New Disease Reports

First report of powdery mildew on *Sorbaria*

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During 2006, leaves of *Sorbaria sorbifolia* (Rosaceae) with chlorotic patches on the adaxial surface were observed (Fig. 1) at RHS Garden Wisley, UK. Epiphyllous superficial mycelium typical of powdery mildew was initially observed with a few conidia but lacking conidiophores or chasmothecia. However, in recent years more conidia and conidiophores were seen allowing morphological and molecular analysis. Neither *Sorbaria sorbifolia* (syn. *P. spiraea sorbifolia*, *Schizonotus sorbifolius*) nor the genera *Sorbaria* and *Schizonotus* have previous records of powdery mildew infection attributed to them (Braun & Cook, 2012). *Spiraea* spp. have several *Podosphaera* spp. recorded including *P. spiraeae* belonging to *Podosphaeria* sect. *Sphaerotheca* and a probable *Pseudoidium* recorded as *Oidium spiraeae* (Braun & Cook, 2012).

Mycelia were sparse, often lacking conidiophores. Hyphae were branched, septate, nodose, 3–5 µm wide and hyaline. Appressoria were highly lobed, solitary or in opposite pairs, 6–9 µm diameter (Fig. 2). Conidiophores, 38–91 x 5–10 µm (mean 74 x 7 µm) with foot cells curved or flexuous, 19–55 x 5–9.5 µm (mean 39.5 x 6.8 µm) (Fig. 3). Conidia were formed singly, cylindrical or ellipsoid-cylindrical, 29–46 x 11–17 µm (mean 38 x 13.5 µm), length:breadth ratio 2.1-3.6. Conidial germination was terminal and ending in a moderately lobed appressorium; germ tube length 0–3.5 times the width of the conidium. Collapsed conidia had longitudinal, angular/rectangular wrinkling pattern (Fig. 4). Chasmothecia were extremely scarce and those found were immature, lacking both asci and full appendage development (Fig. 5). However, initials of dichotomous branching were apparent on some of the appendages.

Morphological features are consistent with the genus *Pseudoidium* (anamorph of *Erysiphe*). The initials of dichotomous branching on chasmothecial appendages suggest *Erysiphe* sect. *Microsphaera*. The ITS region was analysed as by Cunnington *et al*. (2004) and deposited in GenBank (Accession No. KC489094). The sequence matched 100% with *Erysiphe alphitoides* even though the morphology (especially the relatively long, narrow cylindrical conidia) does not fully match the description of this species according to Takamatsu *et al*. (2007) and Braun & Cook (2012). Until this discrepancy is resolved, the pathogen is best labelled *E. alphitoides sensu lato*. To our knowledge this is the first UK or worldwide record of powdery mildew on *Sorbaria*.

References

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Figure 1

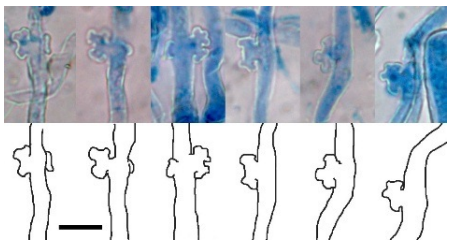

Figure 2

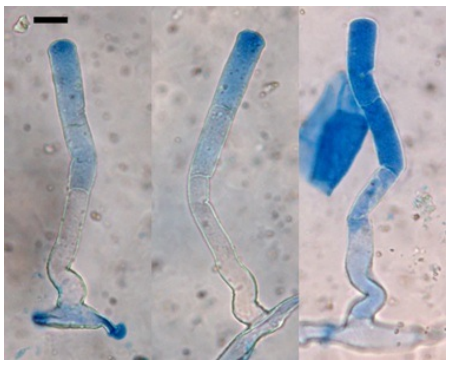

Figure 3

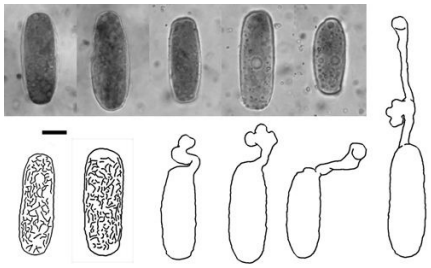

Figure 4

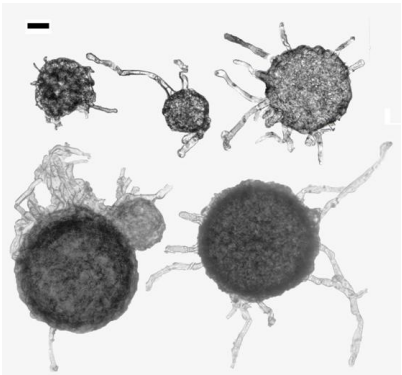

Figure 5

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