

Queenslanders often link their bottle trees to the baobabs because of the striking similarity in shape. This link is dismissed as a convergence by most taxonomists, who think that "pachycauly", the thickened, water-storing trunk, has evolved independently in these two kinds of trees. I think that there may be more to it, since bottle trees share more than their shape with baobabs, such as edible seeds, leaves, tubers and even trunk (a cow will eat the whole thing if it is knocked over), as well as very serviceable fibres below the cortex that can be turned into twine, cloth, nets, rope and even boats. Whatever the merits of the different arguments, it is a fact that Brachychiton (the genus to which bottle trees belong) has been neglected in the detailed DNA studies now being used to clarify the relationships of living things to each other.

I would like to address this neglect of Brachychiton. I will be studying this genus at the same time as I am studying the molecular genetics of the boab, *Adansonia gregorii*, whose origins in Australia are hotly debated. There is no doubt that the boab is a recent arrival in Australia from Africa that cannot be explained by the Gondwanan connection originally proposed, but this does not mean that one can rule out a similar connection between Brachychiton and boabs, including their African and Malagasy baobab relatives, all of which may well have had a common ancestor on Western Gondwana. There is pollen referable to Brachychiton relatives in Lower Cretaceous rock that is 140 M yr old, plenty old enough to have preceded the break up of Gondwanaland. No fossil boab pollen has even been found, perhaps because of the isolation of its forebears on Madagascar.

In addition to looking at DNA sequences in Brachychiton, I would like to look at pollen in this interesting group. If you live up North, you could help me by collecting from the flowers of the many species living in our Tropics that will be more difficult for me to access.

Collecting Pollen:

1. Find a flowering Brachychiton tree. Note that there are both boy and girl trees in this genus. Lots of seed pods denote a girl tree, but note that some boy trees occasionally have a couple of pods (Don't ask me why!), so best to check the flowers. Female flowers have a short style and a swollen, grooved ovary at its base, while male flowers have a longer style, a much smaller base and a tip with pollen-coated, slightly wavy, anthers. The shape of the anthers is more obvious in an immature flower that you have opened up (see below).
2. Get some double-sided sticky tape and place a piece in the bottom of a small plastic kitchen container. You can use more pieces of tape if you have more than one tree or more than one species. In this case, label the base of the container next to the tape with a permanent marker.
3. Rub the top of the male flower's style onto the tape. You should see a pale yellow deposit on the tape. No more action is needed.
4. Post the container to me:-

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Problems: A. Apart from finding a male tree, the biggest problem that I have encountered is the pollen-robbing ant. If there are lots of little black

ants crawling over the flowers on the tree and at its base, be aware that it may be difficult to find a flower that has not been depleted of its pollen. Where there are no ants, you should find a ton of pollen and 1 or 2 flowers should yield plenty. In frustration at some of these ant-infested trees, I opened up some still-closed flowers. The curvy anthers are more obvious in such opened flowers and they yield pollen that is paler than the mature pollen. I am still figuring out whether the immature pollen is as useful for analysis as mature pollen.

B. Identification: If you think that you have a *Brachychitonin* flower, but you are not sure of the species, email me at j.pettigrew@uq.edu.au and I will send Guymer's monograph on the genus.