

Medicinal side of mushrooms



Cordyceps sinensis has its medical and therapeutic uses in respiratory health and more.

Mushrooms have remarkable compounds that stimulate the body's immune system. **EU HOOI KHAW** finds out how.

THE world of fungi is a fascinating subject for mushroom expert Malcolm Clark. "There are these remarkable creatures living in dirty, dark and damp places. Mushrooms need a great immune system to survive." In other words, they develop remarkable compounds for survival and these have been discovered to be medicinal.

Clark is the chairman of Gourmet Mushrooms Inc in California and founder of Mycology Research Laboratories. He and William Ahern, co-founder of MRL, were in Kuala Lumpur recently to give a talk on Mushroom Nutrition: Clinical Applications to members of the Malaysian Society for Complementary Therapies, organised by Bio-Life Marketing.

Medicine from mushrooms is easily recognisable as penicillin, streptomycin and other major antibiotics. "All the 'mycin' part is usually a fungus," said Clark. "It's also an anti-rejection drug used in organ transplant. Every year in California people get poisoned by mushrooms they pick which destroy the liver. They can take

antioxidant.

More recently the exciting news about medicinal mushroom products is that they have been gaining a role in cancer therapy, and are increasingly used as adjunct nutrition for immuno-compromised patients. This is due to the long-chain polysaccharides found in mushrooms which have been shown to be potent boost to the immune system.

"There's a cancer drug made from shiitake mushrooms that has FDA (Food and Drug Administration) approval. The drug, Lentinan, is used as an adjunct to chemotherapy. It's non-invasive with chemotherapy. A Japanese corporation has been selling it for 15 years now."

A biologist by training, Clark is a British who has lived in Africa, Portugal and Japan, who finally settled into mushrooms in 1976 in Sonoma County, California. While culinary mushrooms are sold to high-end restaurants, medicinal mushrooms go through the Mycology Research Laboratories which has identified some 40 varieties of them. "We have a huge



Cordyceps sinensis is rare. When I was in Singapore three years ago I discovered that several of the *cordyceps* sold there were fakes. Some were actually made from gluten!"

Clark went on to research about *cordyceps* under a Japanese doctor, Shinya Yoshii, and journeyed up the Himalayas with him and other Japanese researchers.

Clark, who is known as the Indiana Jones of mushroom species, collected 12 samples up at 4,877 meters. "The Nepalese have been using *cordyceps* for hundreds of years and have been selling them to Chinese traders who took them to China."

Also known as *dong chong xiao cao*, *cordyceps* is also known as the caterpillar fungus. "It lives on the larvae of the moth above 2,743 metres in the Himalayas." At 4,877 metres, the air is very thin. You take three paces, stop and breathe. I tried eating *cordyceps* and it

organisations or research companies as in many cases the cultures would have suffered and their biological properties decreased."

Clark shared some fascinating information about *mok yee* or wood ear fungus (not a mushroom). "Research done in the US showed that people who ate in Chinese restaurants often did not suffer blood clotting problems. It was from eating *mok yee*."

At the talk on mushroom nutrition, Ahern, who has a deep interest in traditional Chinese medicine (TCM) and is extensively involved in the European pharmaceutical industry, spoke on the medical and therapeutic uses of the various mushrooms.

Mushroom nutrition, as in the *Coriolus versicolor*, helps in fighting off viruses with cancer links, such as in the Human Herpes Virus-8, Human Papillomavirus (HPV), Epstein-Barr Virus and Hepatitis B Virus. "It reduces the viral load, increases the white blood count and activates the immune response. Mushroom nutrition helps the body help itself with beta-glucans," said Ahern.

Clinical research by the Mycology Research Laboratories in the UK has indicated the strong factor of mushroom nutrition in immune modulation, hormonal balance, detoxification and as an

INNER GROWTH

The joy of Christmas

EVER since I can remember as a child, I would wait for Christmas. For me, it meant newness, everything new from head to toe. We always made a star for our front door entrance and I remember that I used to be ravenous to my siblings, getting in the way, rather than helping.

Today, Christmas holds a deeper meaning for me. It is appreciating the beauty, glory and wonder of life, rising above fears and meeting each situation with courage. It is using the light of Christmas to dispel the ignorance of darkness.

We can celebrate Christmas by defeating the little bit of scrooge in all of us and experience boundless energy, by burying the past and misdeeds deep beneath the sparkle of Christmas and renewing within us the radiance of the inner meaning of the season.

Malaysians are lucky, we lead bountiful lives and for some of us, reaching out and thinking of those who are not so lucky is a special gift. There is always someone out there not as well off, so even a small gesture can go a long way.

For me, Christmas is a time for renewal. Some blunders and absurdities would have crept in, but forget them as soon as possible. Let us waste no time dreaming about the rich life we may live next year, but live our best today instead.

Thought for reflection: Christmas is not about receiving as it is about giving, not only in worldly gifts. The spirit of Christmas is the joy of sharing friendship, laughter and good fellowship.

— By **Bridget Menezes** (Author of *Self-Empowerment*)

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Do you have liver problem? Yes No

More recently the exciting news about medicinal mushroom products is that they have been gaining a role in cancer therapy, and are increasingly used as adjunct nutrition for immuno-compromised patients.

several other mushrooms to heal them.

While all mushrooms are fungi and not all fungi are mushrooms, they are vital to human existence. "If all fungi die tomorrow, we will follow two weeks later," said Clark. "They help break down material which helps create part of our library of cultures and we are identifying their various properties. Among these are *Coriolus*, *cordyceps*, *Reishi* (*ling zhi*) and *Maitake*."

Even more fascinating is Clark's expedition to the Himalayas in Nepal to look for *cordyceps sinensis*. "The true *cordyceps* helped my breathing. Now there is scientific evidence that *cordyceps* helps asthma. It prevents asthmatic flux of the alveoli," said Clark.

The *cordyceps* specimens were brought back to the California lab to extract living tissue for products. "This has been my company policy. We don't buy cultures from other



Clark (left) and Ahern. Clark is passionate about fungi and went up the Himalayas to look for *cordyceps*. Ahern has links to Chinese traditional medicine and thinks mushroom nutrition is the way to go.



Coriolus versicolor helps in fighting off viruses with cancer links.

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