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ABSTRACTS BOOK

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CARISCIENCE



EXPLORING THE ROLE OF FLORENDOVIRUS IN PLANT BIOLOGY.

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Abstract: Endogenous viral elements (EVEs) are viral sequences that were captured in the genomes of their hosts through active or passive horizontal gene transfer (HGT). In plants, most characterized EVEs originate from viruses in the family *Caulimoviridae*. EVEs from a yet unknown genus in the family *Caulimoviridae* were discovered recently and found to be distributed widely in almost all tracheophytes spanning ferns, gymnosperms and angiosperms. This new genus was named Florendovirus and there is so far no evidence that any of its member still exists under an infectious form.

The potential role of florendovirus EVEs in plant biology was investigated using a transcriptomic-based approach. A systematic search for transcripts containing florendovirus coat protein, movement protein, reverse transcriptase or RNAse H domain and host plant domains was performed on a total of 973 assembled transcriptomes originating from algae, ferns, club mosses, gymnosperms, monocots and dicots, using an annotation pipeline based on tblastx. Fused transcripts containing viral and host plant domains were found in 390 plant species, providing evidence that florendovirus genes are co-transcribed with host genes, including several genes involved in plant defense mechanisms. The results of these analyses will be presented and their implication on our understanding of the roles of florendovirus in plant.