

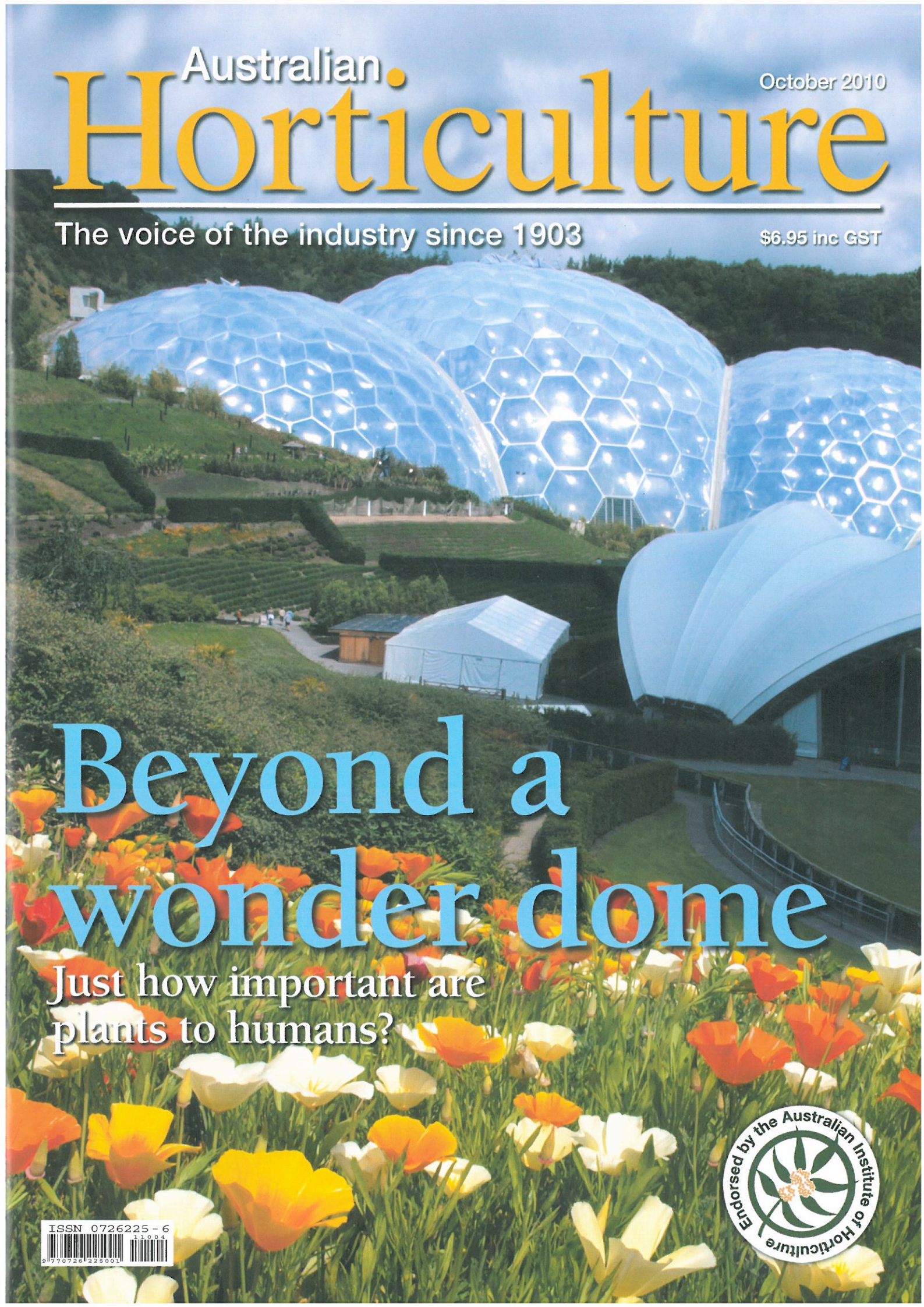
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Beyond a wonder dome

Just how important are plants to humans?

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GETTING the dirt



Naturally Speaking
with Phillip Johnson

WHEN asked about the basic requirements for plant growth, most students will rattle off the “top three” – water, light and nutrients.

It's true, these are the key ingredients in plant life; however, a relative lack of one or another need not necessarily mean plant death.

And there is one important player in plant growth that often gets overlooked – soil.

Clients often raise concerns that a specific plant will not grow in a certain position due to the localised conditions. While I strongly hold to the theory of “the right plant for the right place”, there is another fact that remains important: plants do not “want” to die.

As any David Attenborough fan knows, plants are fantastic adaptors.

While a variation in light, nutrients or water will potentially have a visible effect on growth, flowering and habit, it will not necessarily cause the plant to die.

Take, for example, *Chorizema cordatum* x *varium* (refer to images).

In full sun it is a bushy, upright small shrub, massed with flowers over a long period.

At my home in Olinda under the dual mountain ash (*Eucalyptus regnans*) and tree fern canopy (*Dicksonia antarctica* and *Cyathea australis*), it displays a far more scrambling, open habit.

Despite markedly different conditions in Olinda, it is still a beautiful plant that contributes gorgeous bright flowers.

The lack of light simply changes the habit as it scrambles to find a patch of sun.

Most plants can adapt to variations in light, and to a lesser degree water and nutrients.

Their performance will be affected but they will survive and in many cases still make a valuable contribution to the landscape.

The one factor, in my experience, truly challenges plant growth is soil.

Now of course, I hear you say, “But soil conditions determine water and nutrient availability”, which is true to a great extent.

Native plants are particularly good at satisfying their nutrient requirements in Australia's impoverished soils.

However, placing a Western Australian wild-flower such as a *Ptilotus* sp. in Melbourne clay will surely bring about its decline.

For years, landscape industry professionals have circumvented this issue by altering the soils on-site.

I argue that this practice is not sustainable in the long term, as soil is not a static entity and will revert to the quality of the original material over time (without significant ongoing amendments).

It is the general practice of my company not to import soil on to a site, but to select plants according to the prevailing conditions.

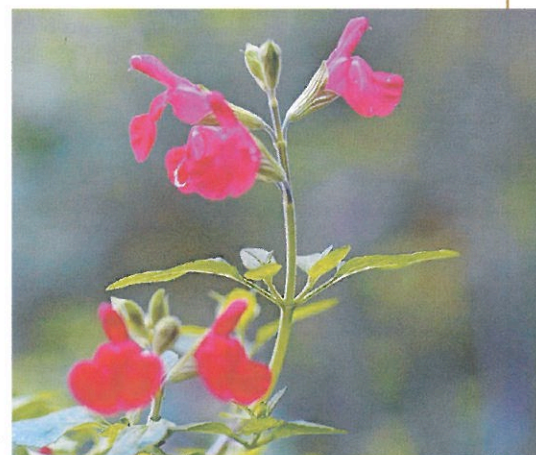
Chorizema cordatum x *varium* is an example of a plant that has a different habit according to lighting and moisture conditions.

As we endure ever-increasing extremes of temperature and weather conditions, from bushfires to floods, we see plants surviving wetter winters and drier summers.

However, those species planted into a soil from which they cannot draw enough water or nutrients – such as a sand-adapted species in clay, or those whose roots dry out in sand, as they are adapted to having ‘wet feet’ – will not survive.

In five years at Melbourne University studying for a Bachelor of Applied Science in Horticulture, one of the subjects I found most challenging was soil science.

Yet it remains one of the primary factors driving my plant selection, and thus an important lesson learnt.



The dual mountain ash (*Eucalyptus regnans*) and tree fern canopy (*Dicksonia antarctica* and *Cyathea australis*) of this garden alter how plants below develop.