of velocities I calculated by as much as 100.

I don't expect you necessarily followed that calculation. But the point is the following: simple estimates show that a Genlisea trap may be fully capable of generating a current into its stomach with a speed three times faster than the speed at which nutrient molecules could escape. This tactic would allow Genlisea to extract a greater percent of nutrients from its prey. Perhaps the water-sucking phase of a Genlisea trap only occurs when the trap is signaled by some mechanical or chemical means, analogous to the 20 minutes of water expulsion Utricularia bladders experience after they have been sprung. In fact, a Genlisea would have to draw fluid through its utricle for 18 minutes to completely change the fluid in its tube. It is striking that this is about the same time period as for a Utricularia bladder's water suction phase. Maybe Genlisea swallows!

Finally, while these calculations are interesting and even evocative, they do not prove anything. It might just be that despite any calculations Genlisea is a passive carnivore. Proof must await the laboratory and not the calculator. But an experimental investigation to prove or disprove the hypothesis that Genlisea is active would be relatively easy to perform. Place a chemically killed but structurally intact Genlisea trap next to a live and functioning one. Observations of how quickly dyes migrate through the tubes of each trap should reveal if the live trap is drawing dye into its utricle faster than the dead trap. Unfortunately I have neither the facilities nor the familiarity with biological lab methods to do this experiment to my own satisfaction, so I will leave that job to someone else. Clearly, this is a field of study that is in need of solid experiments for information and insights into the mechanism of this fascinating plant.

CP Paradise in the Bush

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When we first bought our 5 acre block here in Queensland, it was during a severe drought but I could see the remains of dead *Drosera spatulata* here and there. When we moved here, it was after a very wet summer and fall so the CPs were again growing, but this was short lived as the next summer was long and hot with virtually no rain, so the CPs departed again.

This summer had good rain in the latter half, and the fall has also been quite wet, so that the CPs have returned again. The species that has been quickest to recolonise parts of the block has been *Drosera burmanii*, which has established colonies and scattered plants in various areas.

D. spatulata is also becoming obvious again, however, it is a little slower in colonising areas, probably due to the fact that it is a slower grower then *D. burmanii* . *D. pygmaea* is also present, but much harder to find due to it's smaller size.

I have also found my first plant of *Byblis liniflora* for this year, as I had not seen it here for about two years due to the drought. It seems to only grow during very wet periods. The same can be said for *Utricularia lateriflora*, which can only be found after the ground becomes really waterlogged.

I am able to find scattered clumps of *U. lateriflora* in various areas, and most are rather small plants with small off-white flowers. However, I recently found a large form of this species that has purple flowers around the same colour as *U . dichotoms*. At first I thought it was this latter species, until I took a closer lock.

The flowers are approximately twice as big as the smaller form, on scapes four times us long. The leaves appear to be around 1 1/2 times the size of the smaller form.

I've also again found what appears to be a tiny annual species of Utricularia, with a minute purple flower about .5 mm on a scape only a few millimeters long. It is extremely difficult to find, and you have to be in the right place, and specifically looking for it, in order to find it.

Most of our block is left as natural bushland, with only areas near the house and

around the boundary being mowed. On some parts of the boundary, *D. spatulata* and *D. burmanii* grow, and I have noticed that after I mow, the tentacles of these plants bend over the small particles of dirt and grass that land on the leaves..

It would appear from this reaction, that the plants gain some nutrient from this debris that lands on them during the mowing process. After rain or when new leaves grow, the plants return to their usual appearance until the next time I mow when the same reaction again takes place.

The last species of CP to be found here on our block is a tuberous species, which is either an undescribed species or a close relative of *D. peltata*. This species in unusual in that it grows in the late summer and fall, with the coming of the rain, and it flowers quite early in the year. Most tuberous Drosera are winter growers, so this one is quite different in it's growing season.

The appearance of this species is very similar to *D. peltata*, with several differences. For one thing, it seldom forms a basal rosette, except for seedlings and smaller plants. The colour of the plants is usually a bronze colour, with plants tending to reddish or greenish depending on growing conditions. The plants can be short and upright, or long and straggling, the latter form being more common in long grass. The petals are white, and the sepals are smooth with a hairy margin. The ovary is a reddish brown colour. The plants we have here are very similar to those described as *D. peltata* "white petal/orange ovary" by Robert Gibson in the Australian CP journal of Vol 12 no. 4, December 1993, pp 15,16. However, the plants here have larger petals than these shown in Robert's drawing on page 15.

Carnivorous Plants of the Esperance Region, Western Australia

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The following is an account of the twenty-seven carnivorous plant species found during a five day expedition to the Esperance region of southern Western Australia in late October, 1992. The expedition was organized by Robert Gassin of Melbourne, who was accompanied by Sean Spence, Brian Denton, Fred Howell and myself. Sean, Robert and I drove from Melbourne to Adelaide where Brian and Fred joined us on the long drive to Esperance. We spent 4 days at Cape Le Grand National Park and also visited the adjacent Cape Arid National Park. We then camped at Fitzgerald River National Park for one night before investigating the surrounding area and commenced our trip home, armed with observations of abundant carnivorous plants in their natural environment.

A range of different environments supporting carnivorous plants was encountered during this expedition. In the Cape Le Grand area, wooded granite or laterite hills and margins rose above wooded to heath-covered coastal plains. The latter are studded with swamps and freshwater lakes, in which carnivorous plants abounded. To the east, in the Cape Arid area, drier coastal heath and woodland occurred, with fewer granite hills and wetlands, supporting fewer carnivorous plant species. In the woodland and heathland of the Fitzgerald River N.P. a surprisingly low number of carnivorous plant species were found, although this included 3 *Drosera* species not found elsewhere. Overall the area explored contains few streams of significant size, but the coastal area contains a surprising number of freshwater lakes and swamps. During the preceding months prior to our visit, the region had received an unusually high rainfall.

The twenty Drosera and seven Utricularia species found during the expedition are outlined below, with details of their habitats.

Drosera ericksoniae

Drosera ericksoniae was found in only one location, in the northern end of Fitzgerald River National Park growing in damp, sandy soil 3 to 6 metres from a small