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FRIENDS OF HODDLES CREEK NEWSLETTER

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Sundews: revenge of the plants

While mostly it's animals that eat plants, one group has turned the tables. The Sundew, *Drosera*, is one of the largest groups of carnivorous plants, with nearly 200 species – more than half of which call Australia home, having adapted to living in our nutrient poor soils.

The botanical name comes from the Greek *drosos* meaning 'dewdrops', while their common name comes from Latin, *ros solis*, meaning 'dew of the sun'. The *Principia Botanica*, published in 1787, states "Sundew (Drosera) derives its name from small drops of a liquor-like dew, hanging on its fringed leaves, and continuing in the hottest part of the day, exposed to the sun."

Charles Darwin performed much of the early research into Drosera and their mechanics of feeding and published his book *Insectivorous Plants* in 1875. He had a fascination for these plants, so much so that he is quoted from a letter he wrote in 1860, as saying ". . . at the present moment, I care more about Drosera than the origin of all the species in the world."

Carnivorous plants have adapted to their environment in order to survive and insects are used to supplement the poor mineral nutrition of the soil in which these plants grow. Sundews have glandular tentacles, topped with sticky secretions, that cover their leaves. These sticky secretions, or mucilage, emit a sweet scent that attracts insects which subsequently get stuck. As the insect struggles, it stimulates the plant to produce digestive enzymes, similar to our stomach acid, which either drown the insects, or they succumb to death by exhaustion. The stomach acid-like liquid then dissolves the prey and the plant absorbs the nutrients.

All species of sundew are able to move their tentacles in response to contact with edible prey. The tentacles are extremely sensitive and will bend toward the centre of the leaf to bring the insect into contact with as many stalked glands as possible. According to Charles Darwin the contact of the legs of a small gnat with a single tentacle is enough to induce this response.

This response to touch is known as **thigmonasty** and can be quite rapid. The outer tentacles of some species can bend inwards toward prey in a matter of seconds after contact, while *Drosera glanuligera* – a species endemic to Australia – is known to bend these tentacles in toward prey in tenths of a second. Other species are also able to bend their leaves to various degrees to maximize contact with the prey.

There are a several species of Drosera growing in the Hoddles Creek area, including the Scented Sundew (*Drosera aberrans*) – a flat form – and upright forms such as the Pale Sundew (*Drosera hookeri*), and the Tall Sundew (*Drosera auriculata*).

If you come across a Scented Sundew flowering, it's worth going down on your hands and knees to experience the perfume.

Drosera aberrans (main picture) and *Drosera hookeri* (to the left in the Newsletter band)

Victorian wombats are now called bare-nosed wombats (*Vombatus ursinus*). Mature adults weigh 23-26 kg and are almost a metre in length.

The wombats of Hoddles Creek

"The wombat is a buff to greyish-black, coarse haired, thick-set animal about three feet long, and stands only about one foot three inches high. It is heavy (often about 70 pounds in weight) and its weight is carried by its short, thick legs. It is very strong and when seen in a hurry looks like a tank as it takes on all types of hills and gullies in its stride. It leaves a footprint like a foreshortened human footprint in mud or snow."

Peter Nicholson (circa 1960)

In 1960, well before metric measurements came to Australia, Peter Nicholson was a fifteen-year-old student at Timbertop (a high-country campus of Geelong Grammar School). Fascinated with wombats, he would often leave his warm bed to seek out – and crawl down – their burrows to conduct research on this iconic Australian species. His story can be read in *The Secret Life of Wombats* by James Woodford, Whitley Award Winner for Best Popular Zoology Book in 2002 and a great read. Nicholson's description of the wombat is a fitting one and residents of Hoddles Creek will be able to relate to this well. But there is more to this iconic species than meets the eye.

Like wallabies, kangaroos and koalas, wombats are marsupials. Their tiny embryonic young are born after only about thirty days in the uterus of the mother and then spend the next eight months developing in her pouch. The pouch faces backwards – presumably so that it does not fill with dirt or injure the young during the digging actions of the mother.

The night of the wombat

Wombats are nocturnal, sleeping most of the daylight hours (to conserve energy and water) in their burrows, which provide protection from predators and weather. While their eyesight is poor, wombats have a keen sense of smell, excellent hearing, and very large brains.

Wombats leave distinctive cubic scats and arrange these on logs and foreign objects to mark territories and attract mates. It is thought that the cubic shape makes them more stackable and less likely to roll, which gives this shape a biological advantage.

In the wild, wombats live to an average age of about 14 years. Metabolism in the wombat is incredibly slow – a meal taking up to 14 days to complete digestion. They generally move slowly, however when threatened, wombats can reach up to 40 km/h and maintain this speed for 150 metres.

Wombats venture out at night, under the cover of darkness, to forage and feed on their herbivore diet, predominantly grasses, bark, herbs and roots. They usually walk along the same tracks each night, except in grassy areas where they range as they eat. The common wombat occupies a range of up to 23 hectares, defending their home territories – which are centred around their burrows – and often reacting aggressively to intruders including other wombats.

Hoddles Creek is home to a large population of wombats, although exact numbers are unknown. We can deduce this from the fact that we have many active and inactive burrows, and from frequent sightings at night and/or captured on motion sensor cameras.

The plight of the wombat

While our common wombat is not listed as endangered, they are sadly susceptible to extensive roadkill, infestation by mange mite, potential attacks by wild and domestic dogs, and even by other wombats in territorial disputes. Wombats are a protected species in all Australian states.

We love this iconic species and Friends of Hoddles Creek members work hard to protect and preserve wombats in the area, through monitoring, mange management, and the rescue, rehabilitation and release of injured animals.

Wombats are regularly captured on motion sensor cameras that our group members use to "observe" nocturnal wildlife in the area. These images generally show healthy wombats, who share the animal tracks with numerous other wildlife.

Sadly, many of our residents only get to see wombats as roadkill, either right on the road (left there by the offending driver), or beside the road where a more thoughtful person has dragged it off – hopefully checking a pouch for young, by rolling the dead wombat onto its back to see if it's female.

Why the pink X on a dead wombat?

Checked wombats are marked with a (usually pink) spray paint **X** to show this. Sometimes the impact that kills the mother, leaves an uninjured 'joey' in the pouch and this youngster can be successfully raised by wildlife carers, to be released later when matured.

Rescue, rehabilitation, and release of wildlife is a time-consuming and costly task, but dedicated and passionate wildlife carers do just this, and we support these members where we can.

Recovering wombat exiting burrow, with white mange treatment flap in background.

The menace of mange

Mange is not a disease but an infestation of the mange mite. The mites burrow under the skin where they deposit their eggs, causing much discomfort to the wombat and intense itching. Mange infections usually present as crusty skin lesions on the sides and legs of wombats. Scabs can also form around the eyes and ears, impacting on the animal's sight and hearing. A mangy wombat looks and behaves differently to the healthy wombat described above. It is typically seen feeding during daylight hours due to poor nutrition and weight loss caused by their constant scratching and infection.

Mange Management has proven to be an effective treatment for the mange mite in wombats and is relatively simple once you know what to do. Mange Management kits can be obtained from local vets with detailed instructions. While the initial treatment may involve a pole & scoop to pour on the Cydectin, it is usually followed by administering the pour on treatment with a burrow flap system, involving a simple weekly visit to the burrow to fill the measure.

The wombat pictured above (right) was suffering from a moderate to severe case of mange prior to treatment. It was feeding throughout the daytime and frequently scratching, with bleeding scabs and with eyes partially closed. There was moderate hair loss and the head appeared enlarged due to extensive weight loss. Eleven weeks after treatment was initiated, the camera was set at the burrow entrance. While this showed marked improvement – with much hair growth – still more time will be needed for a full recovery.

Termites: high density housing in the bush

Termites are social insects that build large nests in trees, in soil mounds, or underground. They are an iconic landmark in the Northern Territory, where mounds can reach heights of three to four metres. Friends of Hoddles Creek were surprised, on a recent walk in the Beenak Bushland Conservation Reserve, to find an impressively similar structure well over a metre high.

Termites (Order Isoptera) are often referred to as 'white ants', however they belong to a different insect group from true ants (Order Hymenoptera). Termites have pale brown to white bodies with some forms having a darker head. Non-reproductive forms are blind with thin skin that makes them vulnerable to drying out. Reproductive forms also have two pairs of equal-sized wings, a pair of compound eyes and a thicker skin that protects them from drying out when exposed to the air.

The social structure of a termite colony includes:

- **Queen** – usually the founder of the colony,
- **King** who fertilises the queen and tends to the young in a new colony,
- **Workers** who are the most numerous in the colony and are involved in food gathering, feeding and tending the young and the queen, as well as building or maintaining the nest,
- **Soldiers** who are the colony defenders,
- **Reproductives**, who begin as wingless nymphs and develop through several stages into winged adults who become future kings and queens.

New termite colonies are formed when the winged reproductive forms leave their original nest and take a colonising flight. These flights often occur during warm humid weather such as a thunderstorm, when these reproductive forms are often referred to a thunder bugs.

Termite colonies are maintained at a high humidity which protects the thin-skinned termites from drying out. Only when the external humidity is close to 100% can workers leave the nest to forage for food. This is particularly the case for subterranean termite species, which obtain most of their water from the soil. These species generally only become pests in our homes where a constant water source is available such as leaking pipes, leaking roofs or poorly designed drainage around the home.

Termites' role in the decomposition and recycling of wood and plant matter is considered to be of considerable ecological importance and, out of the 258 described and around 90 undescribed termite species in Australia, only a few wood-damaging species are of concern to humans.

Like to join FOHC? The Friends of Hoddles Creek are always on the lookout for new members to add new ideas, new helpers and new friends to our group. If you'd like to join, simply contact us with your name, address and phone or email details. You can mail these to FOHC, PO Box 298, Yarra Junction, Vic 3797, or email us at friendsofhoddlescreek@gmail.com.

See more at our website (www.friendsofhoddlescreek.com) or on Facebook – just search 'Friends of Hoddles Creek' or 'FOHC'.

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