

# Landcare UpHunter

Winter 2019

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## Tis the Fungi Season

With the cooler weather and a little bit of rain fungi will start to appear. The colour, shape, texture, size of these moulds, yeasts, mushrooms, are so diverse across our landscape.

What we can see above ground or on wood is the reproductive part of the fungus which develops spores that are distributed via the wind, insects or macropods (like wallabies or kangaroos). Fungi comprise of fine filaments called hyphae and a mass of hyphae is called mycelium which is the feeding, growing part of the fungus (see the photo below).

Most of the time mycelium are under the soil winding a network that connects plants, fungi, invertebrates and mammals. Mycelium can grow and spread many kilometres. The largest organism on earth is a fungus, *Armillaria ostoyae*, covering 2,385 acres of Malheur National Forest, Oregon and may be the oldest living organism. Estimated around 2,400 - 8,650 years old!

Our Native trees and shrubs usually form a symbiosis (beneficial relationship) with one or more fungi. Simply, fungi mycelium can spread a long way and is able to bring water and minerals to plants and the plants in turn supply fungi with nutrients like sugars.

Like humans, animals, insects and most bacteria, fungi get their energy and nutrition from eating material containing carbon whereas plants get their energy directly from light.

Close to home I have observed fungi at Towarri NP (Washpools picnic area) and Owens Gap in places where land has been cleared and in thick, moist overgrown natural bush. My suburban back yard and local park often sprouts a fruiting body or two after rain.



Examples of fungi that may be found within our Shire are Earth Star (*Geastrum triplex*), in open spaces of loamy or sandy, nutrient poor soils and Ghost fungus (*Omphalotus nidiformis*) found on living trees or rotting wood in moist, hilly, often forested areas.

The ghost fungus breaks down wood and the fruit is often seen at the base of Banksias, Eucalypts and Casuarinas. It can also travel up a trunk. The Ghost fungus emits a dull white light visible at night time. The glow is a result of a chemical reaction within the fungus that reacts with oxygen and emits light. Why this fungus glows is open to debate. Maybe it acts as a communication aid to warn other Ghost fungi to "stay off my patch" while it is fruiting or maybe it glows to attract insects. There's no definitive answer yet.

At the Hunter Region Botanic Gardens (HRBG) at Heatherbrae I take large groups on night walks to see Ghost fungus. These night walks attract a range of people from the community and some parents bring along their children. They certainly enjoy themselves.

I have also been documenting fungi at HRBG since 2010 and have found that the fungi do not always fruit in the same place or at the same time each year. This has been my experience in the ever changing environment of the gardens and the virgin bush there.

I find fungi such a fascinating organism that not only plays a very important role in our natural environment but also has the potential for mycoremediation (which basically means the use of fungi to degrade or remove toxins from the environment).

"A guide to common fungi of the Hunter-Central Rivers region" is a good resource accessible on [www.hunterrls.nsw.gov.au](http://www.hunterrls.nsw.gov.au) website.

Once you become aware of fungi you begin to see them everywhere!

Maree Elliott



(L) nighttime



(R) daytime

Ghost fungus  
(*Omphalotus nidiformis*)



Undescribed bolete  
or pored fungi



Stinkhorn  
(*Lysurus mokusin*)

## Merriwa Farm Safety Day

High School and Primary School students from across the Upper Hunter Shire (and some from Quirindi) headed to the 6<sup>th</sup> Annual Merriwa Farm Safety Day in late June for hands-on interactive sessions, an emergency services display and tips on cyber-safety.

At Primary School Yrs 3 to 6 study Technology and High School Yrs 9 to 12 Agriculture and Yrs 11/12 Primary Industries subjects.

Staff from SafeWork NSW attracted a crowd of eager teenagers who were keen to experience the new virtual reality quad bike simulator which was on-site for the day. Students jumped at the chance to don the headset and go for a virtual quad bike ride, only to discover they were soon to roll the machine and get a close-up view of the action from the farm to a hospital emergency department. This was a timely reminder to all of us of safety precautions required and risks involved when handling a quad bike.

Students from St Joseph's High School in Aberdeen said the simulator technology was a highlight of their visit: "It was so real and it all happened so quick when the bike tipped that it makes you think how easy it is to roll them". It is so important to always wear a helmet when riding a bike or quad bike and have it fitted with features which keep you and any other rider as safe as possible.

Total College trainers ran sessions on quad bike safety and livestock handling with Local Land Services providing their automatic sheep handler as a first-time inclusion at the event. The sheep ran into the device and were then gently rolled over whilst in it to allow low-stress access for hoof trimming. The session proved very popular with Merriwa Central School students who then asked many questions about sheep care: "The sheep move so fast and this holds them in a big cradle so you can't get kicked".

The Rural Fire Service provided bushfire planning advice and guidance for everyone to put into action at home on the farm. Does your family have a written Bush Fire Survival Plan for all of you and your animals?. If you don't know, ask the adults. What do you think should be packed and ready to go if leaving the farm at short notice because of a bush fire problem in your local area?

The demonstration on chainsaw handling and Personal Protection Equipment (PPE) by Hunter TAFE instructor Mark Judge was a big hit. Students from St Joseph's Primary School in Merriwa were dazzled by the trainer's expertise and some of the safety equipment that is available: "Mark made a big head with his chainsaw to put the safety helmet and ear muffs on—it was cool!"

Merriwa Pistol Club members focussed on firearm safety training. Students from Quirindi High School were fascinated with the physics of firearm operation.

We talked about who should use a chain saw or firearm and who should not.

Our local NBN ensured everyone was up to date on cyber safety and security with student sessions during the day, something I also needed a refresher on.

Before I forget, we had a sausage sizzle and fresh fruit for lunch—brain food!

The demonstrations on operating a drone were very popular, along with the when, where and under what conditions you are able to legally use them. Tips on keeping drone equipment in good order and storing it in a safe, dry area were covered. Even if you use a drone on the farm there are rules around safe operation, for your own protection, anyone else in the area and for animals.

A drone can be a really useful tool for a farmer. It can cut down on physical work on the farm and give you easily accessible information e.g. where your cattle or sheep are grazing, weed problems you can't easily see, the health of trees across the farm, the level of water in your dams or stock troughs and feral and pest animals that may be travelling or living in hard to get to areas.

There was lots to learn with fantastic demonstrations provided by the Merriwa Rescue Squad (VRA), Ambulance, Merriwa Rural Fire Service, Westpac Rescue Helicopter and Upper Hunter Community Services counselling and youth team and an informative session on farm safety. Tips and tricks to keeping calm in an emergency situation and keeping safe on the farm isn't just for adults!

The ambulance team were a highlight for many with lots of laughs and giggles to be heard as different students were bandaged and loaded on trolleys: "My favourite part was getting in the ambulance - it wasn't scary at all."

In the evening another gathering was held for the general community providing more information and skills on Farm Safety to our families and more local residents. We were all provided with great food for supper, prepared by some of our local volunteers.

As Merriwa Show president and Farm Safety Day coordinator, thank you to all the staff and volunteers involved in organising and running the event. Special thanks to local businesses who supported it, the Merriwa Men's Shed, Anglican Church and CWA volunteers for catering. It was a wonderful community event raising awareness and putting farm safety high on everyone's agenda.

Rob Tindall





## Farm Safety Advisory Pilot Program

A new initiative by the NSW Farmers Association (NSWFA) is offered to qualifying farm businesses to provide support in managing their Work, Health & Safety (WHS) issues. The Farm Safety Advisory Pilot Program has been funded by SafeWork NSW.

By participating in this program, as farmers you will gain practical tools and the support needed to improve safety on your farms. An advisor can work with you to review your approach to WHS issues and practices, identify areas for improvement and provide practical resources so you can run your farming operation safely e.g. various safety rebate schemes offered by SafeWork NSW.

Building an awareness of common WHS issues encountered on farms and improving worker capabilities is a focus of this program in working to reduce farm-related injuries, deaths and diseases in an agriculture environment.

Upon request, we can also hold a direct discussion or an information session with your workers on safety topics specific to your farm business needs.

Participants in this program will walk away with the knowledge and tools to maintain an effective, ongoing Work, Health & Safety framework for the farm.

This service is offered to farm business in New South Wales at no charge.

Bookings for your personalised advisory visit or discussion with you (and your workers if requested) will be available from October onwards.

Please register your interest now by contacting us on Tel: 9478 1000 or 1300 764 000 or by Email: [farmsafety@nswfarmers.org.au](mailto:farmsafety@nswfarmers.org.au)

Gracia Kusuma



## Resources & Funding

Tocal Agricultural College Open Days for 2019—Dept. of Primary Industries event for prospective students & their families. Held on Fridays 4th & 11th October between 10-00am—3.30pm. Information on Tocal's agriculture, agribusiness, horse breeding courses. The day's programme includes course information, employment opportunities, a tour of the College farms, campus, training facilities and information on financial assistance options. Just go to the [dpi.nsw.gov.au](http://dpi.nsw.gov.au) website or call 1800 025 520 or 4939 8888.

Costa & Dirt Girl Tackle Biosecurity—Australian Department of Agriculture series of seven videos which were filmed in northern Australia. The videos feature Costa the Garden Gnome, Dirt Girl and Scrapboy. As they travel across the landscape they meet biosecurity officers, scientists and Indigenous Rangers working to protect Australia from exotic pests, diseases and weeds and to reduce risks. To view the videos go to [www.agriculture.gov.au/biosecurity/australia/northern-biosecurity/country-handle-with-care](http://www.agriculture.gov.au/biosecurity/australia/northern-biosecurity/country-handle-with-care)

Ag STEM Robotics for Rural Schools—Office of the NSW Chief Scientist & Engineer. This is a 2 year STEM programme using Digital Farmhand, a small agriculture robotic platform. It teaches students about robotics and coding an agriculture problem based learning context. Read about this high schools based project at [inspiringnsw.org.au/2018/11/28/robots-in-schools/](http://inspiringnsw.org.au/2018/11/28/robots-in-schools/)

Eggcellent Eggs—Primezone (PIEFA) a teaching resource for year 7-8 primary aged students to investigate the nutritional benefits of eating eggs and design a nutrition challenge. Find out more at [primezone.edu.au/resources/YR7-8-EGGS-DT.html](http://primezone.edu.au/resources/YR7-8-EGGS-DT.html)

The Revival Pack for Tired Bees—The Guardian article on community worker Dan Harris (UK) creation of a 'survival kit' for reviving tired bees. With a fast metabolism, bees can run out of energy quickly. Where their 'food' may not be readily available (areas with minimal plant sources), carrying a Revival Pack to assist bees is a solution (it is credit card size). Access [The Guardian](http://TheGuardian) article for information on how to identify and revive tired bees. For the survival kit idea go to <https://saviourbees.co.uk>

The Water Bug Book: A Guide to the Freshwater Macroinvertebrates of Temperate Australia—written by Edward Tsyrlin & John Gooderham, published by the CSIRO. A valuable resource for students, teachers, community groups and other environmental educators. It has great tips on where to find water bugs; identifying them (lots of colour photos); water bugs as indicators of healthy rivers, wetlands, streams; the biology of macroinvertebrates etc. Go to <https://www.publish.csiro.au/book/3148/>

### Funding

Junior Landcare Grants—Landcare Australia grants funded by Woolworths. Over 500 grants available with up to \$1,000 per grant for primary schools and early learning centres across Australia. Grants aim to assist children to be environmental champions through participation in hands-on sustainable food production, improving waste management practices, enhancing native habitats.

For example, restore native habitat, plant a bush tucker or vegetable garden or run a composting or recycling project. Applications close Friday 6th of September 2019 (that's also National Landcare Week). For more information, to access the Guidelines and to apply go to [landcareaustralia.org.au/junior-landcare/grants/woolworths-grants](http://landcareaustralia.org.au/junior-landcare/grants/woolworths-grants).

Macpac Fund for Good—funding by Macpac for community organisations in Australia & New Zealand. Grants include environmental projects focussed on preserving our natural environment, restoring and protecting our natural habitats and wildlife. The current round closes on 31st of October. For more information and guidelines on this funding and to download an application form go to <https://www.macpac.com.au/fund-for-good.html>

Women's Leadership Development—Women & Leadership Australia grants to support the development of female leaders across the Australian farming and agriculture sector. Grants between \$3,000 to \$7,000 for participation in programmes such as Presence & Presentation Skills, Leadership Innovation & Change and Emotional Intelligence & Conflict. Expressions of Interest close on the 13th September. You can access more information and the EOI form at [www.wla.edu.au/farmingagriculture](http://www.wla.edu.au/farmingagriculture).

## Events for your Diary

Landcare UpHunter stall—farming, environment, Landcare, education resources, plants/herbs. Events will recommence in late Spring—details will be in next newsletter edition.

Ladies Day Out—celebrating rural women. Held on 4th September at CWA Rooms, 1 Surman St, Scone 10.00am—1.00pm (includes lunch).

Enquiries to Maria on 0409 636 765 or Karen 0400 869 136. Book direct at [www.trybooking.com/eventlist/rrp](http://www.trybooking.com/eventlist/rrp)

National Landcare Week—3rd to 9th September. Help celebrate 30 years of Landcare in Australia. Go to Landcare Australia website at <https://landcareaustralia.org.au>

National Threatened Species Day—7th September. For information, activities & local events just go to [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

Biodiversity Month (September)—at [www.environment.gov.au](http://www.environment.gov.au)

National Waterbug Blitz—through September to November. See article on this page for details.

Aussie Backyard Bird Count—20th to 27th October. You can register to participate in this annual event at <https://aussiebirdcount.org.au>

Merriwa Landcare Group. Contact Jenny Lee on 0429 337 557

Murrurundi Landcare Group just Email [Sandy@boydscreek.com.au](mailto:Sandy@boydscreek.com.au)

Pages River Warriors Working Bee Wilson Memorial Oval, Murrurundi 1st & 3rd Sunday monthly (morning) Email [Sandy@boydscreek.com.au](mailto:Sandy@boydscreek.com.au)

Landcare UpHunter & Scone Landcare—refer details below

## National Waterbug Blitz

Australia is the only continent in the world that covers just one country. Being surrounded by water, it is also called an island continent. It has a vast amount of waterways from small local streams to large rivers, with water systems both above and below ground.

The health of our local and Australian rivers has been a topic of much discussion lately, including being in severe drought and its effects on landscapes, agriculture and people. However, a collection of scientists in our country are hoping to get Aussies involved through citizen science to ensure we find out how healthy our rivers really are.

Our waterway ecosystems are intrinsically connected to the lives of all Australians and they play an important and often underestimated role in our environment and economy.

The National Waterbug Blitz is Australia's first nationwide waterway monitoring project that empowers the community to explore their local freshwater creeks, rivers and other waterways to learn about the fascinating world of waterbugs.

Lead scientist and freshwater ecologist, John Gooderham said "the National Waterbug Blitz aims to assess the status of waterways nationwide by surveying aquatic macroinvertebrates—known as waterbugs—that inhabit rivers, creeks, wetlands and lakes. Waterbugs are good biological indicators of the state of freshwater systems.

Some species such as stoneflies and mayflies are highly sensitive to pollution while beetles and bloodworms are more tolerant. The greater the number and variety of the more sensitive bugs, the healthier the system is". Some of these can be seen with the naked eye but for a lot of them you need a magnifier to really spot or identify them.

The National Waterbug Blitz began in 2018 and is off to a good start with support from environment groups, fly fishers, schools, agencies, Landcare, Waterwatch and more.

Whilst it's difficult for many without water in parts of NSW and Australia at the moment, it's still great to find out more about how these waterbug surveys can make a significant contribution to detecting changes in water quality, for when the water does arrive again.

The Waterbug Blitz team will deliver training sessions in every state from August to November, the best time for waterbug activity. The first 2019 training session kicked off on 13th of August in Launceston, Tasmania in celebration of National Science Week.

"The sessions are hands-on and participants will gain the skills required to collect the bugs and use the Waterbug App to identify and record the waterbugs found. The App is free to download plus easy and fun to use. All data uploaded is verified by our team of scientists and every survey site is mapped to reflect local water quality, as indicated by the bugs collected in the survey. The maps are publicly available on the website [www.waterbugblitz.org.au](http://www.waterbugblitz.org.au)" said Mr. Gooderham.

There are a myriad of waterbugs which live in our local waterways, from Caddisfly, Water mite, Alderfly, Stonefly nymph, Dragonfly nymph, Nematode, Needle bug, Water strider, and Whirligig beetle to Damselfly, the Freshwater yabby/crayfish, mussel, shrimp, slater, snail, sandhopper or worm and the Water treader, Waterboatman and Backswimmer.

If you live in the Hunter region and want to find about attending a Waterbug Blitz training session check with Hunter Local Land Services about their event in mid-October 2019. Please contact [jane.lloyd-jones@lls.nsw.gov.au](mailto:jane.lloyd-jones@lls.nsw.gov.au) to book or for more project information.

If you live in another part of New South Wales and want to find out about activities in your area, then go to the [www.waterbugblitz.org.au](http://www.waterbugblitz.org.au) website and click on the Events section.

Ingrid Garland



Landcare UpHunter is hosted by Scone Landcare Inc.

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**Landcare UpHunter**

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Photo: I Garland Williams River, Dungog



Photo: Pages River, Ellerston

Visit us at [www.landcare.nsw.gov.au/groups/scone-landcare-group](http://www.landcare.nsw.gov.au/groups/scone-landcare-group)