

urban antics

by John Hunter



Web of intrigue

Winter solstice 2012 ... according to the calendar, but the sun still had a degree or two to travel north before it peaked in its usual place through the forks of the tuart across the road ... two days maybe? The sun is my clock ... it is never wrong.

The morning was clear and sunny and so my shi tzu terrier was able to take me to the park and, while he went about his business, I frantically searched for my female friend who had been hanging about the shadows in resplendent silence for six months; rain, hail or heat. And there she was, curvaceous and quiet as usual, suspended in all her glory, her long slender and near-naked legs glistening brilliantly in the sun.

On moving closer, I could see into her large black eyes which reflected the soft light like limpid pools of ink. Not a movement. Not a quiver from the silken flanks of her distended abdomen or the wide brim of her cephalothorax. My breath nervously expelled into the crisp air and shrouded her entire body. I was obsessed with this superb acrobat in her enormous web of intrigue, but somehow I knew I was safe, though under close observation.

Nephila edulis is one of the largest and most common of the golden orb-weaving spiders found

in our Perth suburban bush. While predominantly silver-grey on the body, the animal has brownish legs with tufted hairs on six legs and reddish bands at all leg joints. A strikingly sleek-looking beast, it can vary in size when mature, but is normally about 25 millimetres in body length and, including the legs, some 90 millimetres overall. Also found on webs are the minute male of the species, who is a mere six millimetres but an efficient suitor when courting his giant partner.

Perhaps one of the most attractive things about the orb-weaving spider is the web in which it lives. Generally a flat, angled net is constructed by first floating a non-sticky line of silk on the wind to another surface. Two other surfaces are then secured to form a 'Y' then a scaffold of many similar radii follows. A spiral of very sticky capture silk is finally added. The webs of *edulis* are usually

about a metre wide and are most beautiful if viewed at a sharp angle to sunlight which highlights the golden silk produced by this spider.

Unlike some other species of her kind, *edulis* does not consume and replace her web each day, but lives suspended continuously, always facing downwards, her three-clawed toes waiting patiently for the tell-tale vibrations of an insect that has crashed into her net of death. At this point the spider springs to life, and before damage is done to the structure, a quick and fatal bite is administered and the prey wrapped in a shroud of silk.

Depending on the hunger of the spider the victim may be immediately sucked of its body juices or stored for later in a string of garbage and empty body husks on the web. This rubbish helps either to camouflage the waiting predator against enemies like birds or wasps, or simply to advertise the presence of the web to alleviate damage by prey that is too large.

The golden orb-web spider only lives for about one year after having been freed of its golden cocoon in early spring with its 200 brothers and sisters. As tiny instars, they point their tails to the sky and release fine gossamers of silk from their spinneretes. In a phenomenon called 'ballooning', the spiderlings are whisked skywards on gusts of wind, to be scattered over many kilometres. And so the cycle starts again.

DID YOU KNOW?

- Spider silk is a mixture of amino acids and carbohydrate components (glycoproteins) and when it hardens is about as strong as kevlar and, weight for weight, more than five times stronger than steel.
- Entomologists have estimated that the weight of insects consumed annually by spiders is perhaps greater than the total weight of the entire human population.
- A spider pumps its blood around its body through vessels and it returns through open channels. If its external skin is sufficiently damaged, it will bleed to death.

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