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Application of Molecular Data on Ornamental Peach Systematics

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Ornamental peach [*Prunus persica* (L.) Batsch.] is a well-known ornamental plant for the garden. However, the genetic relationship among ornamental peach cultivars is not clear, which limits further studies of its molecular systematics and breeding. A group of 16 taxa of ornamental peach, originated from *Prunus persica* and *Prunus davidiana* (Carr.) Franch., had been studied using AFLPs and ISSRs. A total of 243 useful markers between 75 to 500 base pairs were generated from six EcoRI/MseI AFLP primer combinations (ACC/CAT, AGG/CAT, ACT/CAT, ACC/CTC, AGG/CTC, and ACT/CTC). The average readable bands were 41 per primer combination. Among them, 84% of the bands were polymorphic markers. A total of 132 useful markers between 300 to 1400 base pairs were generated from 10 ISSR primers (UBC818, UBC825, UBC834, UBC855, UBC817, UBC868, UBC845, UBC899, UBC860, and UBC836). The mean reliable bands were 14 per primer. Among them, 62% of the bands were polymorphic markers. Both methods generated very similar phenograms with consistent clades. From these results we concluded that AFLP and ISSR analysis had a great potential to identify ornamental peach cultivars and estimate their phylogeny. The application of these molecular techniques may elucidate the hierarchy of ornamental peach taxa.