

First record of *Hormiactis* cap spot of mushrooms in Australia

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Abstract. *Hormiactis* cap spot of cultivated mushrooms is reported for the first time in Australia. *Hormiactis alba* was isolated from mushroom caps grown in a commercial mushroom farm in Central Victoria. A simple wound inoculation experiment showed that it grows rapidly on the caps of *Agaricus bisporus*.

In July 2007, a very restricted cap spot was noticed in a commercial *Agaricus bisporus* mushroom farm in central Victoria. The problem was easily controlled by the grower by spot treating the affected area but the crop was removed one cycle earlier than usual as a precaution to prevent spread. The cap spot was similar in appearance to cobweb disease caused by fungi in the genus *Dactylium* (Fletcher *et al.* 1994). Before treatment, the grower sent some of the affected mushrooms to the second author of this paper, who isolated a white fungus from the spots using standard microbial techniques. The fungus was then forwarded to the DPI Victoria Crop Health Services Unit for identification.

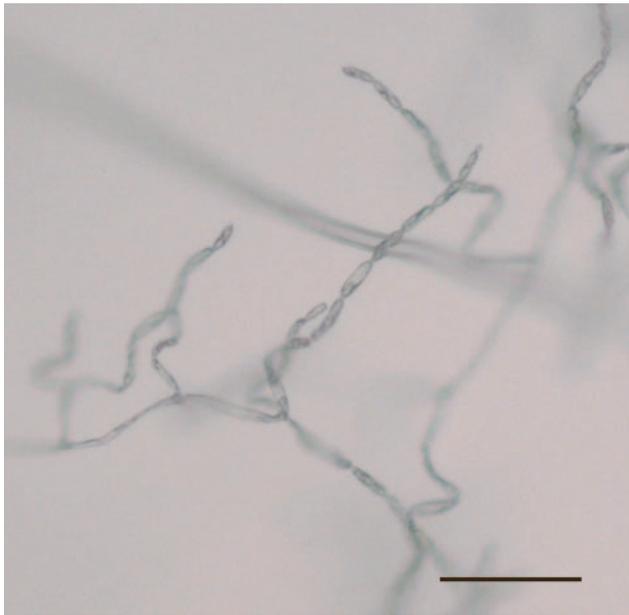


Fig. 1. Branching chains of conidia of *Hormiactis alba* (VPRI 41232). Scale bar = 100 μ m.

Microscopic examination revealed that the fungus was producing long chains of blastoconidia (Fig. 1). The blastoconidia were connected by a narrow isthmus, hyaline, smooth, more or less fusiform, straight to slightly curved, becoming 1–2 septate with age, mostly 20–35 \times 4–6 μ m (Fig. 2). It was identified as *Hormiactis alba*. It agreed well with the description of *H. alba* in Fermor (1979) and also with the description of *Hormiactis* sp. in Barron (1972). A culture has been lodged in DPI Victoria Plant Pathology Herbarium as accession VPRI 41232. Duplicates were deposited in herbaria BRIP and DAR.

To demonstrate its pathogenicity on the caps of cultivated mushrooms (*Agaricus bisporus*), seven mushroom caps were inoculated by dipping a three pronged stab into a 10⁴ spores/mL conidial suspension and stabbing into the caps. Seven caps were stab-inoculated with sterile deionised water. All were incubated in a moist chamber at room temperature (~22–24°C). After 4 days, significant growth of *H. alba* was observed on the



Fig. 2. Conidia of *Hormiactis alba* (VPRI 41232). Scale bar = 35 μ m.



Fig. 3. Mushroom caps stab-inoculated with conidial suspensions of *Hormiactis alba* (left) and stab-inoculated with sterile water (right) 4 days after inoculation.

surface of the inoculated caps, while there was no sign of disease on the non-inoculated caps (Fig. 3). Not surprisingly, the symptoms produced were not the same as that on the

original mushrooms, as the experiment used wounded mature mushrooms, rather than a natural infection of developing mushrooms. The experiment did prove that *H. alba* can readily use mushroom caps as a substrate.

Hormiactis cap spot of cultivated mushrooms is reported for the first time in Australia. *Hormiactis alba* is a minor pathogen in the UK, where it has been readily controlled by spot treatment with salt or a registered fungicide (Fletcher *et al.* 1994). It is regarded as a pathogen of minor importance, only infrequently appearing in mushroom farms (Fermor 1979).

References

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Manuscript received 21 February 2008, accepted 6 March 2008