



Prospects for virus research in natural terrestrial ecosystems

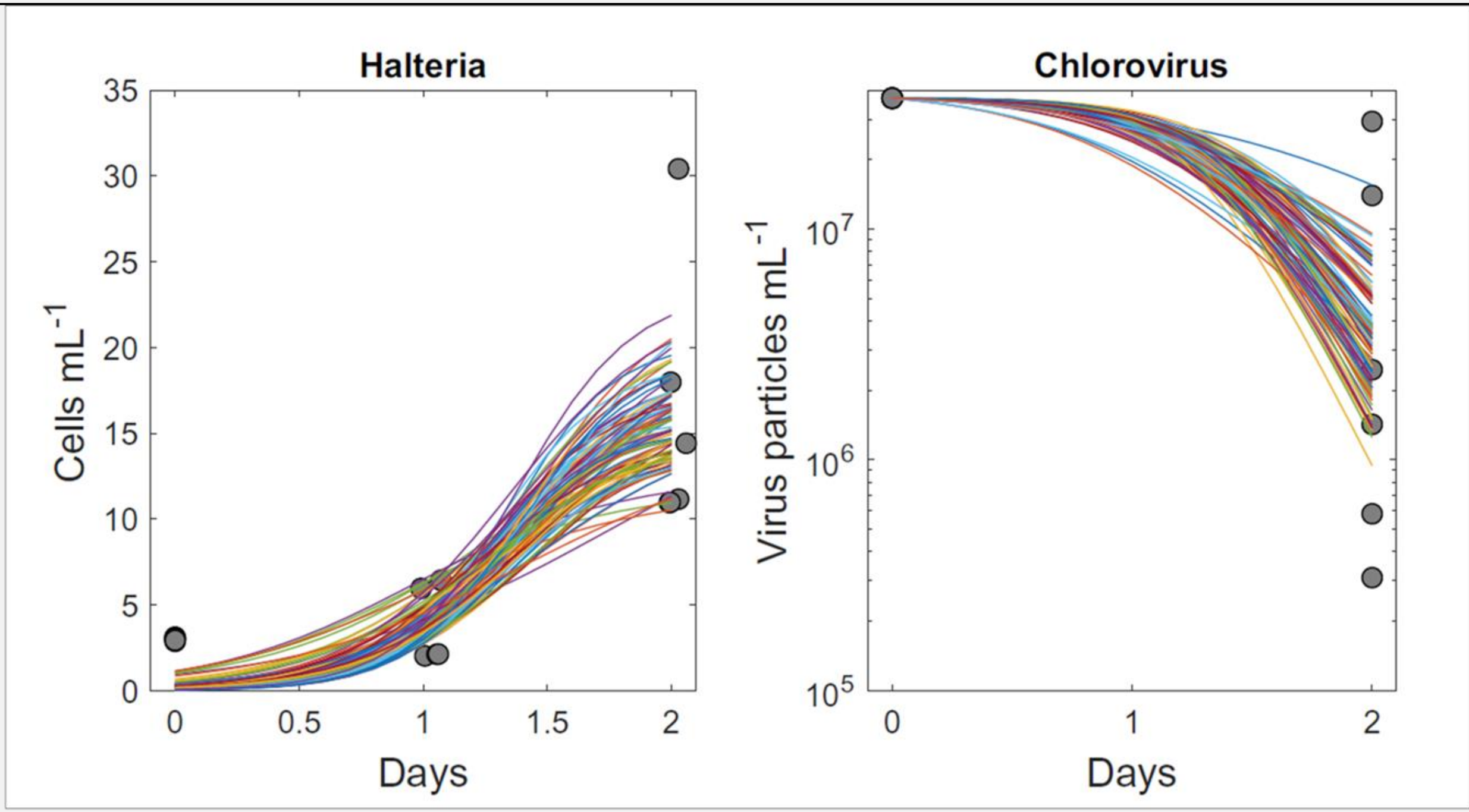
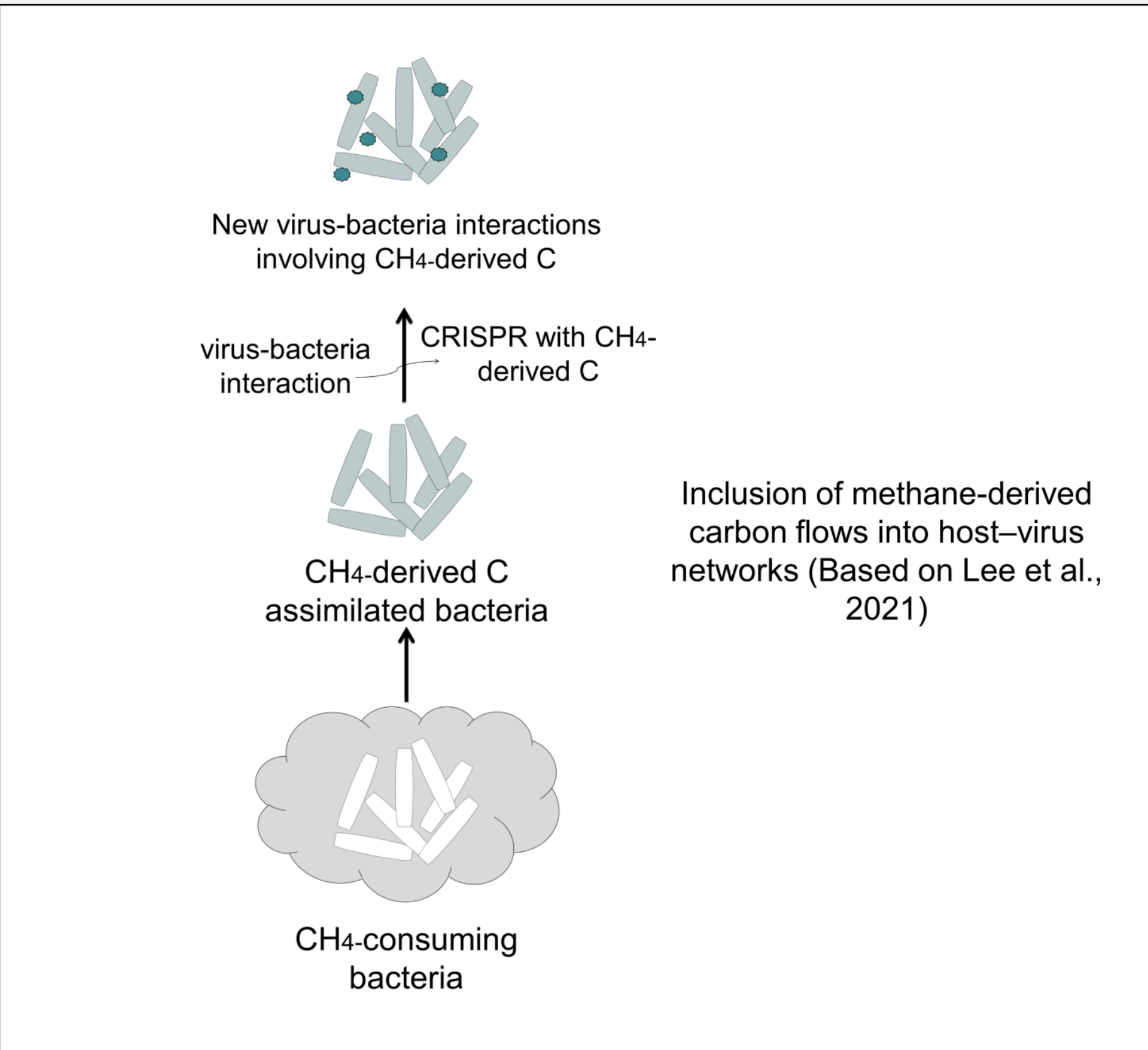
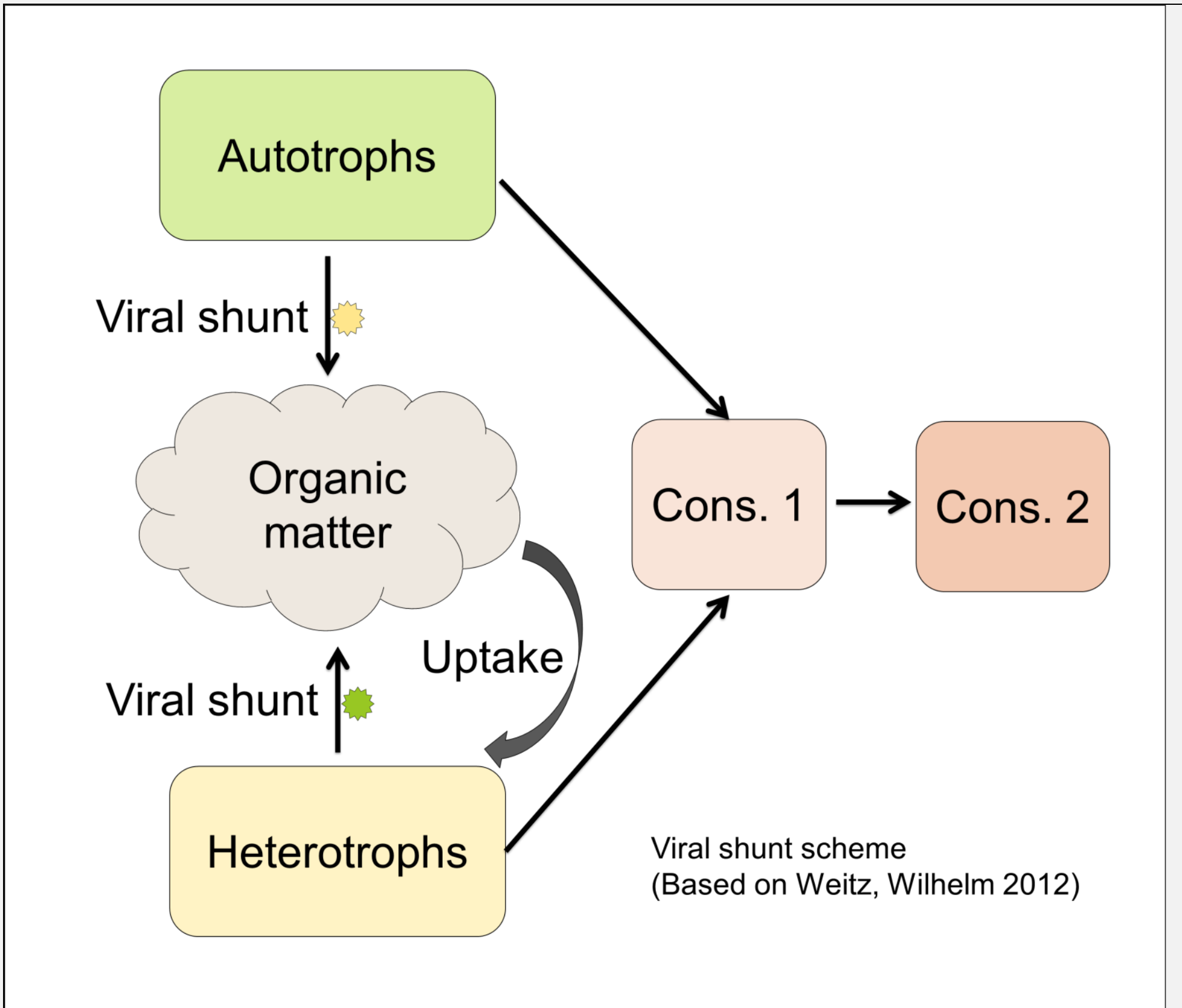


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Viruses are exceedingly numerous and diverse biological objects. Though for a long time viruses have been studied in terms of their medical and economic importance, now interest to their ecological role in terrestrial ecosystems is growing.

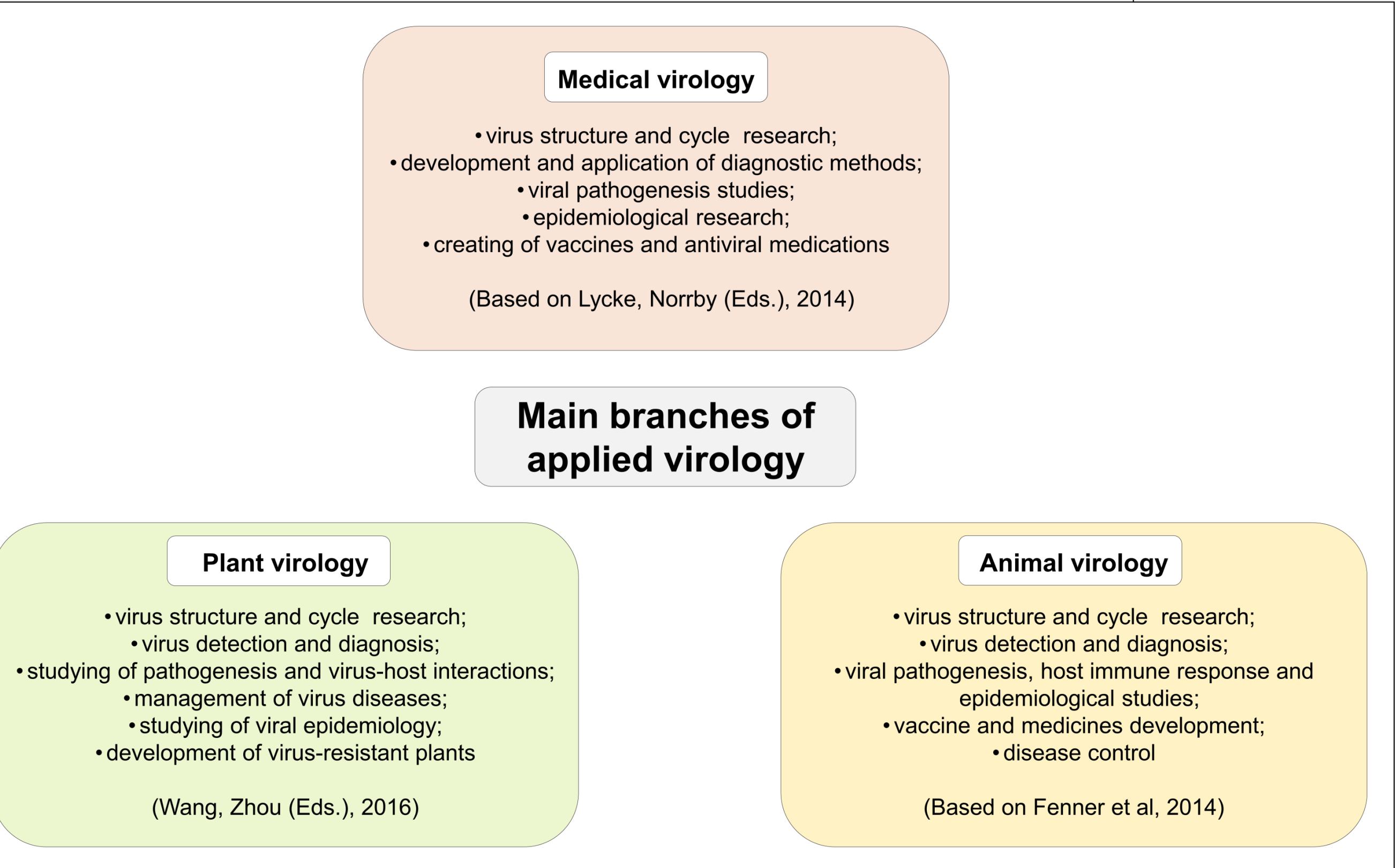
Here are presented several areas of research related to viruses, both those that have been under development for quite a long time and those that are relatively new.

The role of viruses in shaping, directing and redirecting of matter and energy flows in food webs

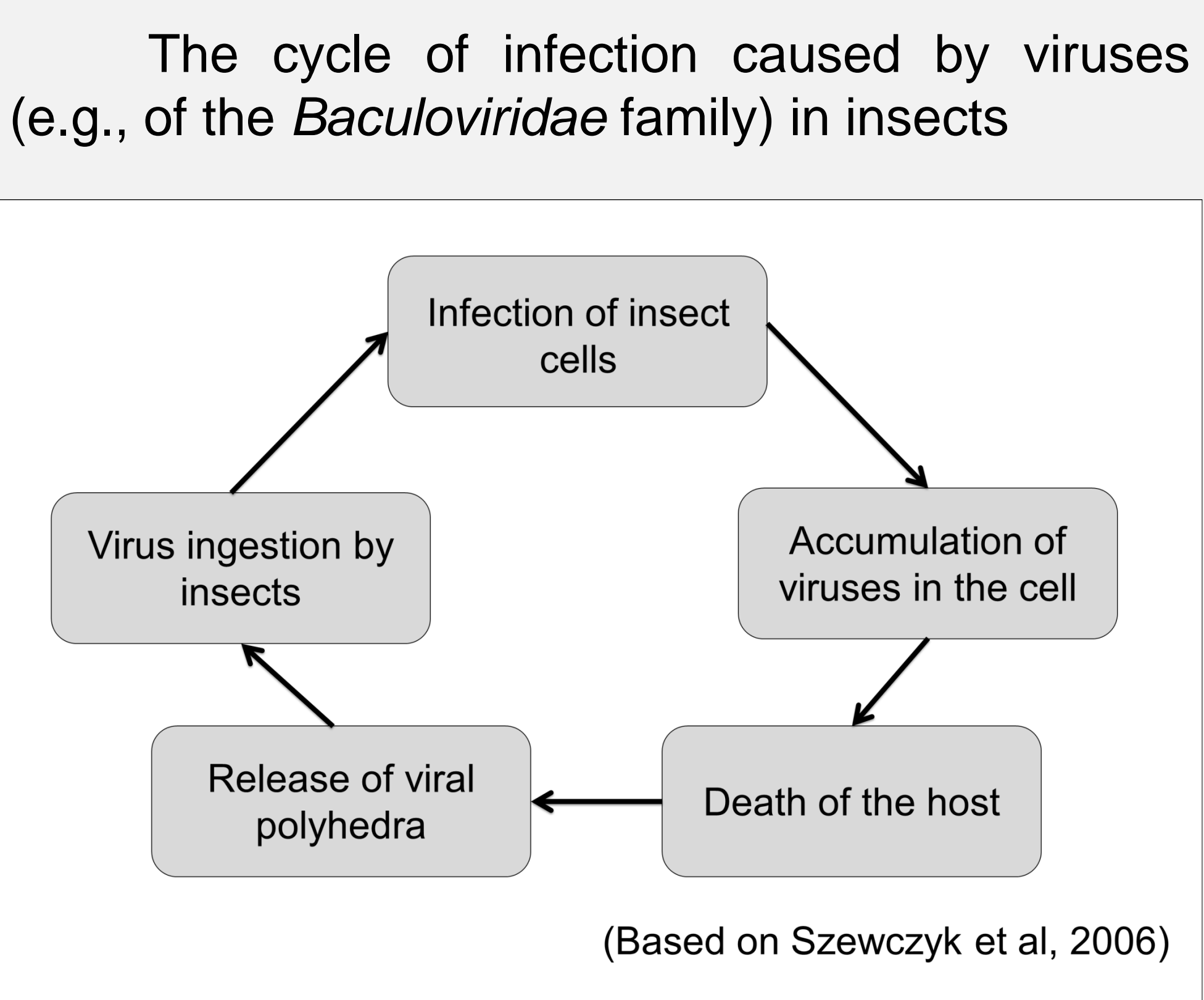


The consumption of viruses → returning of energy to food chains
(Modified from DeLong et al., 2022)

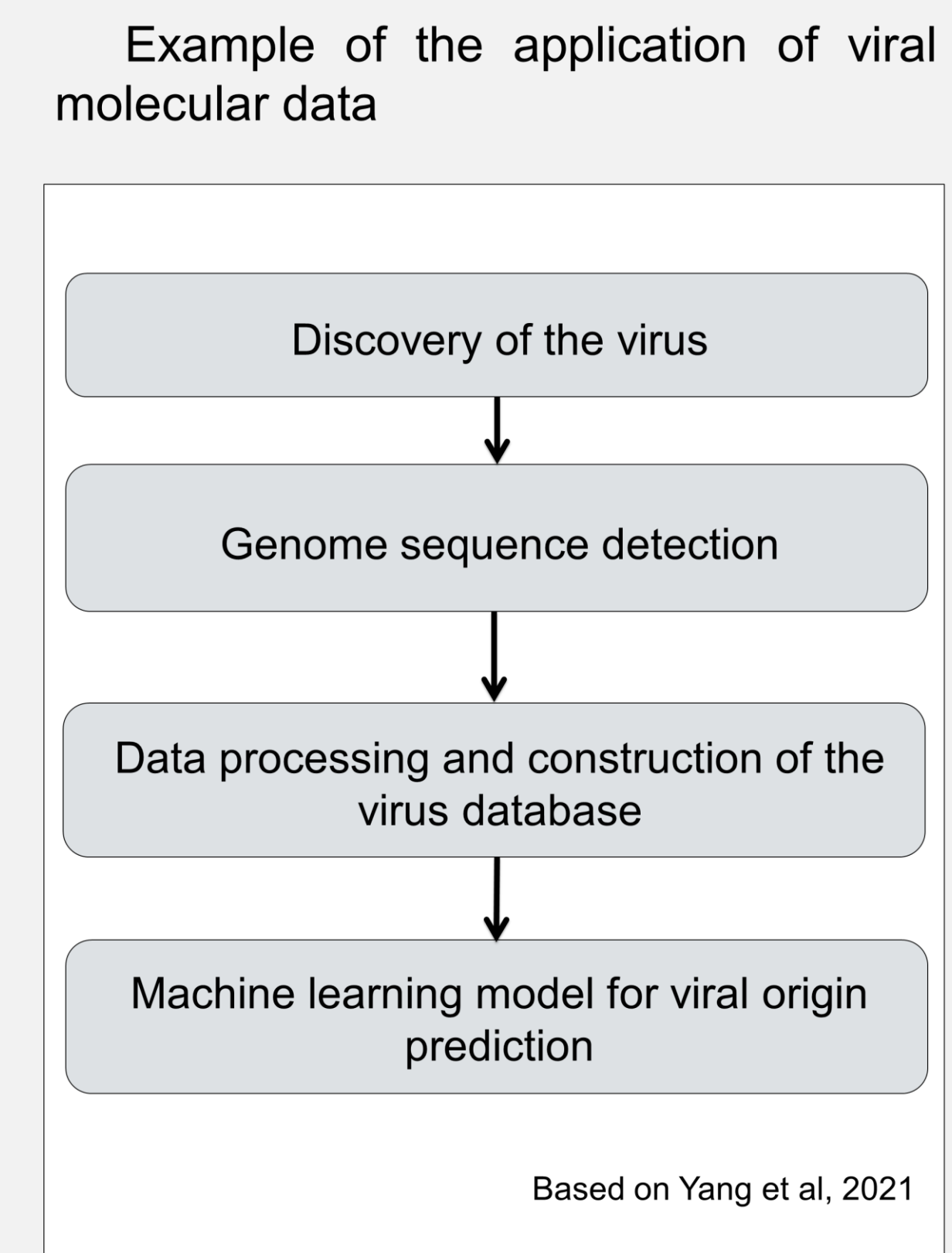
Viruses of medical, veterinary, and agricultural importance research



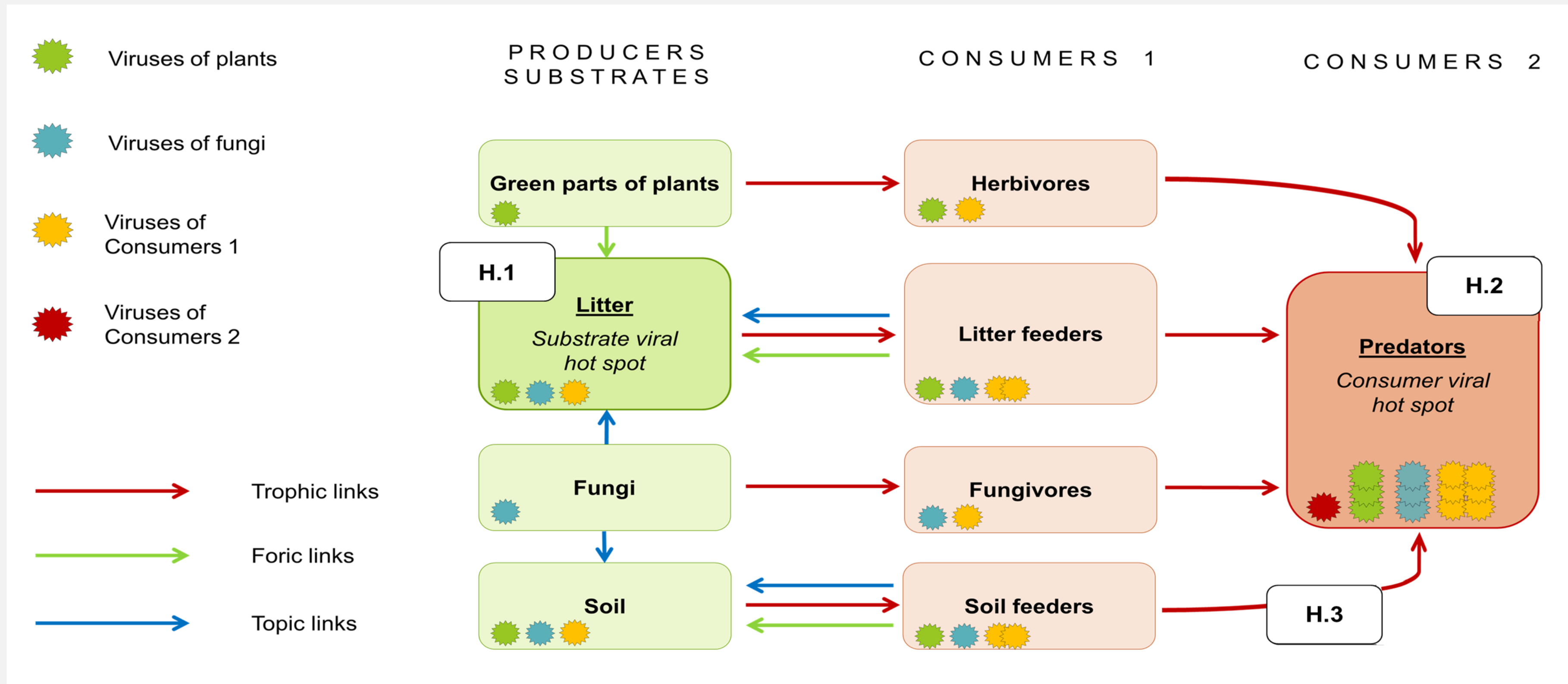
Viral agents of biological control of pests



Viruses as sources of molecular data



Diversity and distribution of viruses in terrestrial ecosystems and food-webs' topography



Hypothesis 1:

The viral diversity of an ecosystem is positively correlated with the diversity of the hosts

Hypothesis 2:

Cumulative substrates (e.g., leaf litter) and hosts (top predators) are local viral "hotspots"

Hypothesis 3:

Patterns of the distribution of viruses in food webs are correlated with flows of matter and energy among ecosystem compartments and food-web nodes