FLORA and FAUNA

Ants as defence force?

In beach sand behind the coastal dunes at Broome you can find *Adriana tomentosa*, a compact shrub to 1.5 m, with three-lobed, slightly hairy leaves. The male and female flowers, which grow on separate plants, are held on a spike above the leaves. The plant grows from the Kimberley south to the Peron Peninsula and the Murchison River. Around Broome it can be quite common on disturbed ground or after a fire.

Adriana, like many of the Euphorbiaceae (Spurge) family to which it belongs, has extra-floral nectaries. These are glandular structures at the base of the leaf stalk and on the floral bracts which provide a sugary solution much relished by ants. Ants are aggressive and their presence on a plant often deters other insects which fly in for a meal. It is believed that the plants deliberately provide the sugar as a reward to encourage ants to visit and so, inadvertently, defend the plant against other, more damaging attacks. To test this idea, two researchers studied *Adriana* at Broome (and at Toowoomba, Qld).

They found that the Broome plants were mostly being eaten by aphids and whitefly larvae. Eight ant species from five genera visited the plants, and their presence was effective in reducing the number of herbivores found on branches and young leaves. Thus the plant's investment in producing sugar to attract ants does seem to pay off, especially, perhaps, during the very dry conditions which occurred at the time of this study.

Have you observed any plants in your area, regularly visited by ants, where the same sort of mutualism might be happening?

For the full story, read: Mackay, D. A. and M. A. Whalen. 1996. "Geographic variation in ant defence of a widespread Australian euphorb" Australian Systematic Botany, 9, 235-242.