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### **M5 East toxic emission stack linked to abnormal fungi**

Fungi displaying a rare abnormality linked to vehicle pollution have been found near the M5 emission stack in Turrella. (see R. Wishart photo).

The fungi, belonging to the genus *Collybia*, have abnormal growths known as Rosecomb, characterised by the gills growing scrambled on the top of the mushroom cap, as well as normally underneath (see R. Kearney photos).

Found by Roewen Wishart during a scientific study of the Wolli Creek Regional Park earlier this month, the Rosecomb-afflicted fungi were identified by Dr Ray Kearney from the Sydney Fungal Studies Group (SFSGI) and a former Head of the Department of Infectious Diseases at Sydney University.

The study was organised by the Wolli Creek Preservation Society (WCPS) and, although the whole Wolli Creek bushland was searched, Rosecomb was found only near the unfiltered stack which discharges emissions from thousands of vehicles using the M5 East tunnel every day.

Joanna Robinski of WCPS likens Rosecomb to a dead canary in a coalmine.

“Finding Rosecomb is another wake-up call for local residents,” she said. “Since 2012, when the World Health Organisation upgraded the status of diesel fumes to the highest level of human carcinogenicity, we’ve had confirmation of the ill-effects of pollution. This provides further evidence that living alongside emission stacks negatively impacts the biota of our environment as well.”

Research into the disease has confirmed abnormalities occur during the early growth phase of the mushroom and is due to exposure to petroleum chemicals such as diesel. As the mushroom forms, these chemicals interfere with its normal development and growth develops in odd ways.

The disease is epigenetic and not a mutation. A 2009 study by Dr Bettye Rees at the University of New South Wales, together with colleagues at the Royal Botanic Gardens, found no difference genetically between fungi with and without the disease.

Fungi with Rosecomb are also uncommon. Dr Kearney has found Rosecomb only in the last few years in the protected *Hygrocybe* fungi in the Lane Cove Bushland Park, which he has been monitoring for about 25 years. And Frank Taeker, an amateur fungal taxonomist who has been documenting SFSGI finds for over forty years, only saw Rosecomb for the first time when Roewen Wishart collected the *Collybia* at Turrella.

Mr Taeker theorises that Rosecomb is rare because the bushland areas of the inner city have not been explored often. He says that most of SFSGI’s field studies have been in bushland away from housing development where the environment is normally less polluted.

The Society has voiced concern about potential new stacks built along or close to the Wolli Valley as part of the New M5 WestConnex project. “We call on the NSW Government and the WestConnex Delivery Authority to heed warnings from both biota specialists and medical professionals that building more roads and encouraging more pollution has severe health impacts.”



Photo: Roewen Wishart



Photos: Ray Kearney