

## DISEASE NOTES OR NEW RECORDS

### Pycnidial state of *Phaeomoniella chlamydospora* found on Pinot Noir grapevines in the field

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**Abstract.** Pycnidia of *Phaeomoniella chlamydospora* (W. Gams, Crous, M. J. Wingf. & L. Mugnai) Crous & W. Gams (syn. *Phaeoacremonium chlamydosporum*) were found on Pinot Noir grapevines suffering from the disease known as black goo decline in a commercial vineyard near Geelong, Victoria. To our knowledge, this state of the fungus has not been seen in the field before, although it has been produced under laboratory conditions.

The fungus *Phaeomoniella chlamydospora* (W. Gams, Crous, M. J. Wingf. & L. Mugnai) Crous & W. Gams (syn. *Phaeoacremonium chlamydosporum*) is the causal agent of the grapevine disease commonly known as black goo decline, also known as Petri grapevine decline (Crous and Gams 2000). It is described as a hyphomycetous fungus. A pycnidial state has been observed under laboratory conditions on the following substrates: moist-incubated pieces of infected grapevine wood, tissue-cultured grapevine plantlets that had been inoculated with a pure culture of *P. chlamydospora* (Pascoe and Cottral 2000) and carnation-leaf agar (Crous and Gams 2000). The production of pycnidia on axenically inoculated, tissue-cultured grapevine plantlets, reported by Pascoe and Cottral (2000), is considered to prove the genetic connection between *P. chlamydospora* and the pycnidia reported in this paper.

On 11 May 2000, we visited a block of unhealthy 10-year-old Pinot Noir vines (on Ramsey rootstock) near Geelong, Victoria. Black goo decline had been diagnosed from internal wood symptoms to be the cause of the vine decline and consequently the vines were being pulled out. Several vines had had the tops removed 2 weeks earlier, and one of these caught our attention as there was a deep cleft where the cordons separated from the trunk. We removed this piece for further examination.

On return to the laboratory, the cleft was prised apart with a chisel. The two surfaces which had been pressed together were found to be covered with abundantly sporulating *P. chlamydospora*. At  $\times 50$  magnification, pycnidia were

noticed on the wood surface under the aerial mycelium. Microscopic examination ( $\times 400$ ) showed these pycnidia to be identical with pycnidia of *P. chlamydospora* previously observed on tissue-cultured grapevine plantlets that had been axenically inoculated with *P. chlamydospora* (Pascoe and Cottral 2000). The specimen has been lodged in the plant disease herbarium (VPRI) of Agriculture Victoria at Knoxfield as VPRI 22410.

More vines with split tops were brought back to the laboratory and examined as described above, and pycnidia associated with abundantly sporulating *P. chlamydospora* were found in the clefts of two more vines. Attempts to germinate conidia from the pycnidia failed, thereby preventing pathogenicity tests being carried out. It is possible that conidium germinability is influenced by the age of the pycnidium or that the conidia are, in fact, spermatia.

To our knowledge, this is the first report of naturally occurring *P. chlamydospora* pycnidia in the world. Their role in the epidemiology of black goo decline remains unknown.

#### References

- Crous PW, Gams W (2000) *Phaeomoniella chlamydospora* gen. et comb. nov., a causal organism of Petri grapevine decline and esca. *Phytopathologia Mediterranea* **39**, 112–118.
- Pascoe IG, Cottral E (2000) Developments in grapevine trunk diseases research in Australia. *Phytopathologia Mediterranea* **39**, 68–75.

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