



## Grapevine rupestris stem pitting-associated virus detected in *Vitis vinifera* in the United Kingdom

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The Royal Horticultural Society at Wisley has a collection of approximately 100 grapevine (mainly *Vitis vinifera*) cultivars. These cultivars have been collected since the 1970s and include table and wine grapes grown in the field and under glass. In August 2014, the viral status of the collection was assessed by taking samples of leaves and petioles from eight cultivars selected at random. RNA was extracted using an RNeasy Plant Mini Kit (Qiagen, Manchester, UK) and tested by RT-PCR using primers for Grapevine rupestris stem pitting-associated virus (GRSPaV) (Gambino & Gribaudo, 2006). Amplicons of the expected size were obtained using samples from cultivars Nero, Theresa, Queen of Esther and Seyval Blanc. These positive results were repeated using RNA extracted from dormant canes of cvs. Nero, Theresa and Queen of Esther collected in late September 2014. Amplicons obtained from cvs. Nero, Theresa and Queen of Esther were directly sequenced in both directions and the sequences deposited in GenBank (Accession Nos. KP284452, KP284453 and KP284454, respectively). The amplicon from cv. Nero had 93% nucleotide sequence identity with isolate GRSPaV-SG1 from the USA (AY881626). The amplicons from cvs. Theresa and Queen of Esther were identical to another isolate from the USA (GRSPaV-GG, JQ922417). The GRSPaV-GG isolate has 98% nucleotide sequence identity to the GRSPaV-1 sequence variant group (Terlizzi *et al.*, 2011; Meng *et al.*, 2013). To determine whether GRSPaV was limited to Wisley, further samples were obtained from amongst the 39 grapevine (*V. labrusca* and *V. vinifera*) cultivars which were planted in 1992 as part of the National Fruit Collection in Faversham, Kent. Samples of leaves and petioles were collected in August 2014 from eight cultivars selected at random and were tested as described previously. Amplicons of the expected size were obtained using samples from *V. vinifera* cvs. Dunkelfelder, Faberrebe, Madeleine Angevine, Regner and Siegerrebe. This is the first report of GRSPaV in the UK. GRSPaV causes rupestris stem pitting disease of grapevines and has a broad distribution worldwide. The disease is normally of limited consequence and does not cause specific leaf or stem symptoms on most cultivars (Zhang *et al.*, 1998). However, in some rootstocks derived from *V. rupestris* parentage (e.g. cv. St. George) the stem becomes covered with small pits and grooves which may expand to encompass the whole

cylinder. Vines grafted onto such rootstocks have reduced vigour. The virus has no vector but is transmitted *via* vegetative propagation. The UK's grapevine industry is developing rapidly and in 2013 the planted area was estimated to be 1,884 hectares, compared with 1,215 hectares in 2009 (English Wine Producers, 2014). Pathogens such as GRSPaV have the potential to reduce grapevine yield and quality and restrict cultivar choice.

### Acknowledgements

English Wine Producers, 2014. Official statistics from the Wine Standards Board. [http://www.englishwineproducers.co.uk/files/6114/1165/4419/UK\\_Vineyard\\_Stats\\_May\\_2014.pdf](http://www.englishwineproducers.co.uk/files/6114/1165/4419/UK_Vineyard_Stats_May_2014.pdf). (Accessed 28 January 2014.)

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