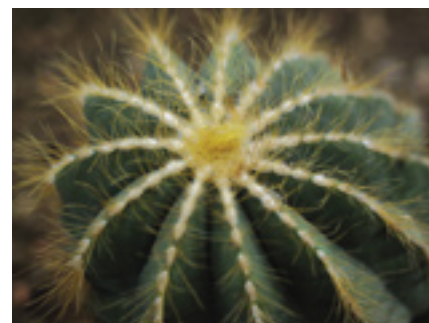


The Arid House Unveiled

by Kate Pritchard



It has now been nearly three months since we finished the final stages of the Arid House revamp. Shortly before Christmas the last of the plants chosen for inclusion were planted and we are now beginning to see signs of growth. This hopefully signals that all is well and plants are adjusting to their new environment.

Gone are the benches and the pots, out with the brick paths, concrete-like soil and rather tangled bed. Instead we have a ground level planting area surrounding a central path. The all-essential heating pipes are screened behind silver, perforated metal covers that glint in the sun. Existing light levels have been improved with the addition of supplementary lights that should help the plants through our darkest months.

Early reports from staff using the Arid House for teaching have been good. The plants are more accessible than they were in pots and it is now possible to work more effectively with larger groups of students. Generally visitors seem to find the new design and planting more inviting and interesting than before – more people are entering the house and lingering longer.

It was a difficult process trying to decide which plants should be selected and several rounds of auditions were held. In keeping with the Garden's aim to cultivate as diverse and comprehensive a collection as possible those included had to be a good example of the botanical family they represented. In addition, plants had to display at least one adaptation to an arid environment and

wherever possible, an ethnobotanical use. These factors were key considerations as they form the foundation of the education work we deliver here. We also checked the conservation status of each species. And of course we had to be able to cultivate these plants well in the conditions created in this particular glasshouse. At the moment the beds look quite full with some plants even appearing squished together in places. Given time, released from their pots, these plants will begin to grow. However they are generally slow growing plants and so we will have a good few decades of patient waiting! We also tried to select plants that would be considered ornamental as well, but as beauty is in the eye of the beholder this did occasionally lead to scuffles amongst the selection panel.



The New Arid House

I would like to draw your attention to a few of the plants to be found in the Arid House and that you might encounter on your next visit.

From the southwest of Madagascar comes the succulent *Pachypodium geayi*. Its bottle-shaped trunk and branches are very striking, densely covered in impressive thick spines. These are modified stipules and in groups of three. It is a deciduous tree and can reach a height of 4 metres or more. The branches are topped by whorls of long strap like green leaves. When it does flower, these are produced on cymes and are tubular, scented and white. Of the family Apocynaceae, *Pachypodium* is related to plants such as frangipani and the Madagascar periwinkle, something that becomes more apparent when you compare the flowers. Plants in Apocynaceae also usually have poisonous milky sap. There is a group of foragers in southwest Madagascar called the Mikea that soak the sapwood in water and use it as bush pig poison. They also make a bark cloth from the plant.

The name *Pachypodium* comes from the Greek *pachys*, thick, and *pous*, foot, referring to the fact that most species are caudiciform. This means that this plant has a swollen, water-storing stem, an adaptation to the semi-arid environment in which it grows naturally. During dry periods it is able to survive using reserves of water and food stored in its stem. We have three species in the collection and when in leaf, we water ours regularly, but reduce this to just the occasional drink when not. They can be successfully grown as houseplants and benefit from a stint outside in summer in semi-shade.

Pedilanthus macrocarpus is another caducous plant that is adapted to come into leaf only in favourable conditions. It is easy to overlook in the Arid House, despite its height of a metre or more. It is a shrub with many finger-thick, slightly flattened stems. As with many plants from arid habitats that only come into leaf for short periods, it is able to photosynthesise using its stem tissues. This ensures that it continues to manufacture essential foods in order to grow and ultimately survive even when conditions are less than optimal. *Pedilanthus* is in the family Euphorbiaceae and so has the poisonous, milky sap familiar to many gardeners that burns on contact with skin.

From an ornamental perspective, *Pedilanthus macrocarpus* really comes in to its own when in flower. The name for the genus *pedilanthus* comes from Greek *pedilon*, a sandal or shoe, and *anthos*, flower. The flowers are produced terminally and so are easily spotted. At the Garden it usually comes into flower around mid to

late summer. The bracts are a dusky orange-red and the flowers have quite a pronounced red spur of more than 2 centimetres. Two common names for this plant are lady's slippers or the slipper plant and when you look at the bracts in profile it is easy to see why. In its native Mexico, hummingbirds are attracted to its flowers.

I have mentioned the wait we may have to see some of the plants at their finest. One of these is *Aloe plicatilis*. It is possible to appreciate its form now, but equally you can see its potential and what a striking small tree it will eventually make. *Aloe plicatilis* is the only tree aloe confined to the southwestern Cape, South Africa. It grows in the mountains on steep, rocky slopes amongst the fynbos vegetation in an area with high winter rainfall.

Aloe plicatilis is a dichotomous aloe, meaning the leaves are organised as a fan instead of a rosette, hence its species epithet, *plicatilis*, with small folds or pleats. It really does look as if someone has made a mass of paper fans and sat them on top of its stout stem and branches. The fleshy leaves are

covered with a thick wax and have very thick outer epidermal walls, an adaptation to help reduce moisture loss. In the Arid House it has flowered regularly in early autumn, producing racemes of tubular scarlet flowers. So tell your grandchildren to bring their children to come and stand under the *Aloe plicatilis* at the Botanic Garden!

This is the first planting stage, with more plants quietly growing away behind the scenes waiting for the second phase in three to five years time. Those that were not included in the initial planting are acting as understudies waiting in the wings in our nursery houses, or have been exchanged with other gardens and collections or we have collected seed for propagation in the future.

Kate Pritchard is Assistant Curator of the Glasshouses at the University of Oxford Botanic Garden



Re-planting the Arid House