

Why are some orchids weedy?

Orchids are charismatic plants, often of great beauty, and most landholders are delighted to find them growing in their remnant bushland. But why do some orchids appear to colonise disturbed areas such as roadsides relatively easily, but others are seldom seen? They all produce small, light seeds that blow in the wind like dust, so it can't be a distribution problem. Apparently it is down to their associated fungi.

Orchids form a mycorrhizal partnership with soil-living fungi. Their tiny seeds do not even carry enough nutrient to germinate without help from a fungal partner! So if an orchid seed lands on soil without the right fungus, it will just sit there. Some orchids are very specific, and can only form a partnership with one particular fungus, others are not nearly so fussy.

Y u m i k o Bonnardeaux, an honours student who was working with Mark Brundrett and Andrew Batty (researchers from UWA and Kings Park) has begun to unravel the complicated relationships between orchids and fungi. They



Common mignonette orchid, growing like a weed in the bush garden at CALM, Kensington.

have found that common and widespread species such as the common mignonette orchid, *Microtis media*, are compatible with a wide diversity of fungi and so can grow almost anywhere. This species is also capable of self-pollination without insect assistance. Can you guess which orchid has the most fungal partners found so far? Yes, that fleshy invader, *Disa bracteata*, the South African orchid! No wonder it has spread so far, so fast, since it was first discovered in WA at Young's Siding near Albany in 1944.

(Mark would like to acknowledge funding for this work from ALCOA World Alumina and the Botanic Gardens and Parks Authority.)