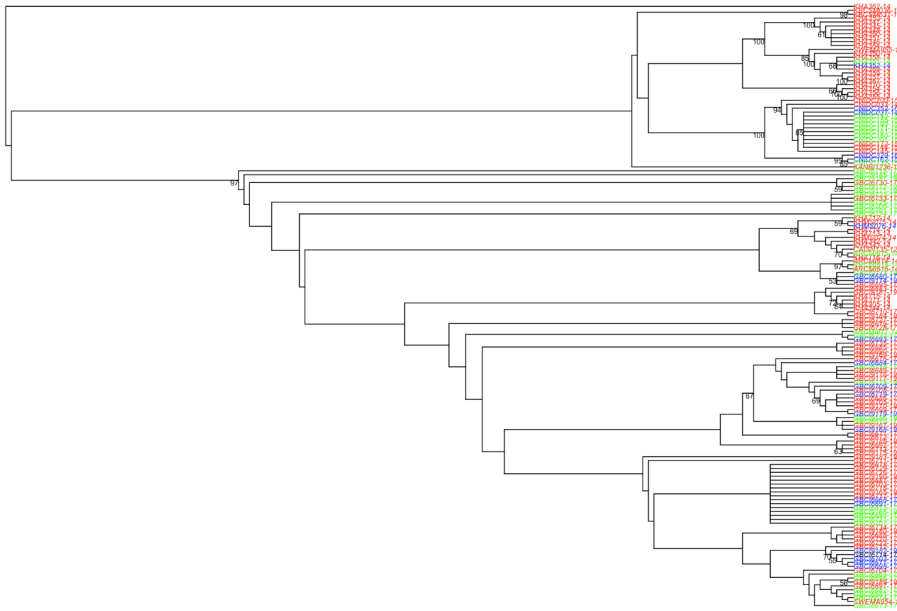


## *Aurita* cryptic species research

### A. COI gene:

#### 1. Based on location:

- First I tried to extract COI sequences of just *Aurelia aurita* from BOLD.
- I fit them into the region polygons I made earlier.
- I created this Phylogenies based on location:



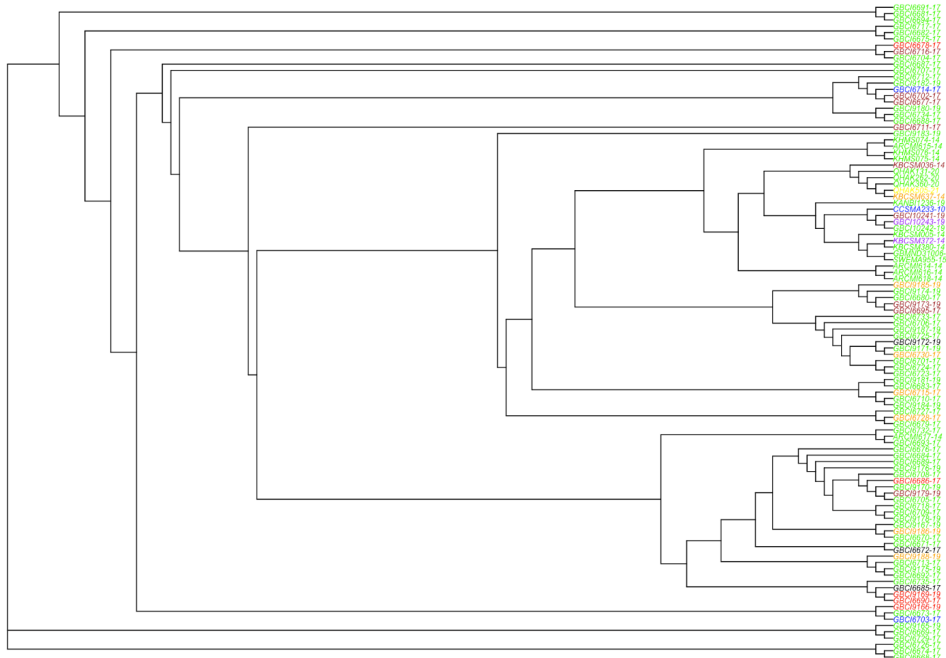
( Red: Northeast Atlantic, Blue: East Pacific, Green: Northwest Atlantic)

-> The sequences do not show differences between regions.

#### 2. Based on identified species:

- I expanded my research to 3 other cryptic species of *Aurelia aurita* (*Aurelia coerulea*, *Aurelia labiata*, *Aurelia limbata*).

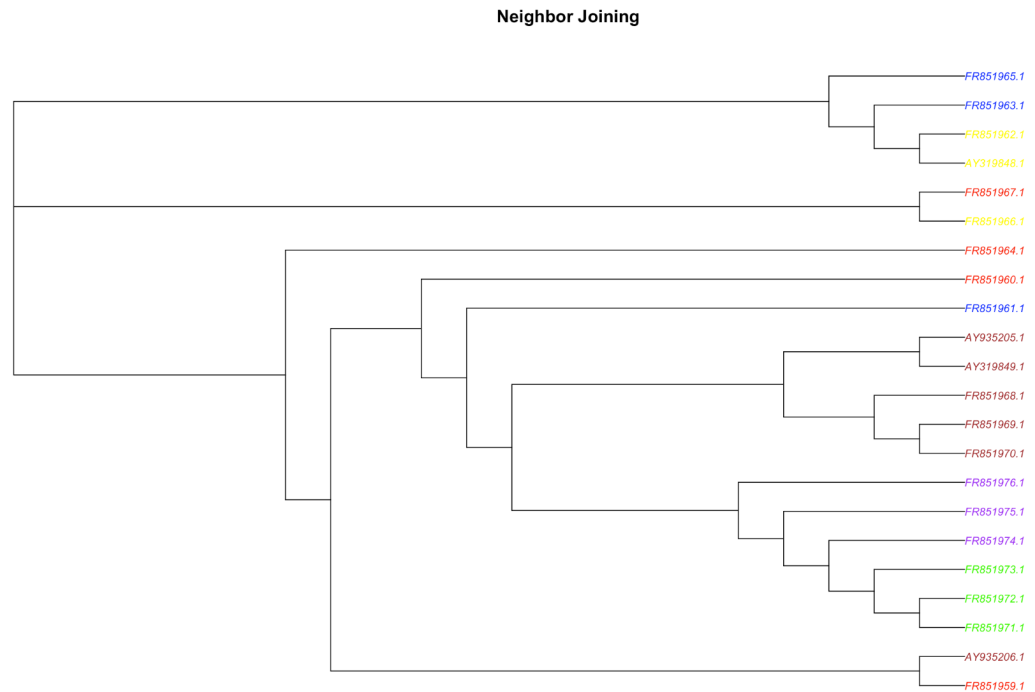
### Neighbor Joining



-> Did not show any clear pattern either.

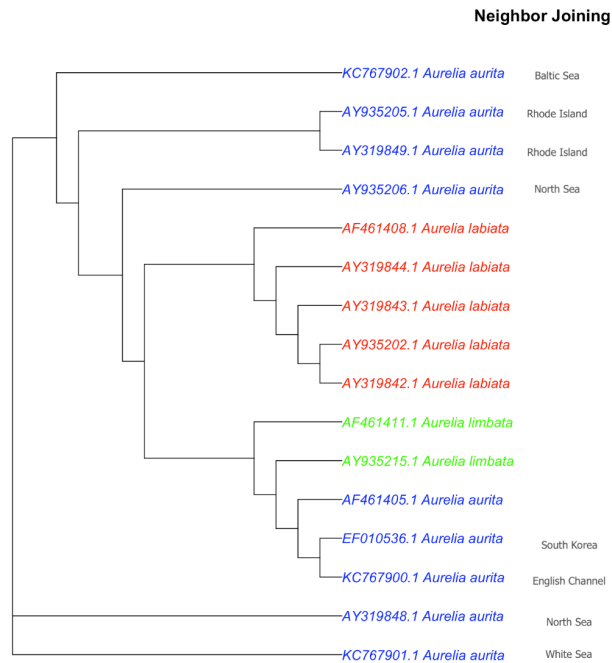
## B. ITS1 gene:

1. Sequences from the paper(Korsun, 2012)
- I extracted the sequences from Genbank.



"yellow": "Narragansett Bay", blue: "White Sea", red: "North Sea", green: "Marmara Sea", purple: "Black Sea", brown: "Caspian Sea"

2. Genbank



- I also calculated each group distances from each other

dif\_ITS1

aurita and labiata	aurita and limbata	labiata and limbata
0.15157965813156796	0.31405974203148845	0.28113697322546793

dif_aurita1_aurita2	0.0615433419696719
dif_aurita1_aurita3	0.121850798743739
dif_aurita2_aurita3	0.0855885287356522