



Implications of Australia's unique viral landscape

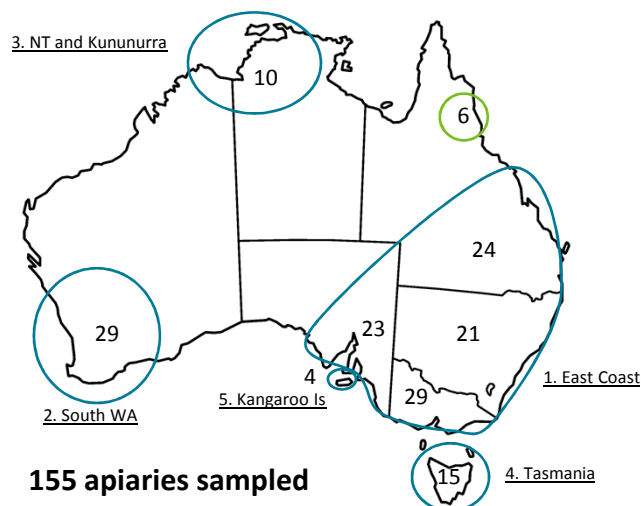
Dr John Roberts

Australian Bee Congress, June 28th 2018

HEALTH AND BIOSECURITY
www.csiro.au

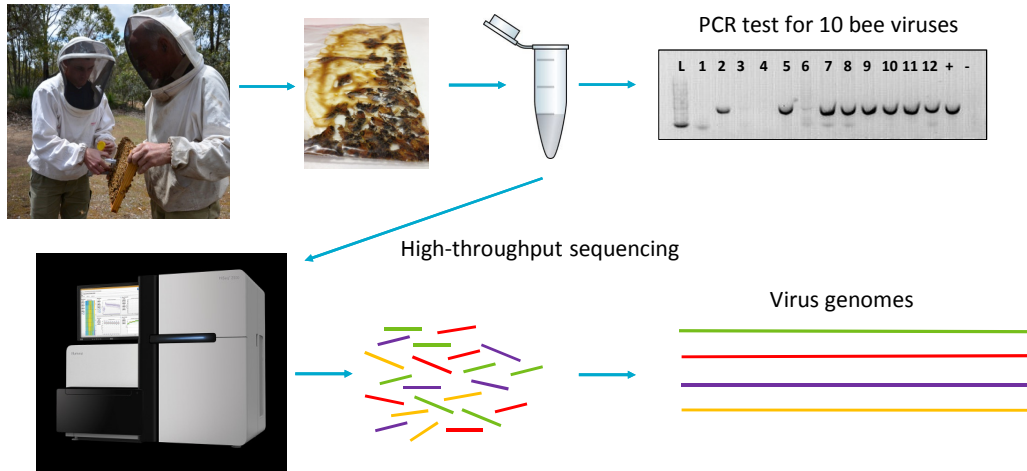


Australian bee pathogen survey 2013-2015



RIRDC publication 15-095

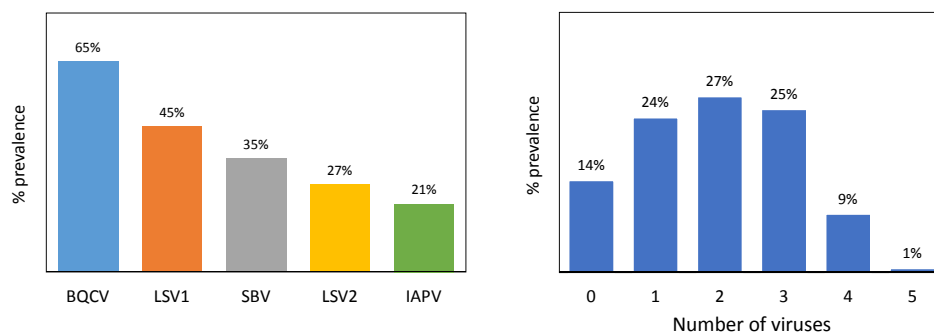
Virus detection in bees



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Five honey bee viruses were common



DWV, SBPV and ABPV
not detected

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Diverse viral landscape

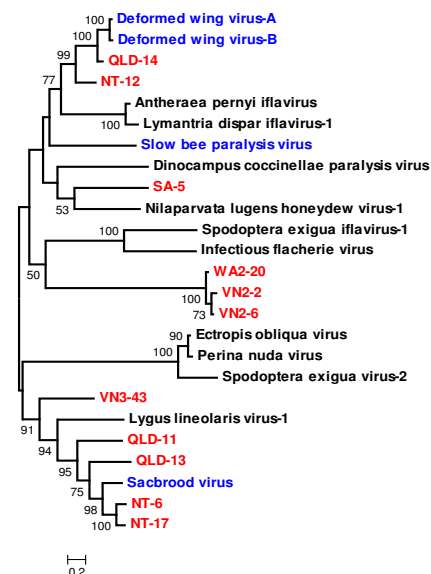
Five bee viruses detected

DWV, SBPV and ABPV not detected

Found 40+ insect virus genomes

DWV-like viruses

- NT-12 was 52% similar
- QLD-14 was 69% similar

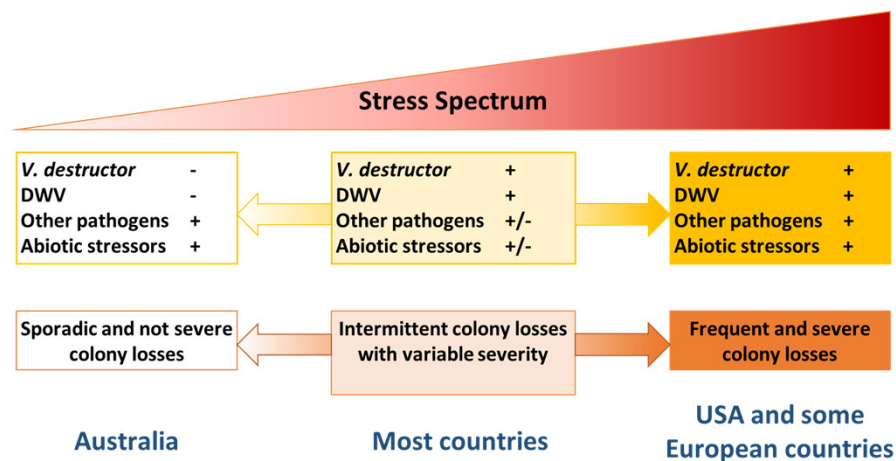


Roberts *et al.* 2018, J. Gen. Virol. 99:818-826

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Varroa and DWV are key factors



Roberts *et al.* 2017, Sci. Rep. 7:6925

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Implications on trade

USA stopped importing Australian bees because of SBPV



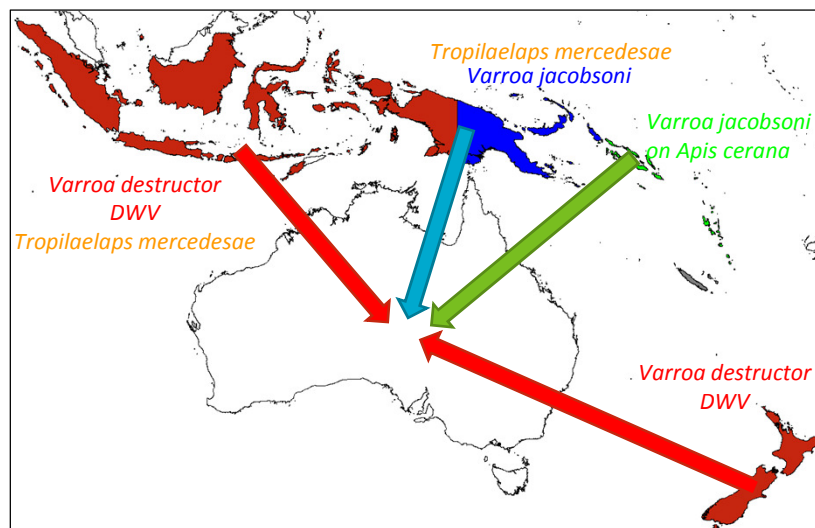
Risk of viruses from imported queen bees and drone semen



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Implications for a post-mite Australia



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Papua New Guinea – Varroa without DWV



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Thanks for listening

Honeybee and Pollination R&D Program of AgriFutures
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Australian Government
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