

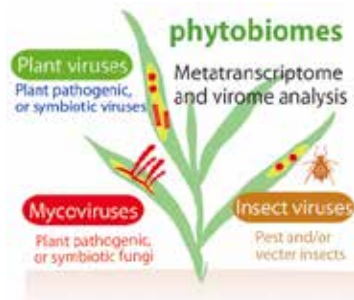


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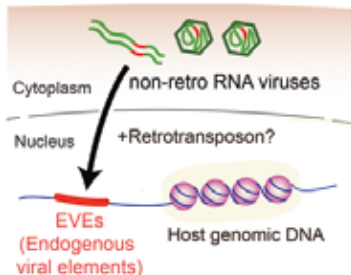
Study on viromes in crop phytobiomes

Phytobiomes refer to the complex networks between plants and their associated communities of organisms including bacteria, fungi, viruses and invertebrates. Phytobiomes are becoming increasingly recognized as important factors in plant health and productivity, but in particular, little is known about the diversities of virus communities in agricultural cropping system. Taking advances of the next generation sequencing and metagenomics, our group studies on viromes in fungi and insects that are associated with crop plants. We aim to find out whether these viral communities influence their hosts and promote the health and growth of crop plants.



Study of non-retroviral RNA virus-like elements in the genome of the plants, insects and fungi

Fossil record of nonretroviral RNA viruses



The availability of genome sequences of a large number of eukaryotes has led to the discovery of endogenous non-retroviral RNA virus-like elements, also known as endogenous viral elements (EVEs). These elements are considered as fossil of RNA virus integrated into host genomes by as-yet-unknown mechanisms. To gain deeper insight into the long-term viral evolution and host-virus coevolution, our research is focused on identification and analysis of the EVEs in the genome of the plants, insects and fungi.