

Glowing in the dark

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Many different kinds of living things give off light. Most of these are found in the depths of the ocean beyond the reach of sunlight. They include certain kinds of sponges, corals, shellfish, seastars, squids and fish. The reasons for these biological light shows are not always clear but certainly include attraction of mates for breeding, contact signals, diverting predators and attracting prey.

One of the most commonly reported example of this biological luminescence is that caused by tiny single celled algae called dinoflagellates which can amass in teeming millions, particularly in sheltered bays. They have the ability to emit tiny flashes of light when they are stimulated by turbulence in the water. This is often seen in the wake of boats and within the foam of breaking waves.

On land we have the so-called fireflies, which are really a type of beetle. They have special light emitting organs on their abdomens that flash out signals to prospective mates. Each species has it's own code.

Glow-worms, which are the larvae of similar beetles as well as of some kinds of fungi gnats, inhabit the walls of caves and tunnels and are understandably popular with tourists. Their glowing is possibly a warning to would be predators that they contain toxic or distasteful chemicals. Some glow-worms are said to dangle glowing threads to entangle small flying prey.

There are many luminescent fungi throughout the world but the commonest in southern Australia is the Ghost Fungus (*Omphalotus nidiformis*). It is a fan shaped, white gilled fungus which often forms clumps at the bases of trees or on stumps. It produces a faint blue green light during the hours of darkness. It can occur at almost any season of the year but always after a reasonable amount of rain.

The question of why fungi glow is as yet unanswered. A living thing has to release a lot of energy in order to produce light. We presume that this should result in a corresponding survival advantage. It is difficult to see what this might be in the case of a fungus. One suggestion has been that the light attracts some snails to the Ghost Fungus. After eating the gills and spores the snail may help with the dispersal of the spores. Any other suggestions would be welcome.

The accompanying photo was taken a few years ago on a pine stump in an old plantation. Every second stump was a host to a colony of fungi – an unforgettable sight.

Photo: Ghost Fungus (*Omphalotus nidiformis*) growing on a pine stump.

