

Figure 1: Estimates of \hat{r} for all pairwise comparisons of 325 samples.

Summary of IBD analyses

In the following I have explored the trend in parasite relatedness (based on identity by descent, IBD, estimated using hmmIBD [REF]) with inter-city distance (km), with a view to comparison with the Thai-Myanmar border, where, on average, the log-odds of relatedness decrease by 0.02 with every kilometer between collection sites and week between collection dates. I have treated het calls and those labelled ‘-’ as missing since all the samples were previously categorized as single-genotype.

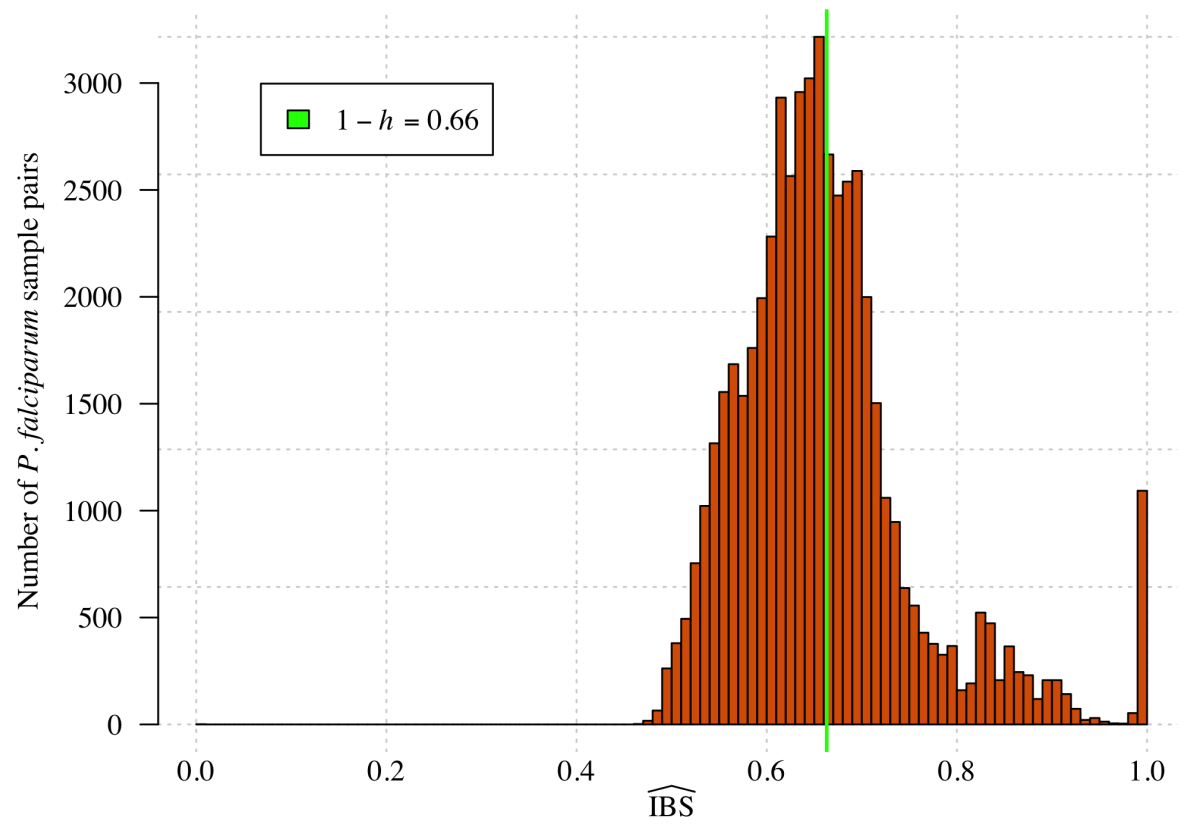
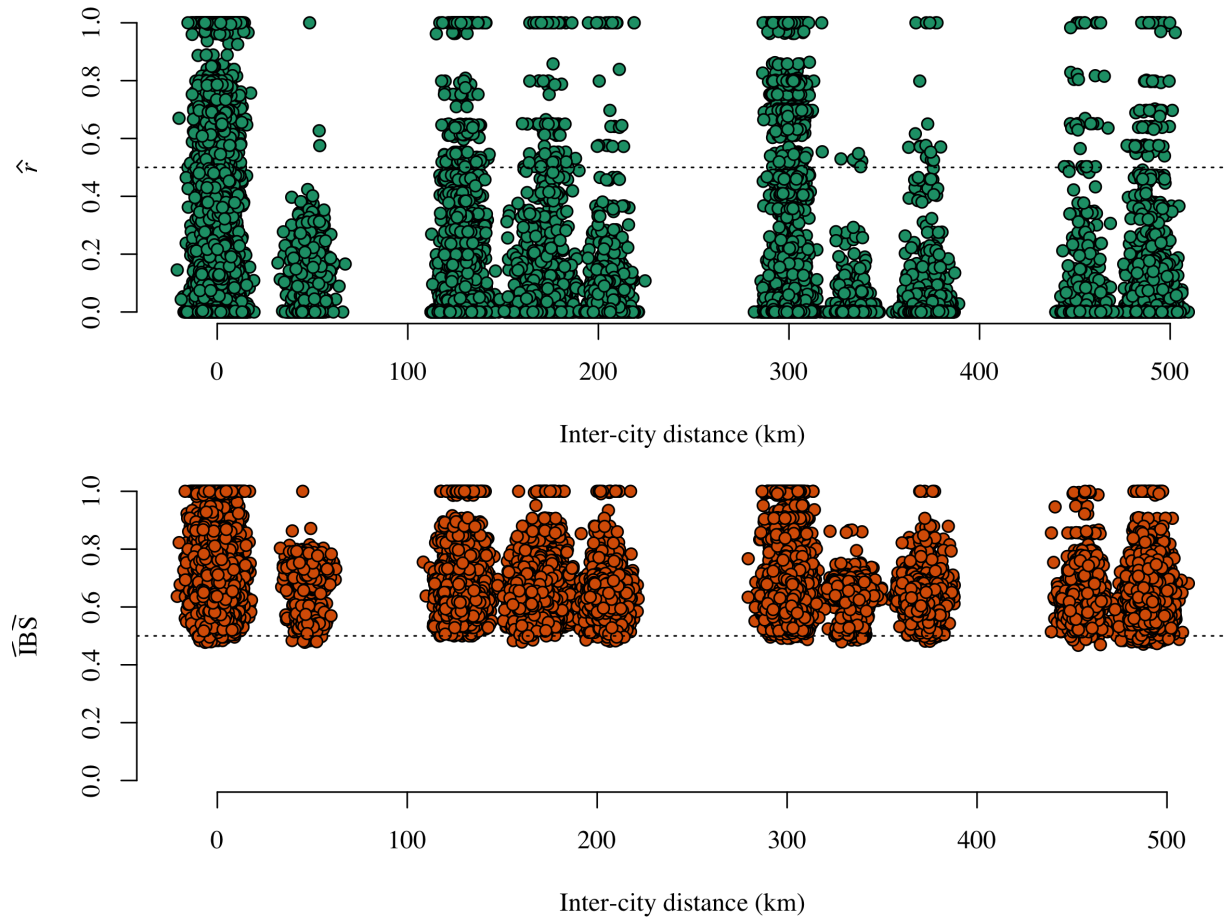


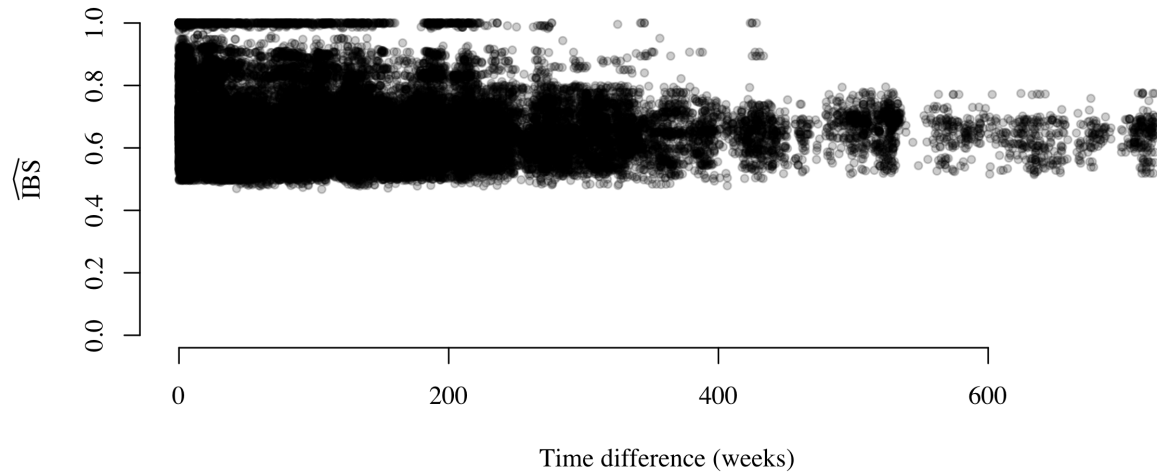
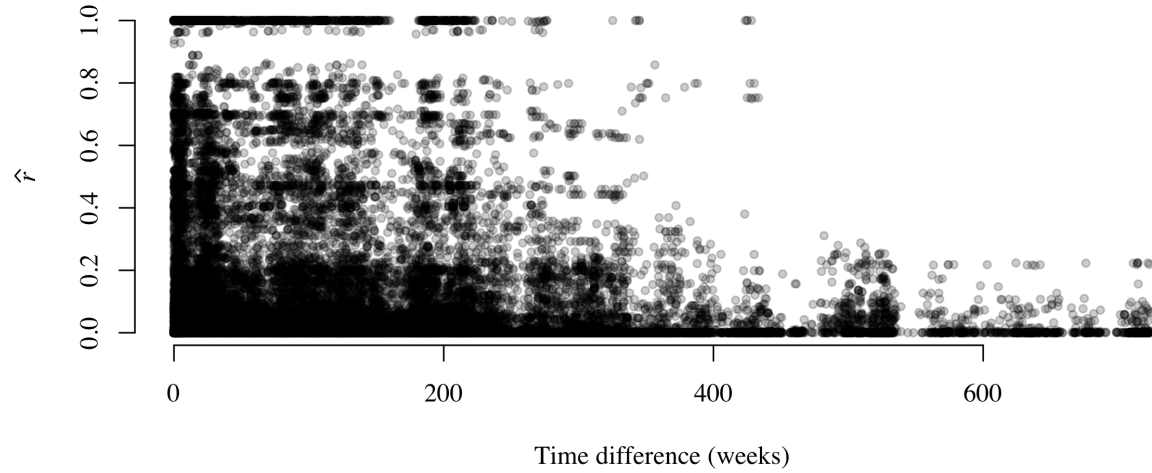
Figure 2: Estimates of π_{IBS} for all pairwise comparisons of 325 samples.

Plots of \hat{r} and $\widehat{\text{IBS}}$

Plot of \hat{r}_m and $\widehat{\text{IBS}}_m$ against distance



Plot of \hat{r}_m and $\widehat{\text{IBS}}_m$ against time



Travel time info

From Vladimir

- Guapi to Buenaventura: fast boat, 6-8 ppl, 4 hr; ship cargo, approx. 50 ppl, 12hr; Tumaco road is a bad road
- no public transport between Guapi and Tumaco, only contract fast boat; 1 hr to El Charco (just south of Guapi) and 5hrs from El Charco to Tumaco.
- plantain produced in Tumaco is sold in Guapi (and probably Buenaventura)

- many goods that are received in Buenaventura (the major port of Colombia) are delivered to Tumaco

Via Diego (all the info is directly from the sites)

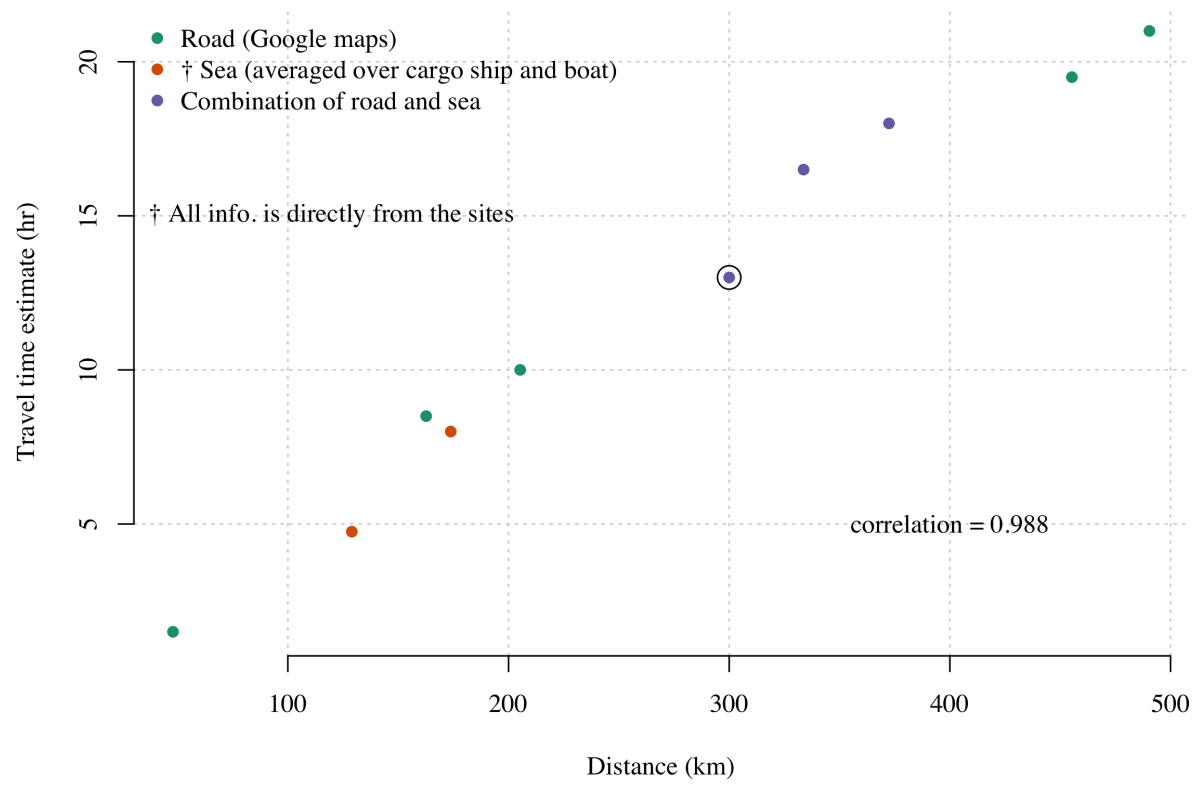
- By Ship (barco): price: around 80.000 – 100.000 COP (1 USD is 3050 COP)
 - Tumaco – Buenaventura: about 17-18 hours.
 - Guapi – Buenaventura: about 10 – 12 hours

By Boat (lancha): price around 120.000 COP

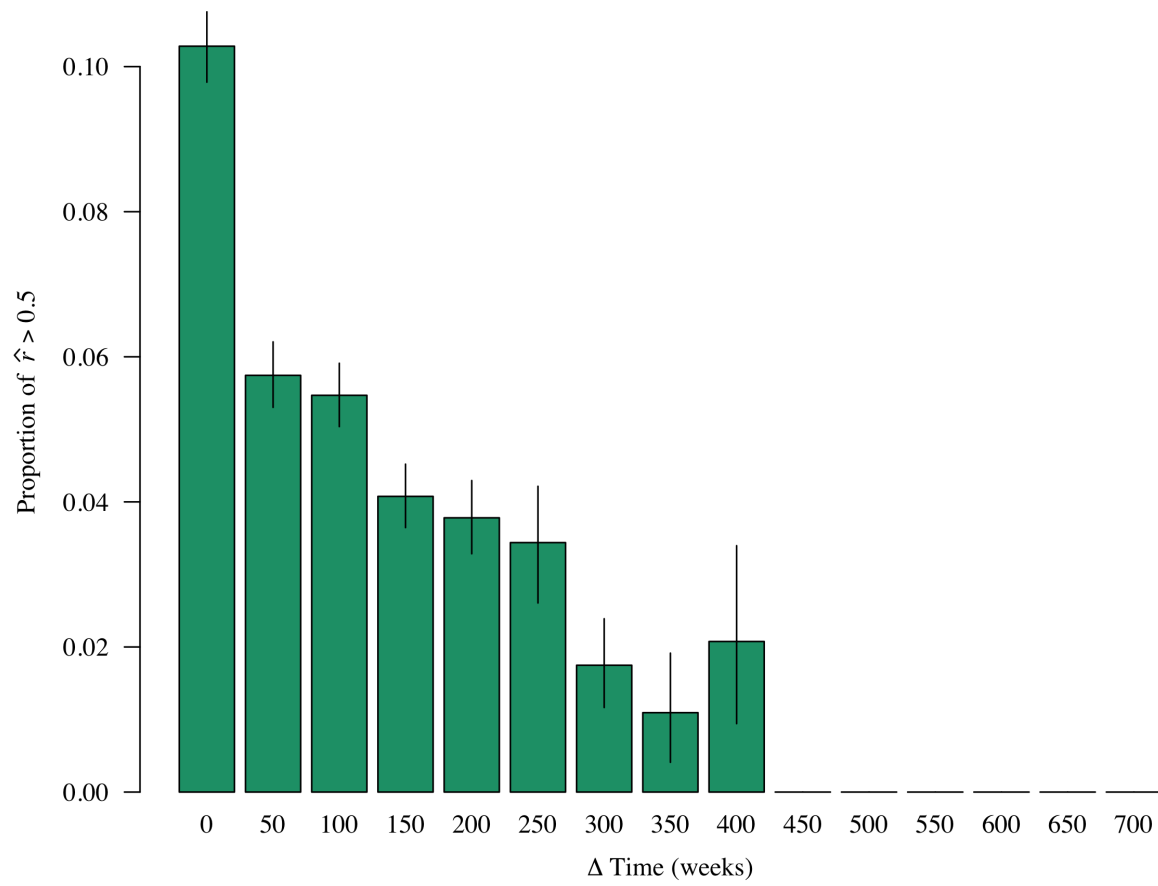
- Buenaventura – Guapi: 4h
- Guapi – Tumaco: 3 – 3,5 H
- Buenaventura-Tumaco: No transportation. the sea rout is Buenaventura-Guapi and then Tumaco (and Vice-versa).A express transportation with good accommodation, food, Buenaventura-Guapi-Tumaco may cost up to 4.000.000 COP.
- Road trip Between Guapi and the Panamerican freeway (the blue road in the map): No access at all.
- The only inter-municipal road in Guapi es between Guapi (Cauca) and Chanzara (Narino), it is a rudimentary and dangerous way, about 2 hours. People do no use this road.

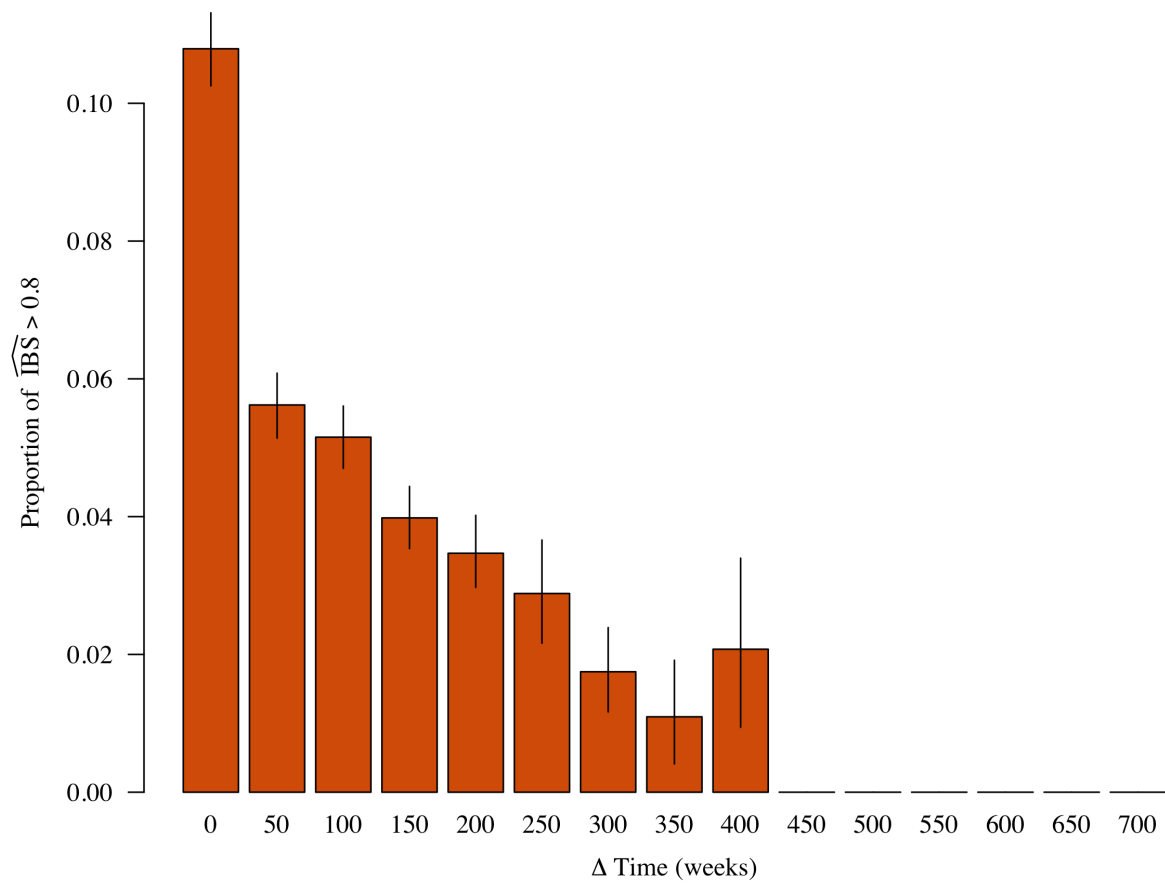
Google maps (hours)

- Quidbo Tado: 1.5
- Quidbo Buenaventura: 10
- Buenaventura Tado: 8.5
- Buenaventura Tumaco: 15
- Tado Tumaco: 19.5
- Quidbo Tumaco: 21

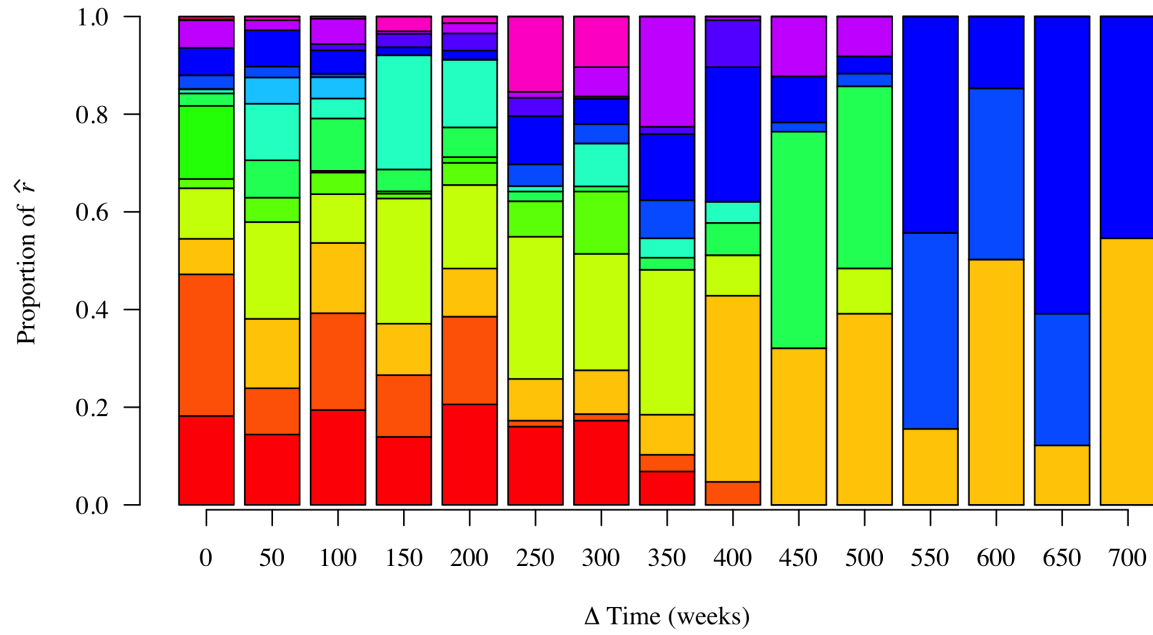
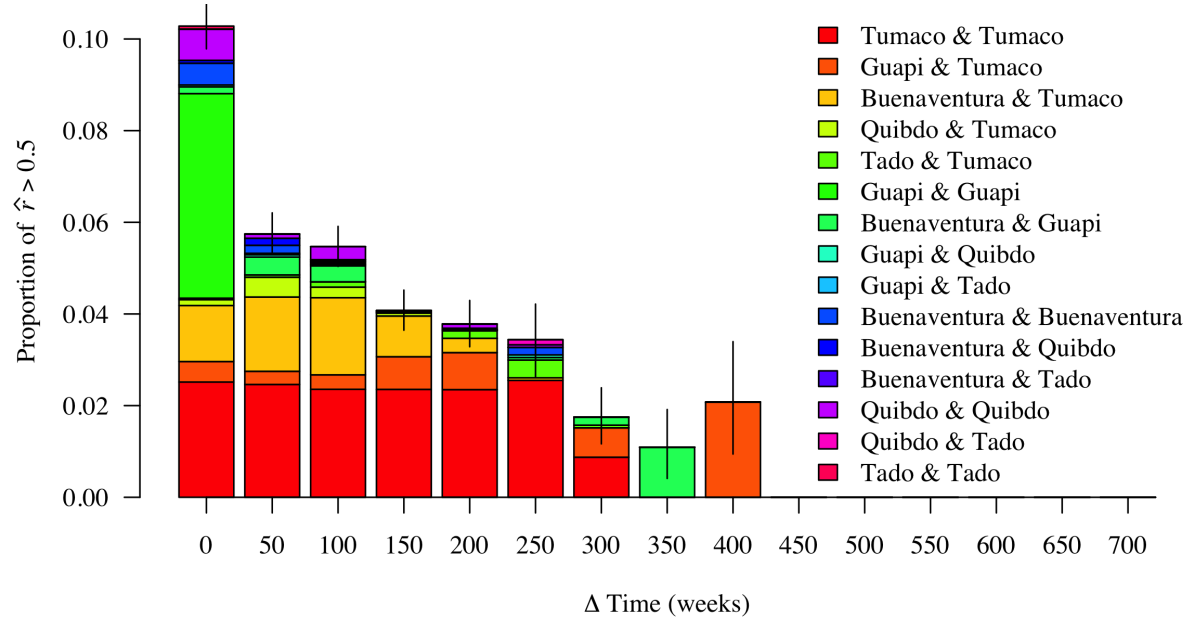


Plot of proportions $\hat{r}_m > 0.5$ and $\widehat{\text{IBS}}_m > 0.84$ against time

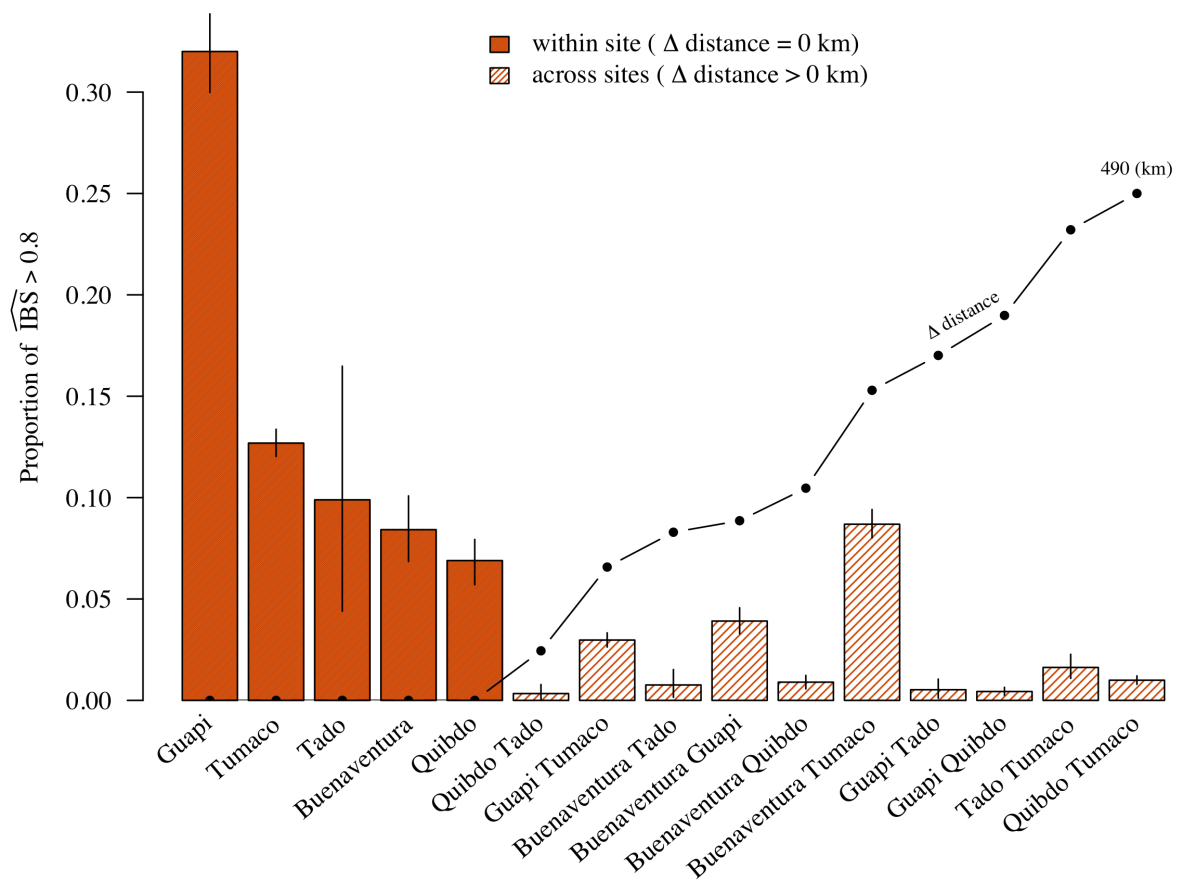


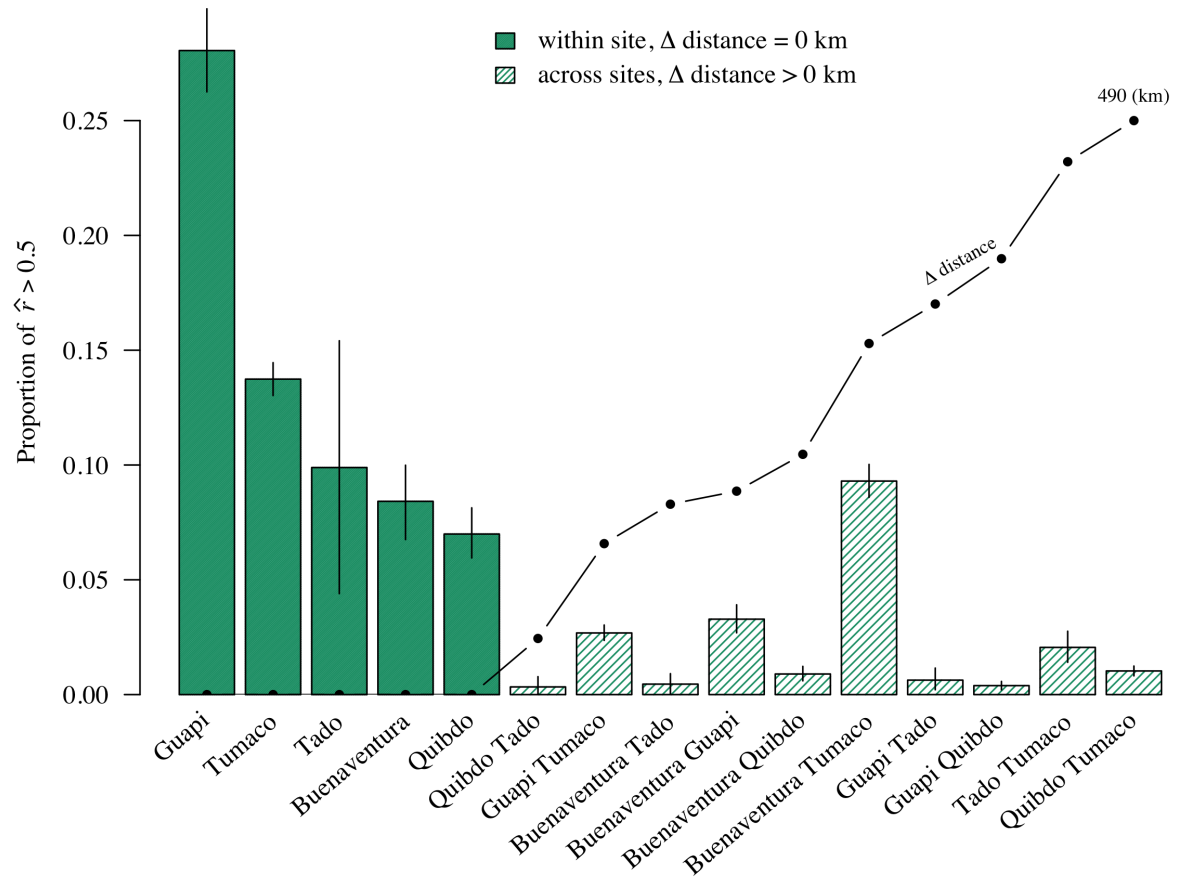


Plot of proportions $\hat{r}_m > 0.5$ in time broken down by site comparison

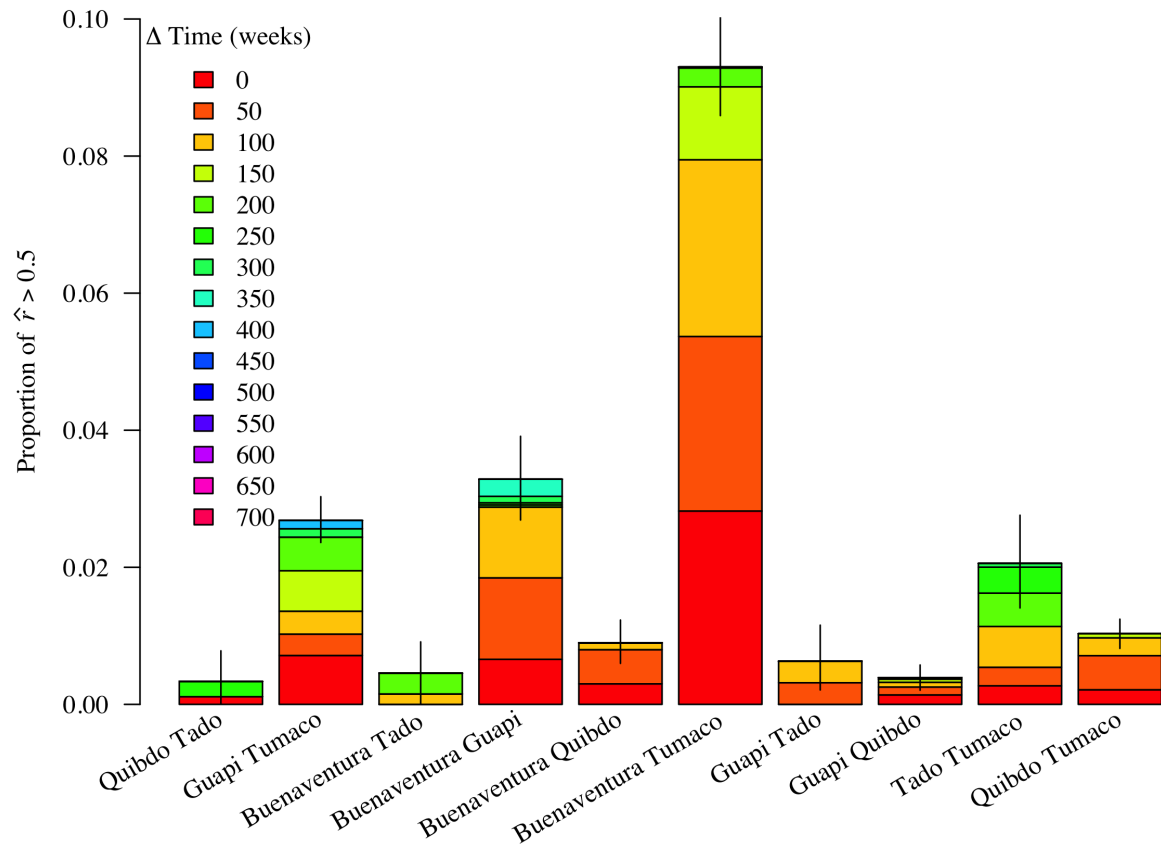


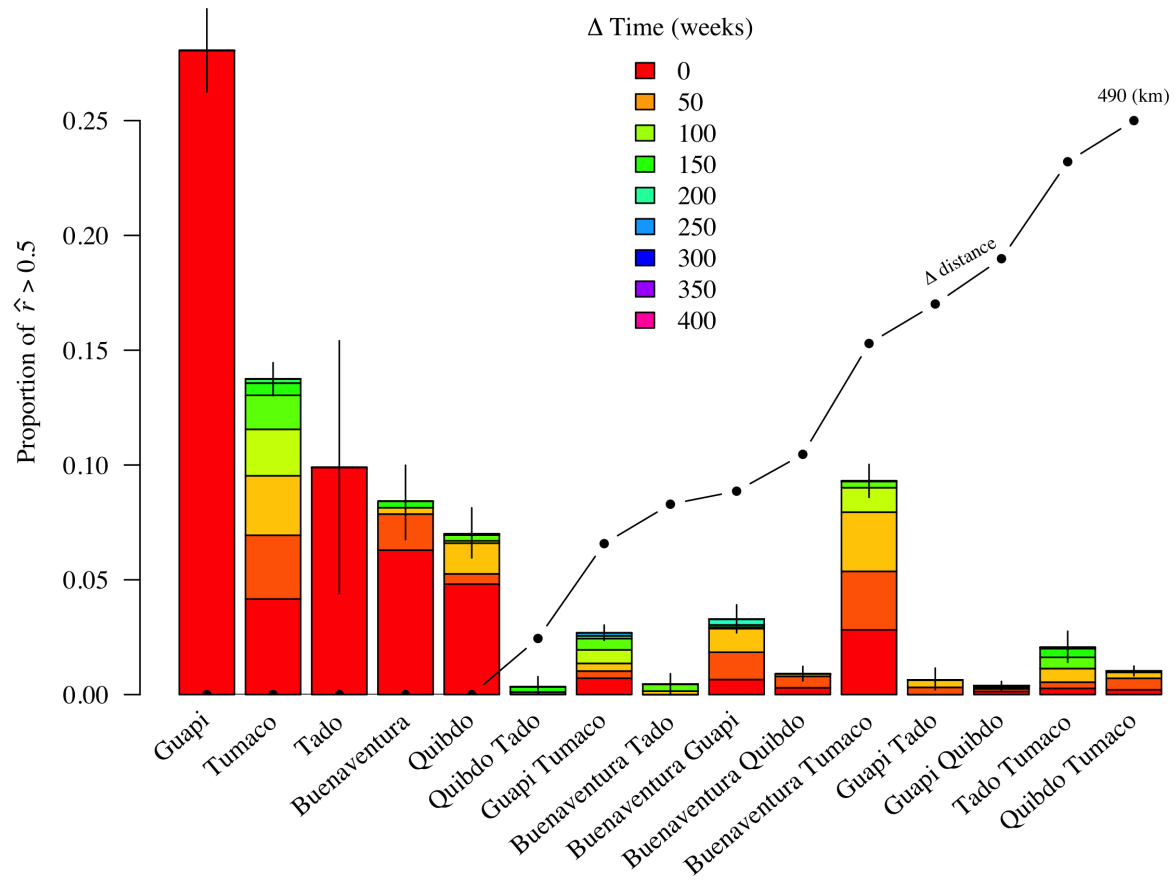
Plot of proportions $\hat{r}_m > 0.5$ and $\widehat{\text{IBS}}_m > 0.84$ against city comparisons



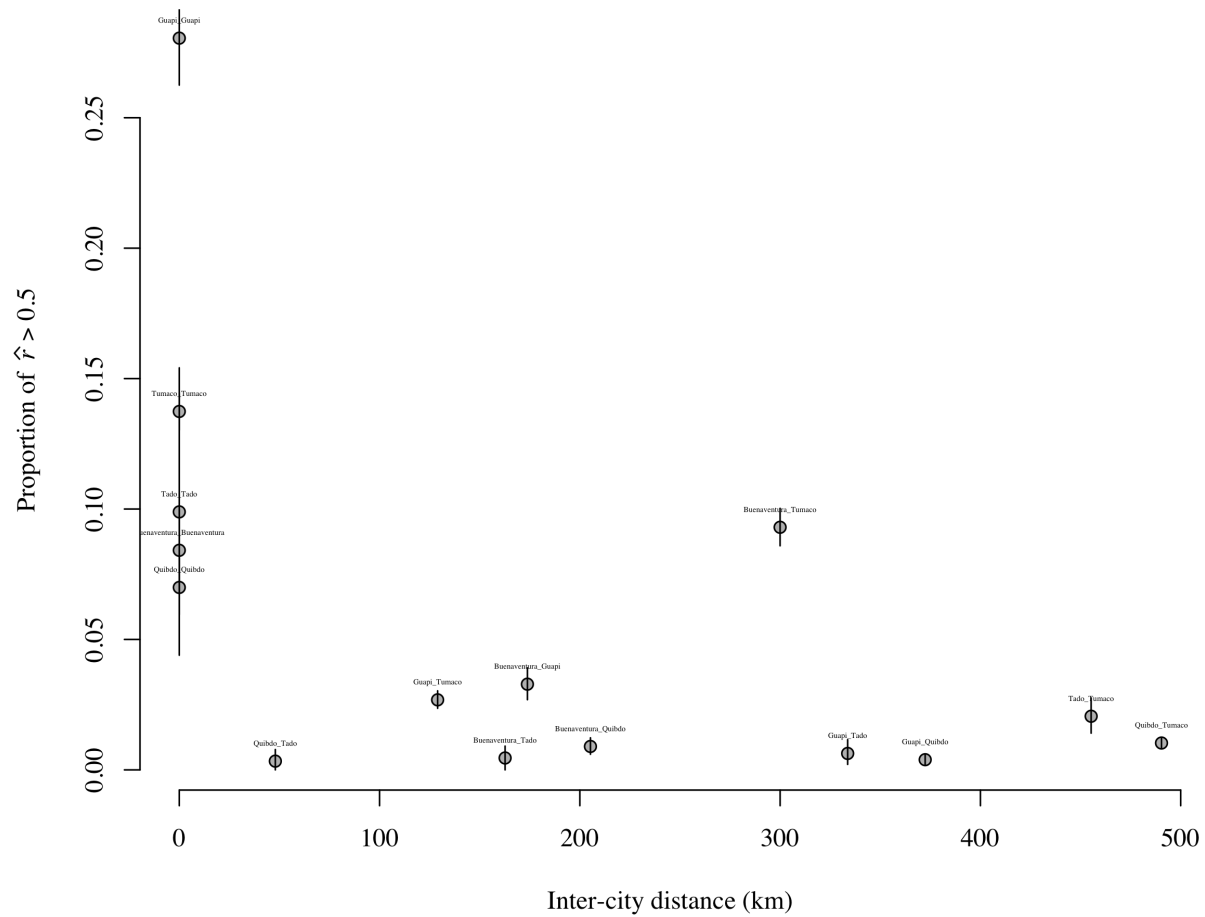


Plot of proportions $\hat{r}_m > 0.5$ in time broken down by time between collection dates (weeks)

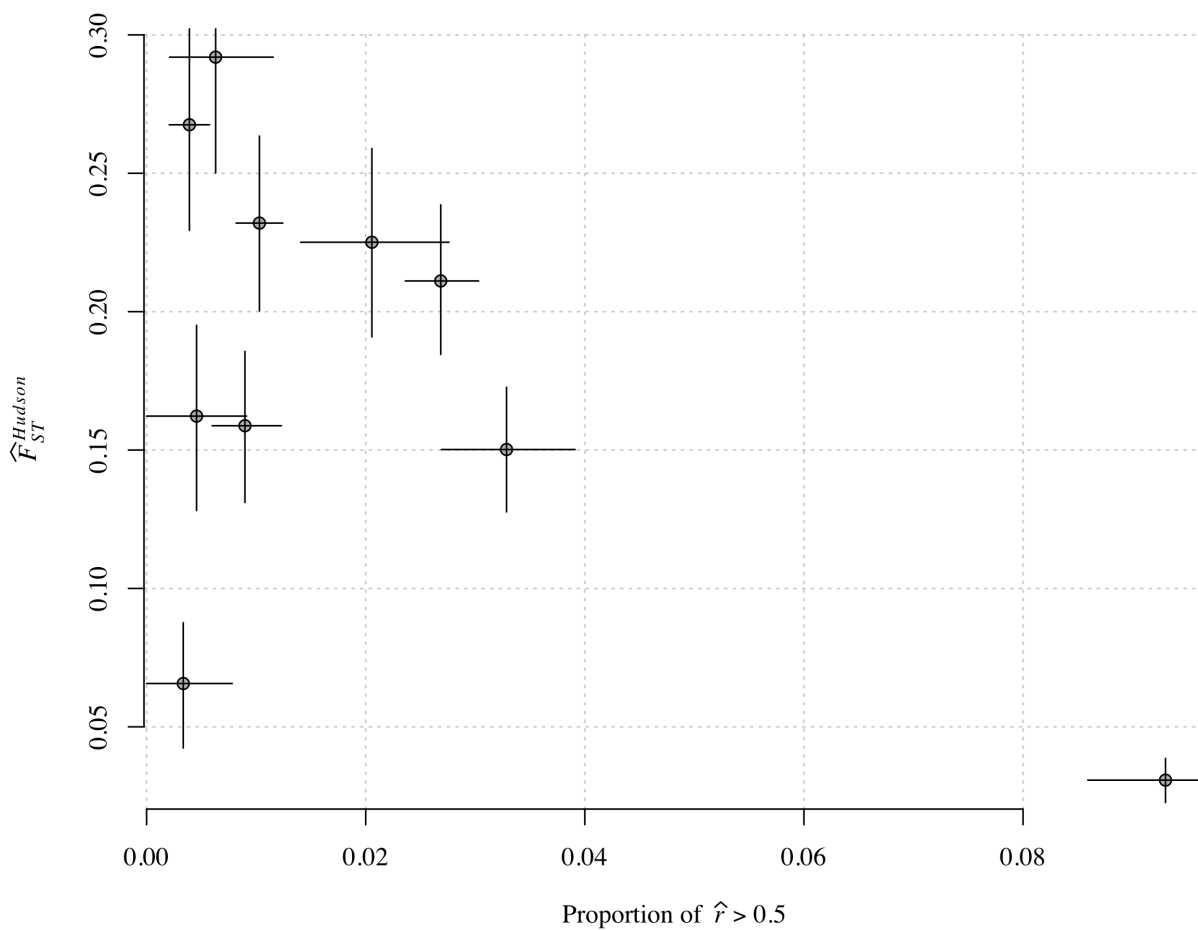




Plot of proportions $\hat{r}_m > 0.5$ against inter-city distance



Plot of city level FST estimates against proportions $\hat{r}_m > 0.5$



Are all Buenaventura Tomaco disproportionately from 2005? Was it a clonal outbreak?

