

The Bushland Whistler

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SPIDERS – the orb-web builders

NEXT TIME YOU ARE WALKING through bushland (or your garden) and you bump into an unseen spider's web that gets stuck to your face and hair, stop and reflect for a moment on the skill (and time) involved in creating this inspiring (though sometimes annoying) example of nature's ingenuity.

Spiders' webs are extraordinary creations that come in myriad forms, large and small. And although they occur almost anywhere, they are not always easy to see—except on cold winter mornings when they are strung with droplets of dew. On these occasions their abundance and true beauty is revealed.



Pictured is a dew-covered orb or spiral web—the better known spider web design—probably built by a common garden orb-weaver belonging to the genus *Eriophora*.

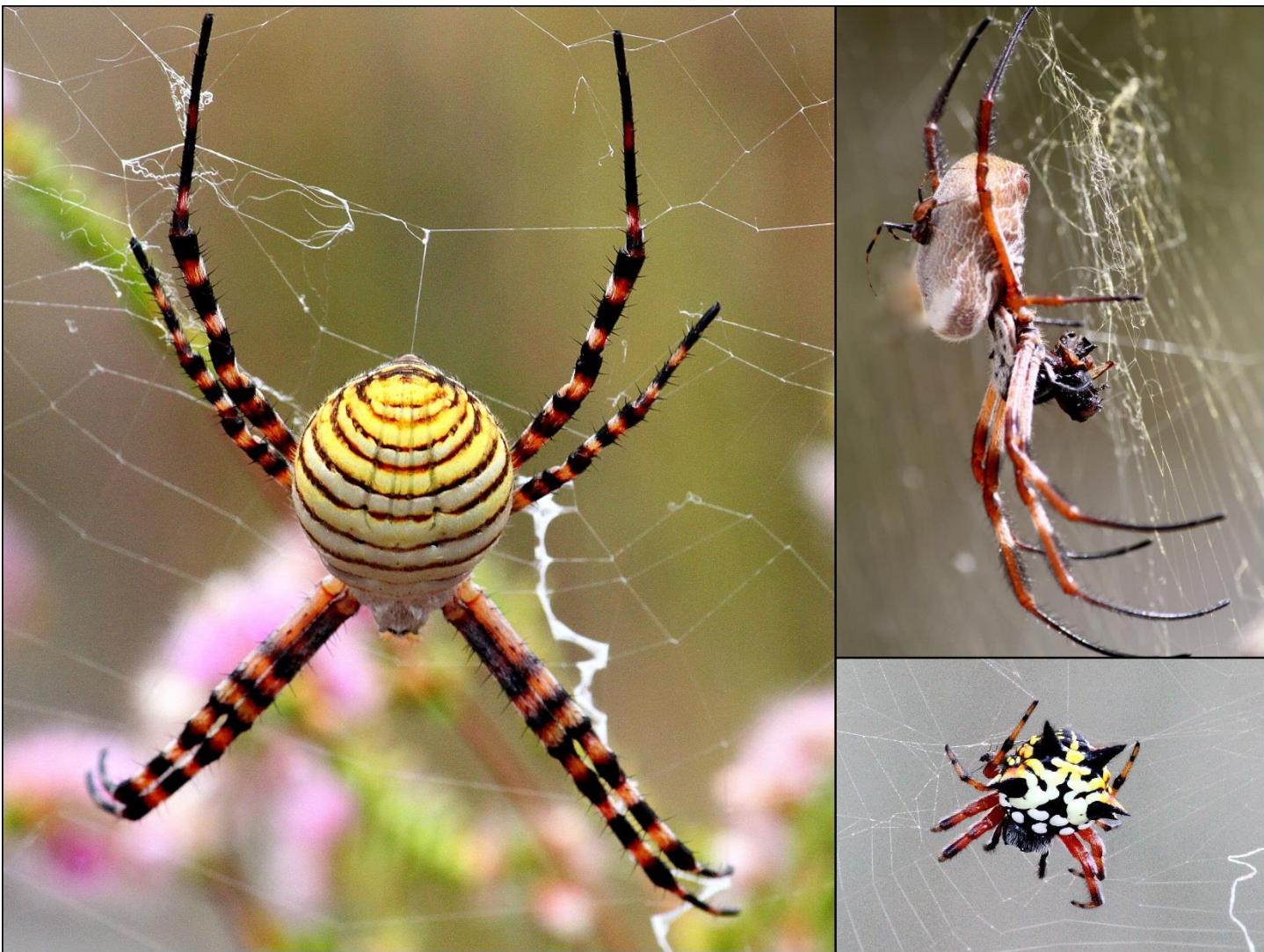
Made entirely of silk, spiders' webs are the result of a sophisticated and ingenious process that goes back millions of years.

Within its abdomen, the spider has up to eight spinning glands—the number varies between species—and each gland produces a particular type of silk for a specific purpose: the thread for the web's outer rim and spokes, the sticky spiral, the egg cocoon, the wrapping of prey, all need a special type of silk; and also glue glands are required for giving the spiral thread a sticky coating and for fastening thread to a surface.

A protein substance, spider silk is a remarkably

resilient material, comparable, weight for weight, with steel and with the strongest, toughest synthetic fibres. Somewhat acidic, spider silk is also resistant to bacterial and fungal attack, which is why cobwebs stick around for as long as they do.

Many types of spiders build orb webs. The banded orb-weaver, the golden orb-weaver and the Christmas spider are some of the other local spiders that build this type of web. All these spiders are harmless to people.



The **banded orb-weaver** (*Argiope trifasciata*) (left), found Australia-wide and also in other parts of the world, typically builds its web low among grass and foliage where it relies on camouflage for protection. The photograph shows a female. The white silk zigzag band, partially visible on the web in the picture, is known as the stabilimentum. Many species of spider weave these decorations onto their webs and patterns vary between species. The banded orb-weaver typically weaves a single vertical stabilimentum, but other species in this genus—the St Andrew's cross spiders found in northern and eastern Australia—weave a distinct cross, hence the name. Some other spiders create circular patterns. The purpose of the stabilimentum is not known, but there are several theories. One is that it helps to camouflage the spider by breaking up its outline when resting on the web; another is that the stabilimentum makes the web more visible to birds and other large animals that might otherwise stumble into and ruin the web; a further theory is that since stabilimenta reflect ultraviolet light, they serve to attract prey insects to the web.

The **golden orb-weaver** (*Nephila edulis*) (top right) goes by several common names, including edible golden silk spider, referring to the species name *edulis*, which in Latin means edible: as well as occurring Australia-wide, this species is also found in New Guinea where it is eaten by the indigenous people. The golden orb-weaver female is the largest of the spiders mentioned here; her body size can reach up to 40mm. The males are considerably smaller—in the photograph, the small spider on the female's abdomen is the male. This species is called the golden orb-weaver because the female builds a (very large) web of golden-coloured thread.

The **Christmas spider** (*Austracantha minax*) (bottom right), also known as the jewel spider or spiny spider is believed to be the sole species in the genus *Austracantha*. It is endemic to Australia and, excluding the wet tropics, occurs over much of the continent. Active during the warmer months, the Christmas spider usually builds its orb web in proximity to others of its kind and in undisturbed areas of bushland, particularly near wetlands, large colonies can be found. Pictured is a female. The males are about a third the size of the females, have less prominent spines and lack the yellow spots. Melanic (pure black) Christmas spiders are occasionally seen. ♦

DUCKS

WINTER AND SPRING is when the wetlands are full of water and wild ducks are nesting and raising their young. Of the nine species of duck that visit the wetlands around Forrestdale each year, the most common are the Pacific black duck, wood duck, Australian shelduck, grey teal, Australasian shoveler and white-eyed duck (this incidentally is a former, more appropriate, common name for this duck; its rather inelegant current name, hardhead, is—according to the Birdlife Australia website—in reference to the difficulty early taxidermists had processing the duck's head). Not so common in Forrestdale these days are musk, blue-billed, and pink-eared ducks. A rare visitor is the chestnut teal and rarer still, the freckled duck.

Judging by the number of ducklings seen this season, ducks have been breeding successfully; particularly black ducks and wood ducks. These two species are the most adaptable and commonly seen in the suburbs.

Found throughout Australia (as well as in New Zealand, Indonesia and New Guinea) the black duck has learned to adjust to human interference and is more accepting of people than most native ducks. It adapts readily to artificial environments and is commonly seen in picnic areas near natural or man-made ponds in suburban parks.

Nesting sites for black ducks vary. Usually they choose to nest near water either in trees, in low vegetation or under bushes on the ground; but they sometimes pick sites in bushland far from water, which requires the parent to walk the newly hatched ducklings long distances to the nearest wetland. Where conditions are judged suitable and where they (often mistakenly) think they'll be safe, black ducks also occasionally nest in domestic gardens and try to use the backyard swimming pool to raise their young. Obviously this approach is fraught with problems: insufficient food and persecution by cats and dogs are just some of the difficulties faced in these situations.



The black duck's diet is varied and includes aquatic plants, seeds, grasses and invertebrates.

Male and female black ducks look alike and are hard to tell apart in the wild.

That is not the case, however, with wood ducks where only the female has a pale stripe above and below the eye.

Wood ducks have a distinctive un-ducklike call; the female's call is described as a "long, drawn-out and mournful 'mew'." That of the male is similar but shorter.

Grass is an important part of the wood duck's diet and they can often be seen grazing on lawns near suburban wetlands.

Wood ducks nest in tree hollows.

The clutch size of black ducks and wood ducks is similar: between about 6 and 15 eggs, but 8 or 10 is the usual. Incubation time for both species is about 28 days.



Top: Mother black duck with her newly hatched ducklings. **Bottom:** Australia's rarest duck, the freckled duck. The slightly different colour on the base of their bills identifies these two birds as non-breeding males. In the breeding season this part of the male's bill turns crimson.

Threats to ducks (and ducklings)

The mortality rate of ducklings of all species is high and it is rare for a full clutch to reach maturity. Predation by raptors and ravens, cats and foxes are just some of the threats ducklings face. Roads are another hazard; parent ducks sometimes have to walk their ducklings across busy roads to get from the nest site to the wetland.



Adult ducks can have a tough time too. Predation by foxes, pollution, disease, destruction and drainage of wetland habitats and a drying climate all take their toll on native ducks.

A less dramatic, but nonetheless serious threat to the black duck species is hybridisation with a related, introduced species, the mallard.

A further risk to the health of waterfowl and their wetland homes is the well-meaning but misguided practice of feeding

artificial food such as bread to ducks and other waterbirds. It is always tempting to feed the ducks at a park, but doing so can be harmful in several ways.

Bread and other carbohydrate-rich foods don't contain the nutrients wild birds need. If native waterbirds are fed these foods regularly, they learn to rely on easy handouts and are less likely to forage for their natural foods. As a consequence, they become both overweight and malnourished at the same time. This applies also to young growing birds.



Additional issues related to feeding bread to wild ducks are pollution and disease.

Not all bread thrown to ducks is eaten. A lot is left in the water to rot, which pollutes the wetland.

And an unnatural diet of bread leads to an abnormal increase in faecal matter which harbours bacteria and can result in outbreaks of the fatal disease, avian botulism.

Duck shooting

An additional threat to ducks and other waterfowl in other Australian states is recreational duck shooting, still legal in Victoria (where the practice is predominant), South Australia, Tasmania and the Northern Territory.

Because of the cruel nature of the sport and the unacceptable toll on waterfowl numbers (including rare, protected species such as freckled ducks), three states—Western Australia (since 1990), New South Wales (1995) and Queensland (2005)—have banned duck shooting as a sport. It has never been allowed in the ACT.

The RSPCA, the Coalition Against Duck Shooting and others have waged long hard battles in Victoria to try to get the practice stopped once and for all. But despite a majority (87%) of Victorians wanting a ban on recreational duck shooting, politicians continue to pander to the minority (0.4%) hunting fraternity.

In fact the Victorian government is doing its best to promote duck shooting and it is going about it in several ways.

To encourage juniors (aged 12 - 17) "to experience game hunting", a new licence in Victoria has been introduced specifically for juniors. The 'Provisional Game Licence' (PGL), issued free of charge, allows juniors to hunt ducks for one season. To make things easier still, juniors aren't at this stage required to sit for the Waterfowl Identification Test (WIT). If after one season they decide they like the experience of killing animals and wish to continue, they can then purchase the full Game Licence and are required to pass the WIT. The proviso that juniors holding a PGL "must be under the direct supervision of an adult" while hunting means little. Teenagers don't typically go out with their mates under supervision and policing such things is notoriously difficult.

To further promote hunting, a 14-day licence—the 'Non-resident of Australia Game Licence'—has been introduced in Victoria, "to facilitate access to game hunting for international visitors and support the commercial hunting and guiding industry". As with the PGL, people applying for this licence do not have to pass

the WIT, and the proviso again is that, while hunting, licence holders must be supervised. This too is open to abuse.

Whilst Victorian legislation has relaxed the rules for hunters, it has tightened them for animal rescuers. Under new legislation, people who attend duck shootings to relieve the suffering of wounded birds and to raise awareness of what goes on at these events are no longer allowed within 25 metres of the water's edge. This exclusion zone applies to anyone not holding a game licence and continues each day for the entire 12-week duck shooting season. Transgressors can incur hefty fines, which have recently tripled.

Eleven species of Australian waterfowl are classified as 'game' birds. Only a few duck and goose species cannot be lawfully shot: the musk, freckled, burdekin and blue-billed ducks, the Cape Barren goose and the two species of pygmy geese are fully protected by law. Other types of waterfowl, swans, coots, herons etc., are also protected and cannot legally be shot.

The freckled duck occurs only in Australia, it is one of the world's rarest waterbirds and Australia's rarest. Its estimated entire population is 20,000. During each duck shooting season numerous freckled ducks and other protected species are shot illegally. In March 2013, for example, during a killing spree involving between 100 and 150 shooters in the remote Box Flat wetland in north-west Victoria, approximately 2,000 game and non-game birds were slaughtered in one day; over one hundred were freckled ducks. A similar incident occurred at the same place the year before. Not one of the shooters involved has been brought to justice.

Undoubtedly there are duck shooters who abide by the law, correctly identify and shoot only game species and stick to the daily bag limit of 10 birds. But too many do not. Unacceptable numbers of protected species—already struggling from loss of much of their breeding habitat—are routinely shot each season and bag limits exceeded.

Besides the needless killing of waterfowl—be they protected by law or not—an additional distressing aspect of duck shooting is the inevitable suffering inflicted on the birds: it is estimated that for every duck killed outright, another is wounded or maimed. Each season, incalculable numbers of birds suffer this fate and because only a fraction are found and cared for or euthanized, most wounded birds are left to die horrible deaths.

Various justifications for duck shooting are cited; mainly that hunting contributes to the economies of rural towns, and that man has always had an instinct to hunt and should therefore continue to hunt.

The counter argument is that rural economies could be sustained just as effectively by non-violent pastimes associated with eco-tourism.

Hunting has indeed been a human instinct for a very long time and began with primitive man as a means to obtain food to survive. Early hunting methods using simple weapons gave the quarry a sporting chance and so modest numbers of animals were killed overall.

Nowadays hunting is mostly for amusement and today's methods are very different. Rifles and shotguns and hi-tech decoy devices enable the slaughter of waterfowl on an immense scale.



A freckled duck, three pink-eared duck and seven grey teal. Thanks to a ban on duck shooting in WA, NSW and Qld, waterfowl in those states are safe from the declared 'open season' that birds in other states must suffer each year.



The burdekin duck (left), blue-billed duck (top right) and green pygmy goose are fully protected species. But this doesn't mean they are safe from being shot at, deliberately or accidentally, during open seasons in the states and territory that permit duck shooting.



The plumed whistling-duck occurs mainly in the tropical grasslands of northern and eastern Australia, but can also occur, uncommonly, as far south as the Murray River in the east. It is classified as a game bird and as such can be legally shot during the open season in the Northern Territory.

The Victorian state election is on 29 November and people wishing to express their views on recreational duck shooting are encouraged to do so by writing to (preferable), or emailing the Premier of Victoria, the Minister for Agriculture and the Leader of the Opposition. Their addresses are provided below.

People are also encouraged to write to the Premier of Tasmania, Will Hodgman; the Premier of South Australia, Jay Weatherill; and the Minister for Parks and Wildlife in the Northern Territory, Bess Nungarrayi Price. ♦

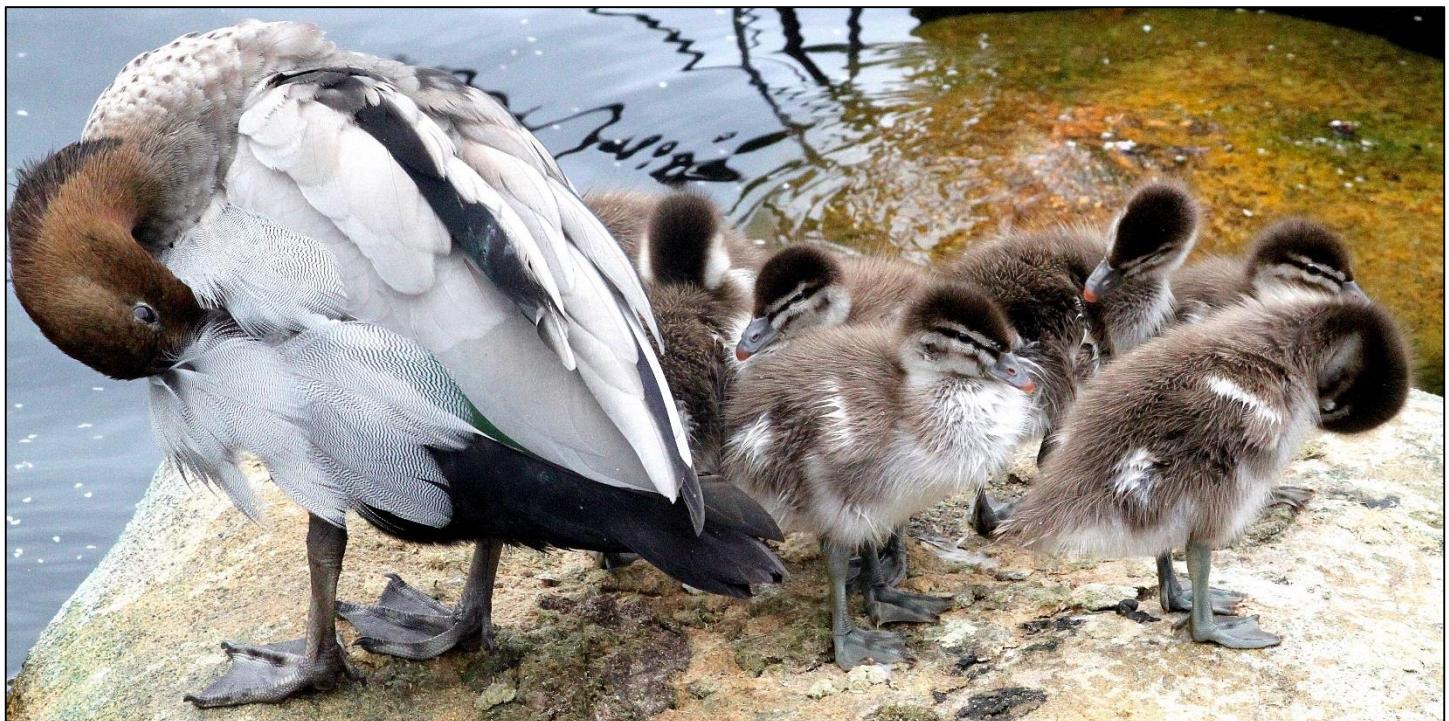
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Mother (leading) and father wood duck escort their ducklings safely across the footpath at Lake Joondalup.



After a busy morning at Kings Park, father wood duck and his ducklings rest on a rock and catch up on some all-important grooming.

"It's not that long a step from the culture of hunting to the culture of merely looking or shooting with a camera." (Jonathan Franzen, novelist)