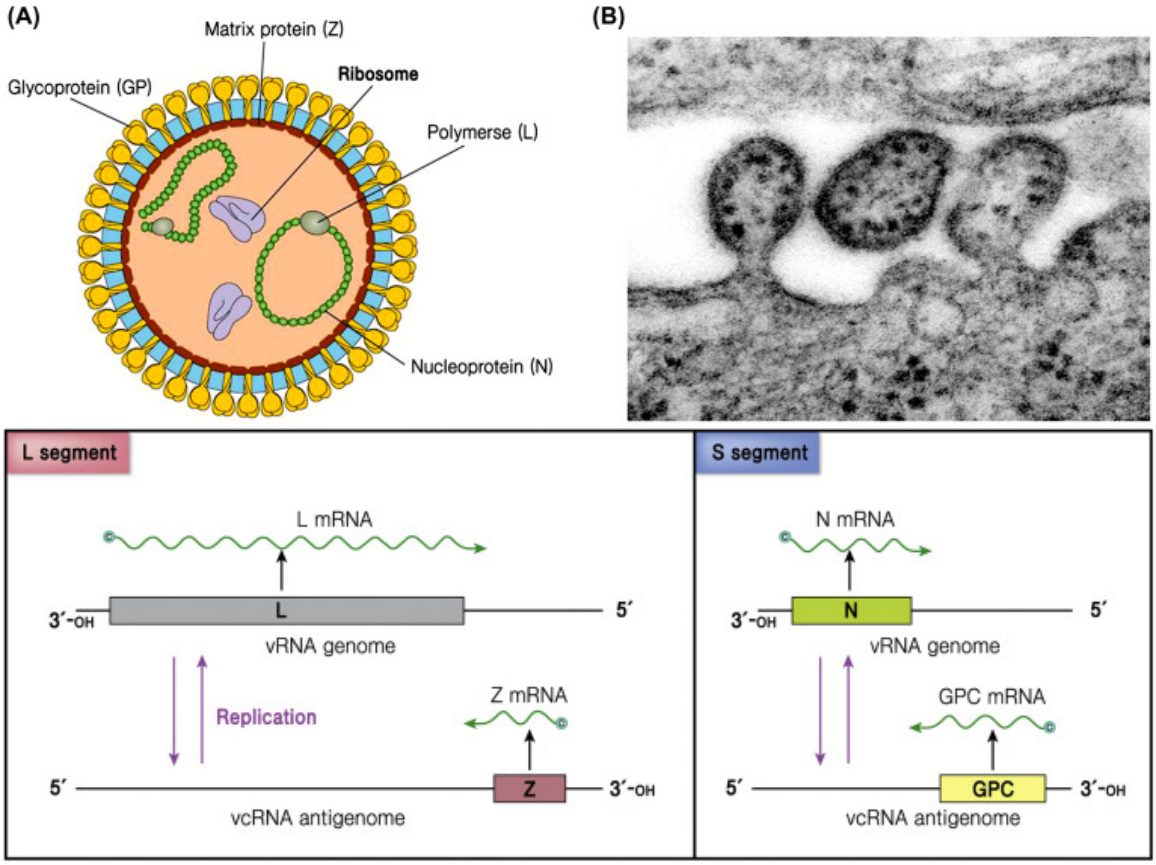
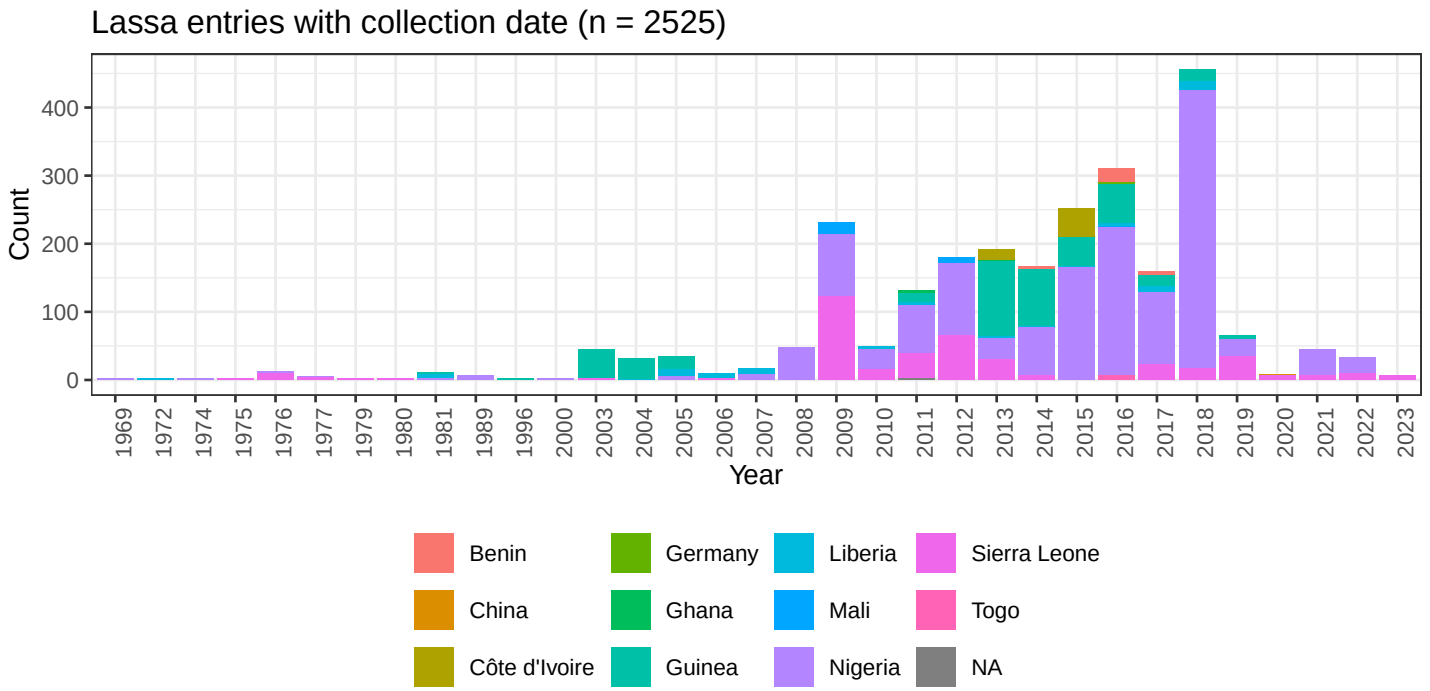
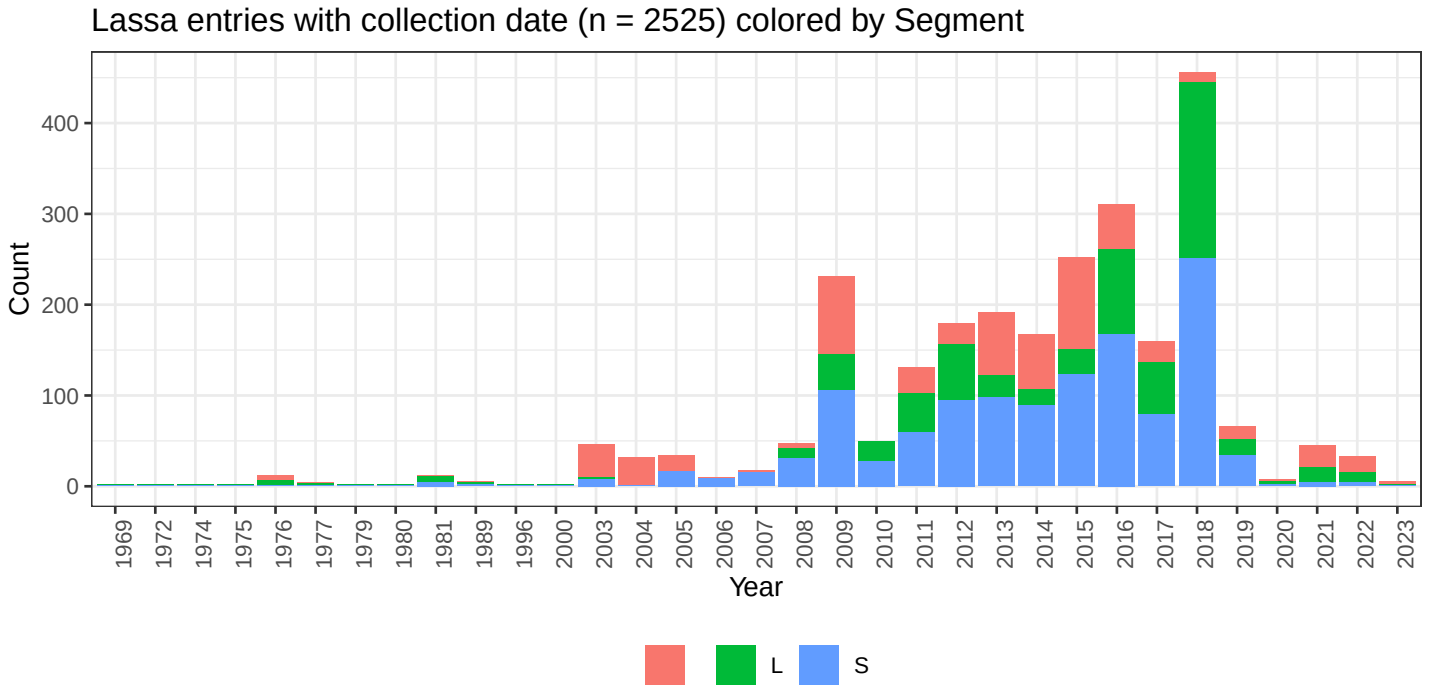
Background

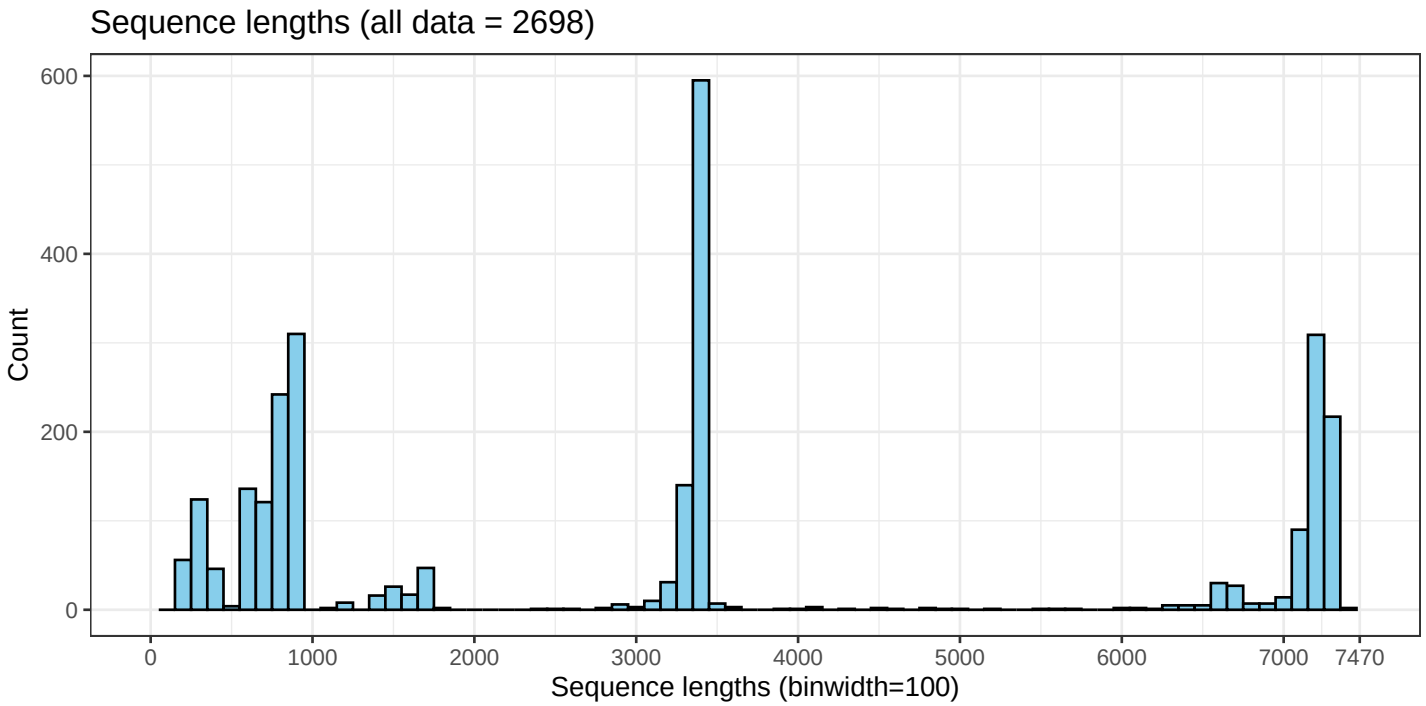
Lassa has two segments "L" and "S" from Chapter 16 of "Molecular Virology of Human Pathogenic Viruses" by Wang-Shick Ryu

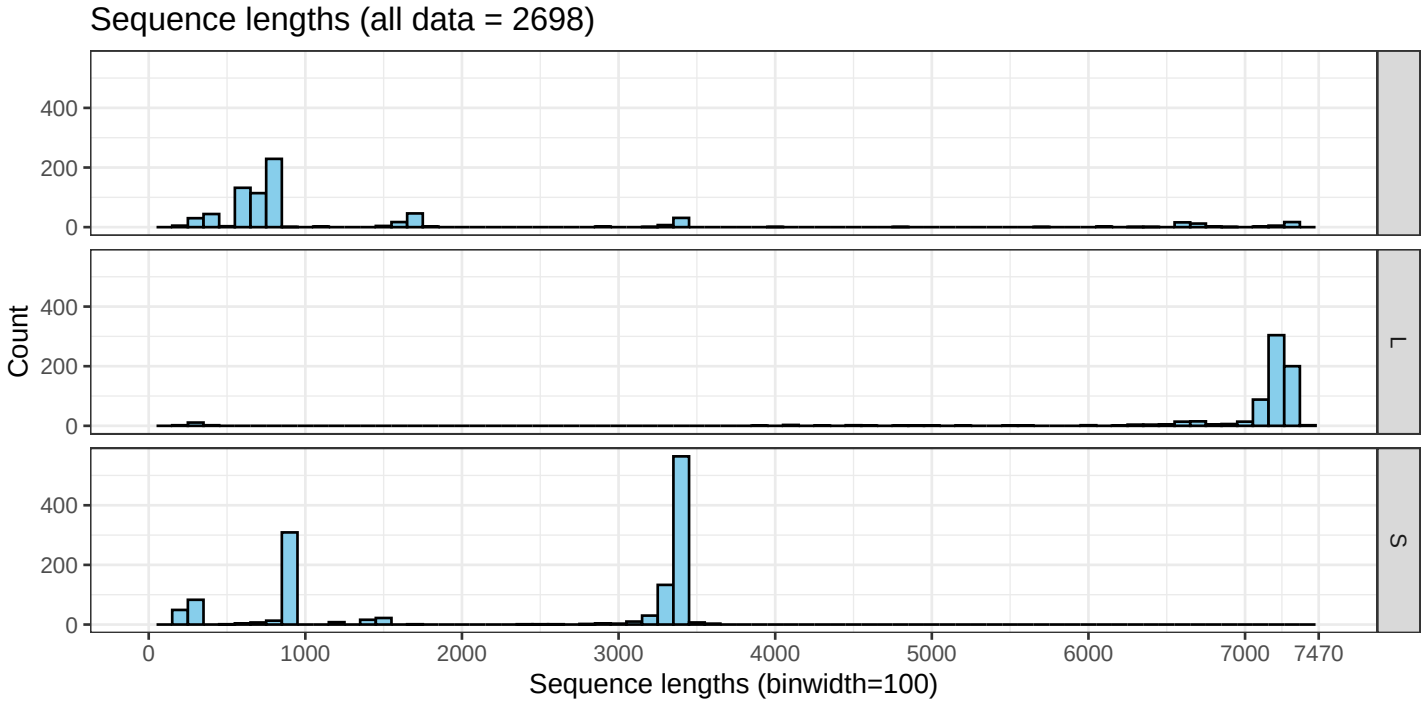


Exploratory Graphics









- Total lassa records = 2698.
- Total L lassa records = 694
- Total S lassa records = 1272
- Non L or S lassa records = 732

Lassa strain name

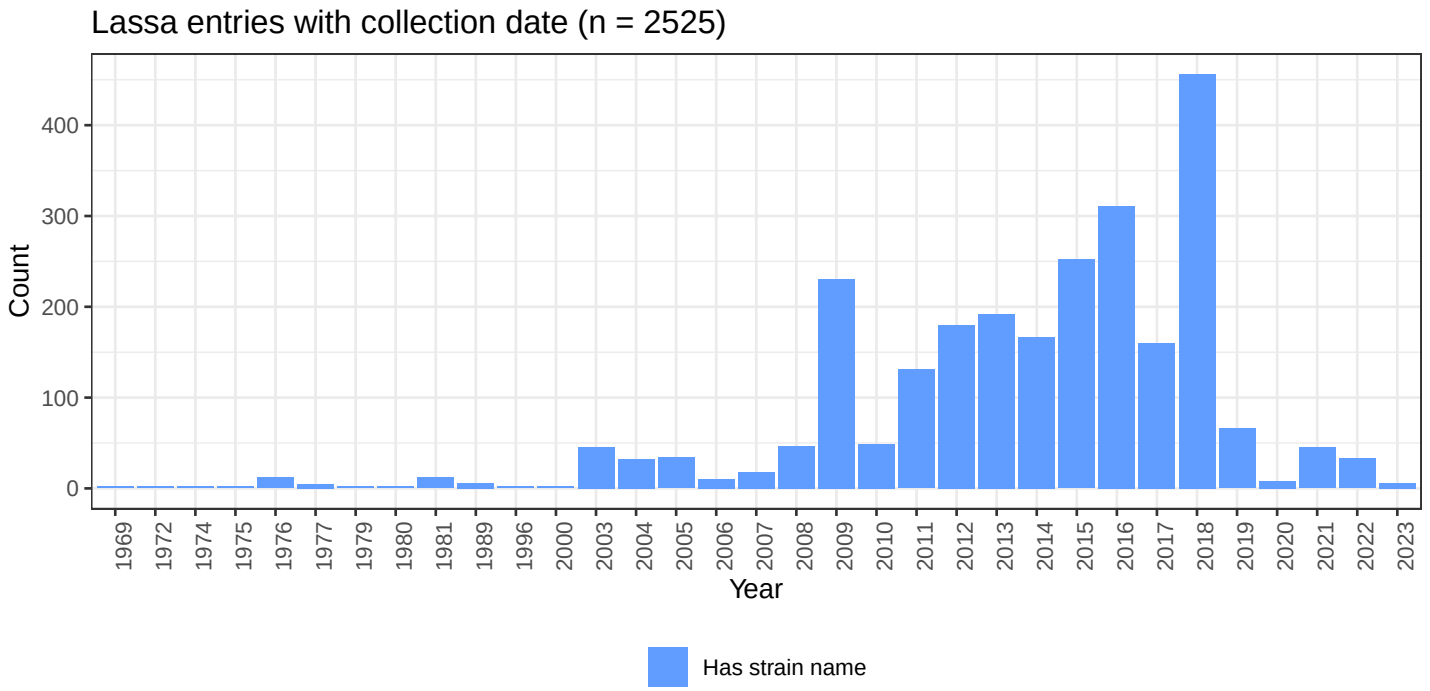
Is setting the strain name helpful for lassa? It looks like a majority of the strain names are the GenBank accession anyways.

```
nrow(data)

## [1] 2698

strainset=data %>%
  subset(strain != accession) %>%
  nrow(.)

cdata %>%
  ggplot(., aes(x=col_year, fill=strain != accession)) +
  geom_bar() +
  theme_bw() +
  theme(
    axis.text.x = element_text(angle=90, vjust=1, hjust=1),
    legend.position = "bottom",
    legend.title = element_blank()
  ) +
  labs(
    title=paste("Lassa entries with collection date (n = ",nrow(cdata),")", sep=""),
    x="Year", y="Count"
  ) +
  scale_fill_manual(values = c("TRUE" = "#619CFF", "FALSE" = "#F8766D"),
                    labels = c("TRUE" = "Has strain name", "FALSE" = "Uses accession"))
```



- Total lassa records = 2698. Notice how this includes samples that lack a collection date.
- Total lassa records where strain does not equal accession = 2692
- Percentage with strain names 99.78%
- Pulling in "strain=(.*)" filled in more samples (as compared to 49%)

Strain name duplicates

Are there more than 2 strain name duplicates? More than the S and L segments?

```
library(gt)
count_names <- data %>%
  group_by(strain) %>%
  summarize(n=n(), average_length=mean(length)) %>%
  arrange(desc(n))

more_names <- count_names %>%
  filter(n>2)

# Print top 10
more_names %>%
  head(10) %>%
  gt() %>%
  tab_header(title = "Top 10 Strains Name Duplicates by Count") %>%
  fmt_number(columns = c(n, average_length), decimals = 0) %>%
  cols_label(
    strain = "Strain Name",
    n = "Count Duplicates",
    average_length = "Average Length"
  )
```

Top 10 Strains Name Duplicates by Count

Strain Name	Count Duplicates	Average Length
Josiah	15	3,878
AV	4	5,319
LASV_3523	4	2,508
LASV_3604	4	2,525
LASV_3609	4	2,500
LASV_3625	4	2,524
LASV_3629	4	2,510
LASV_3630	4	2,524
LASV_3706	4	2,516
LASV_3711	4	2,506

- Percentage with strain names 99.78%
- Number of strain names that have 1 sequence record: 576
- Number of strain names that have 2 sequence records: 943
- Number of strain names that have more than 2 sequence records: 70