



# The Laboratory for RNA-Based Lifeforms

## **Problem #03:** Characterize a deep "RNA virus"

In PALMdb (<https://github.com/rcedgar/palmdb>) there is a collection of RNA-virus RdRp palmprint molecular barcodes (file: `otu\_centroids.fa`). Choose one palmprint barcode sequence which has less than 50% amino acid BLAST identity against the GenBank nr database (<https://blast.ncbi.nlm.nih.gov/Blast.cgi>).

With any/all tools at your disposal (hint: try <https://serratus.io/palmid>), assemble as close to a complete genome as possible for this given RNA virus and annotate the genome.

- What are the ecological reservoirs for this virus and those related to it?
- What are the hosts for this virus and those related to it?
- What can you infer about the biology of this virus from its genome organization and phylogenetics?