

The Hybrid Origin of *Syringa xpersica* is Reaffirmed Using AFLP DNA Markers

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Syringa xpersica originated probably more than 340 years ago and has been considered to be derived from hybridization because of its sterility. However, the parentage is unknown. Green (1989) suggested that *S. xpersica* might be of the parentage of *S. vulgaris* x *S. x laciniata* s.s. Nevertheless, *S. x laciniata* is rarely fertile. An alternative theory is that *S. xpersica* s.s. was a hybrid of *S. protolaciniata* and *S. vulgaris*, and has been supported by a molecular study using RAPD markers. In this study, we further assess the origin of *S. xpersica* using DNA AFLP markers, finer fingerprinting techniques that have been used for the identification and parentage determination of cultivars. Fourteen samples were used representing *S. protolaciniata*, *S. xpersica* 'Alba', *S. oblata* var. *dilatata*, and *S. protolaciniata* x *S. oblata* var. *dilatata*, *S. protolaciniata* x *S. vulgaris* 'Heneri Robert', and *S. protolaciniata* x *S. vulgaris* 'Geheimrat Singleman'. The latter two hybrids were created artificially at the Arnold Arboretum. Banding patterns were analyzed using an ABI 377 Automated DNA Sequencer and an ABI Gene Analysis Kit. Three primer pairs were used, generating 419 bands, which were scored as 0 and 1 for the absence and presence of each band in each sample. The Neighbor-Joining method was used to build a phylogenetic tree showing relationships of those samples. The results show that *S. xpersica* 'Alba' is clustered with hybrids of *S. protolaciniata* x *S. vulgaris*, supporting the hypothesis that *S. xpersica* is of a hybrid origin from *S. protolaciniata* and *S. vulgaris*. The remaining samples, including *S. xoblata* var. *dilatata* and *S. protolaciniata* x *S. oblata* var. *dilatata* form a group, which is sister to *S. xpersica* plus *S. protolaciniata* x *S. vulgaris*.