

# MUSHROOM NEWSLETTER

5 January 2015

Happy New Year!

Happy New Year to you all – and may this year be as bountiful as was 2014. I'll start with a quick look back at the year that was in pictorial form, progress to a quick glance at what's going on now and then move on to a reflection on the generally unrecognised vital importance of the fungal kingdom – so feel free to give up at any time.



August was great for field mushrooms, saffron milk caps and, of course, porcini



September was even better for the last



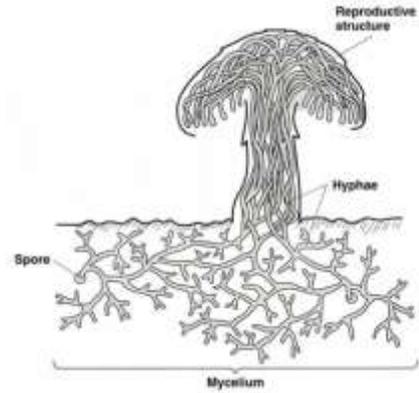


*Deceivers, stinkhorns, fly agaric, porcini and jew's ear continued to appear into November*

The next thing to consider is what mushrooms might be around now? Well, obviously the answer is not many, but there are some. Jew's ears and the occasional blewit are still possibilities. Also, just before New Year reader Mark Brooker found both velvet shanks (a bleached cultivated variety is known to the Japanese as enoki) and oyster mushrooms in Southern England.



*Radio 4's* New Year edition of *Gardener's Question Time* had an interesting question from a professional horticulturalist who wanted advice on building up the mycorrhizal health of London planes planted along the Embankment. For those that don't know, the word comes from the Greek  $\mu\kappa\omicron\varsigma$  (*mykós* – mushroom) and  $\rho\iota\zeta\alpha$  (*riza* – roots) refers to the countless mycelia threads which are wrapped around the roots of virtually every plant species. These tiny fungal structures (most resemble cotton wool or a subterranean spider's web) are integrally-linked to the host plant. The only time we are aware of their existence is when the plant's growing season combined with climatic and seasonal factors trigger fruiting to produce what we know as mushrooms.



The most important symbiotic relationships obviously occur around the plant's roots where typically they milk 18 – 20% of the carbohydrates manufactured by the plant. Yet this is no one-way trade: in return the fungi extract nutrients from the soil and pump them into the plant, sometimes just by releasing chemicals such as phosphates into the surrounding soil water; in other cases they actually 'inject' these directly into the host.

To get a bit technical, there are two main types. *Arbuscular mycorrhizas* penetrate the cells of the plant roots and send out hyphae to collect nutrients from the surrounding soil and even adjoining plant roots. In contrast, *ectomycorrhizas* form sheaths around the roots and between the root cells whilst also foraging in the surrounding soil and linking root systems together and again, exchange nutrients, sugars and water with their host in a mutually beneficial way.

Some specialized fungi go even further, attracting soil-inhabiting animals, only to glue them down, kill and eat them (perhaps the most familiar examples are oyster mushrooms which trap and digest nematodes and insects). The nutrients so released can be passed onto the host plant. If you think about this laterally, such mushrooms are effectively extending a huge net outside the host's root system to draw in nutrients from further afield.



*Oyster mushrooms are one of the few wild species which can be cultivated, but these are unlikely to have been chewing on insects*

This is a huge scientific field which even now is imperfectly understood, but put crudely it explains why gardeners should be extremely wary about using fungicides. Certainly in the case of the radio panel's answers to the question about increasing mycorrhizal activity, the panel recommended a thick layer of deciduous bark mulch. This has been proven to have a very beneficial effect on reducing the devastating impact of another fungal plant disease, sudden oak death, because it boosts the health of the trees.

Finally, a few quick plugs – firstly, I have a new range of forays this year ranging from £30 - £70 per adult and spanning May to October. Also, as well as this newsletter, I produce a range of interesting snippets of information on the latest fungal research, recipes and British wildlife news on my Facebook Page – Fungi Forays (this is also linked to Twitter if that's your thing).

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P.S. As always, let me know if you want to be removed from the list and I will do it forthwith.