P018

Serendipitomics: A New Virus Found on an RNA-Seq Library

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Room: Grand Exhibit Hall

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The *Papaya Ringspot Virus* (PRSV) is a *Potyvirus* transmitted nonpersistently by aphid vectors and, like other *Potyvirus*, has a linear single-stranded positive sense RNA genome of about 10.3 Kb. There are two major strains of the virus, the type P which affects papaya and the type W which affects curcubits but not papaya. This is an economical important virus as plants infected at a young stage will show high yield loss. We describe here the whole genome sequence of a new PRSV species of the type W, found on an RNA-seq library made of fruits of *Fevillea cordifolia* (*Cucurbitaceae*, known as Javillo or Antidote Caccoon). The *F. cordifolia* fruits had no symptoms of infection. However, PRSV represented 5.4 % of all sequences on this library, showing an abundance of 65,696 FPKM. Comparatively, the DNA-directed RNA polymerase subunit RPABC4 found on this same library showed an abundance of 1,389 FPKM. RNA virus have a very high mutation rate, this is expected to generate many quasispecies of the virus. We were able to identify at least 2 distinct quasispecies on our sample.

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