

# eDNA põhine seire sadamates, vol 2.0



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tehnoloogiainstituut



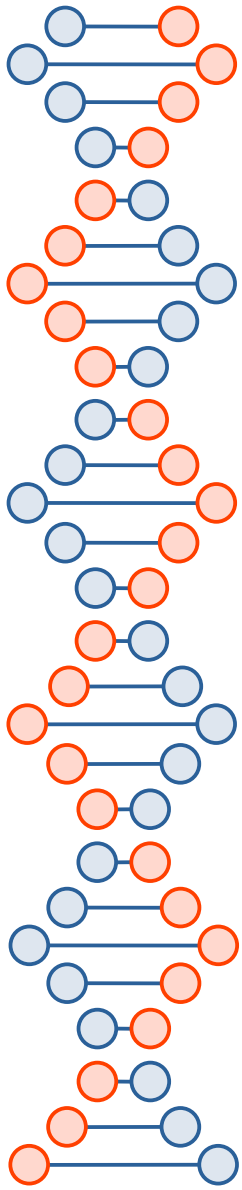
TARTU ÜLIKOOL  
Eesti mereinstituut

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Eveli Otsing  
Peeter Laas

Jonne Kotta  
Kristiina Nurkse  
Francisco Rafael Barboza Gonzalez  
Arno Põllumäe  
Andres Jaanus

**KIK** TOETAB

**Iceland**   
**Liechtenstein**  
**Norway grants**



# Vol 2.0?

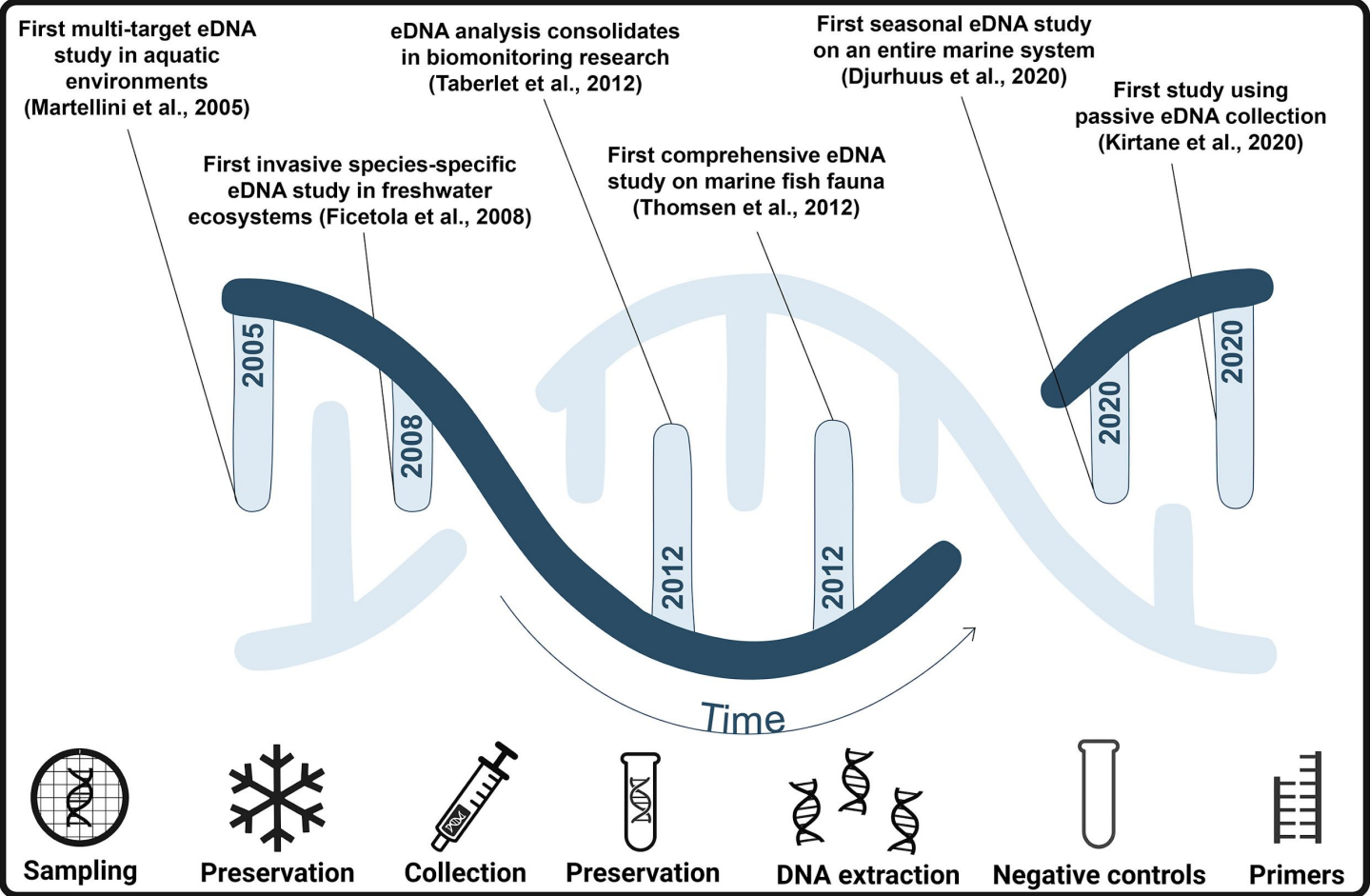
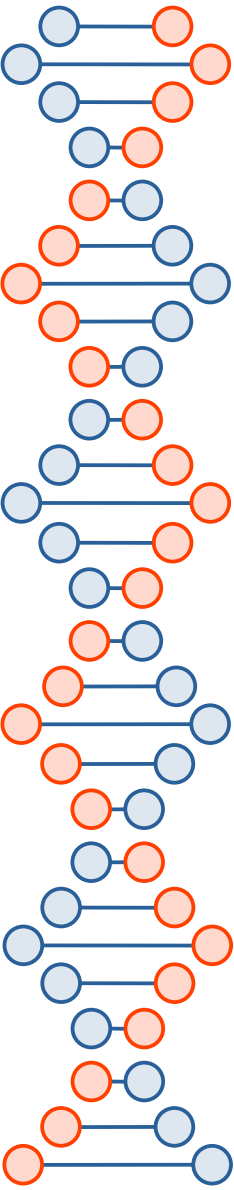
- mereRITA  
2019 – 2020

Muuga + referents  
eDNA's *R. cuneata* 3 aastat varem

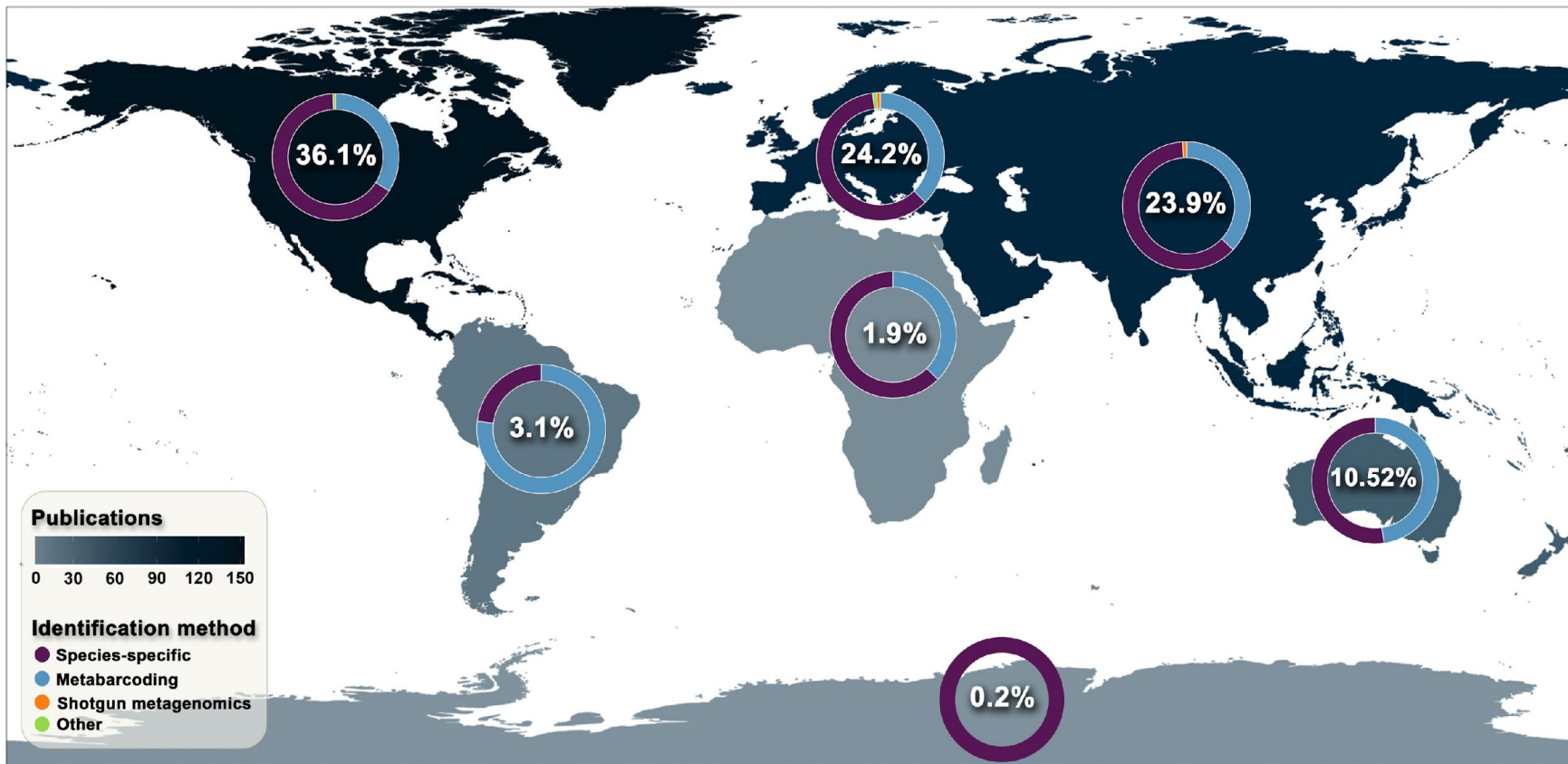
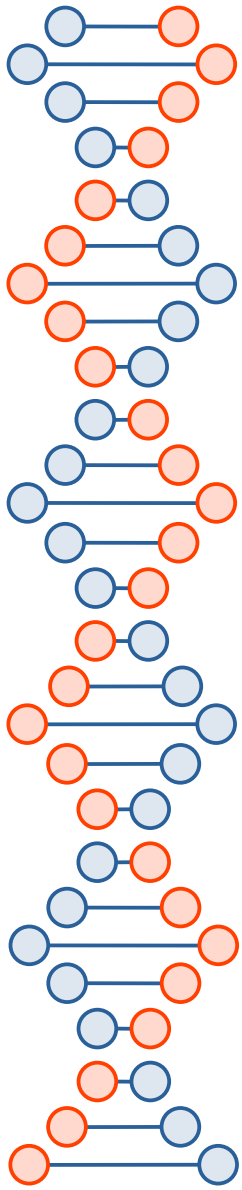
- 2022 – 2023: Muuga, Vanasadam,  
Paldiski Lõunasadam ning Kõiguste ja  
Noblessneri väikesadamad

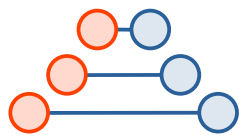
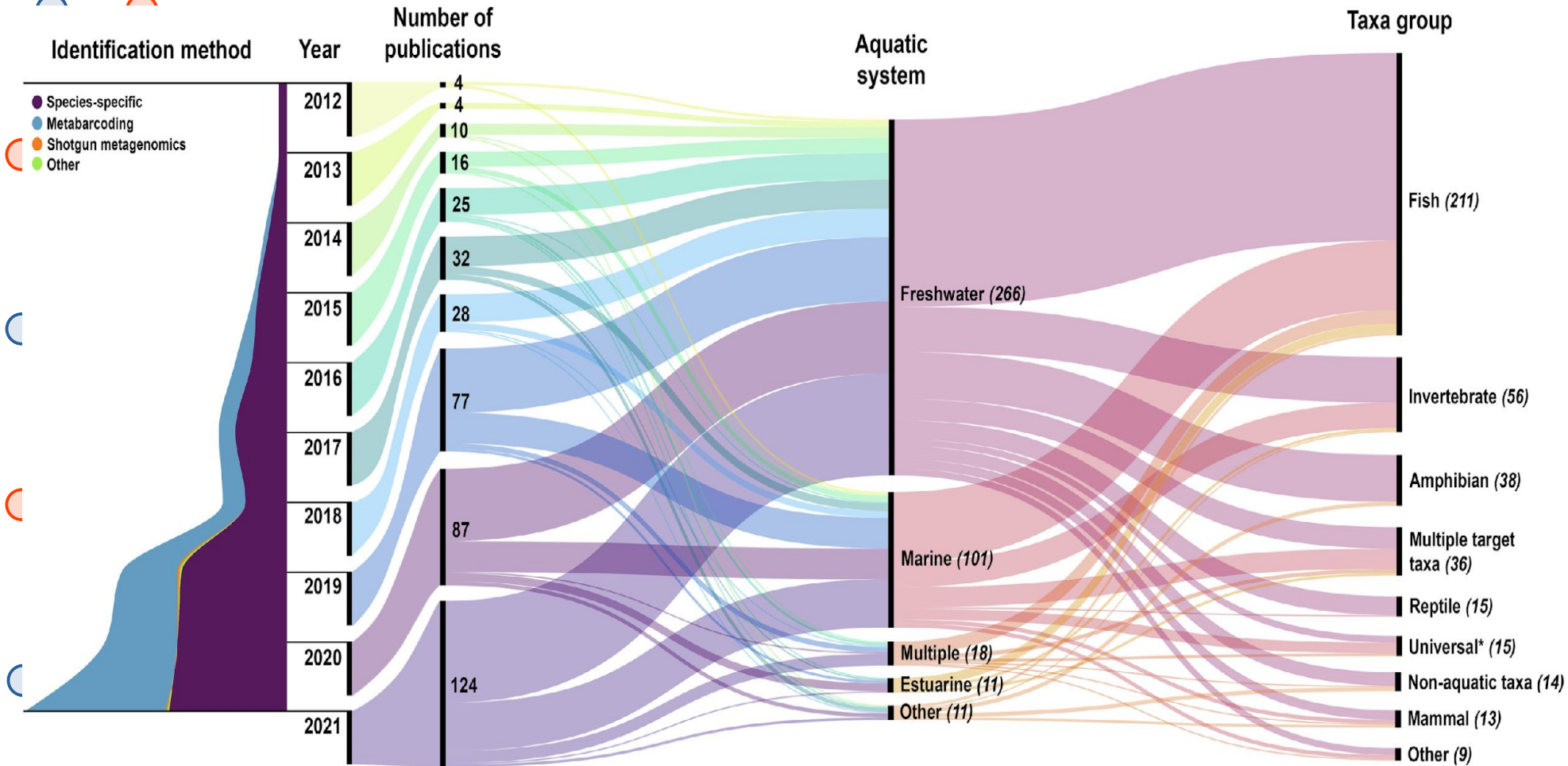
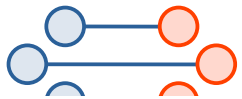


# eDNA põhine seire

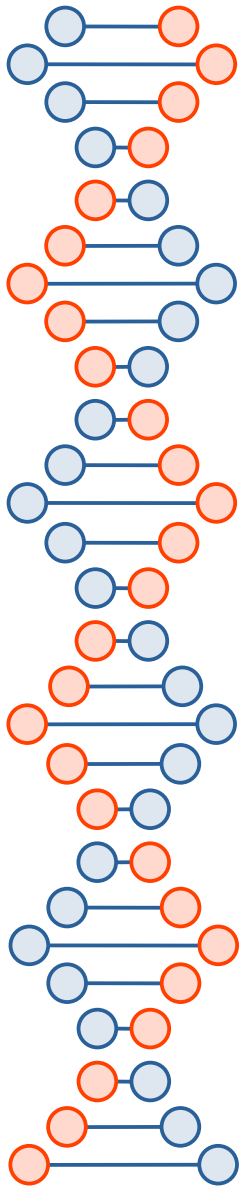


Takahashi et al, 2023





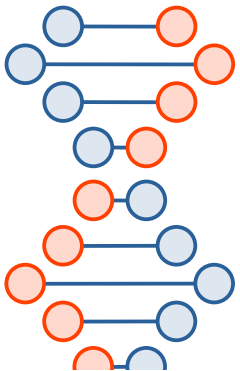




# 1. eesmärk, eDNA metoodika 5 uuele võõrliigile

- Valitud liigid
- *Nippoleucon hinumensis*
- *Mytilopsis leucophaeata*
- *Pontogammarus robustoides*
- *Orchestia cavimana*
- *Relictogammarus stoerensis*

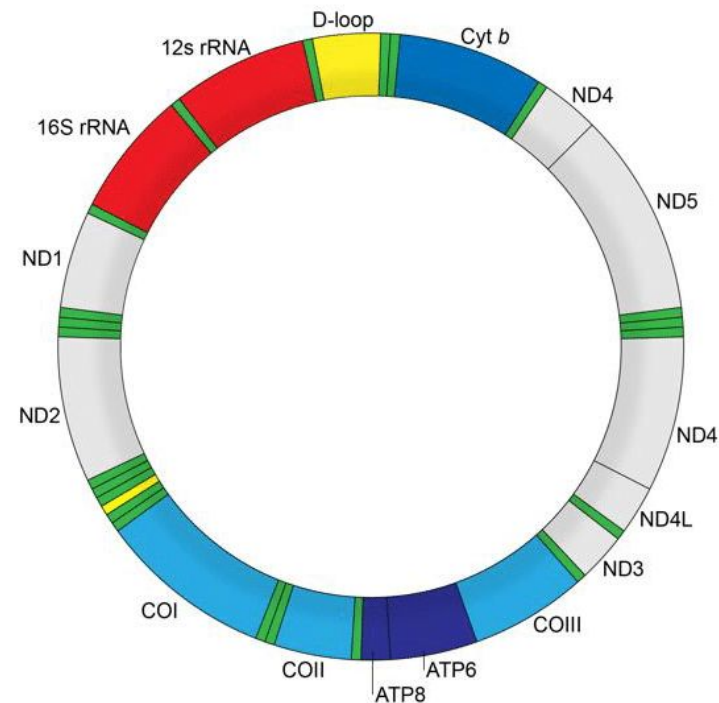
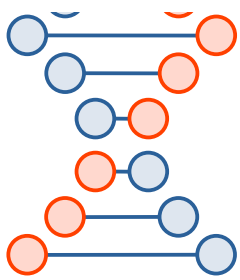




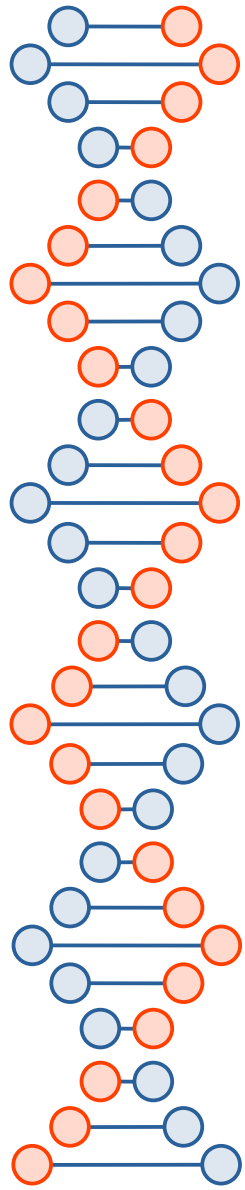
# Liigispetsiifilised geneetilised markerid

Mitokondri genoom, suurus 16 kbp

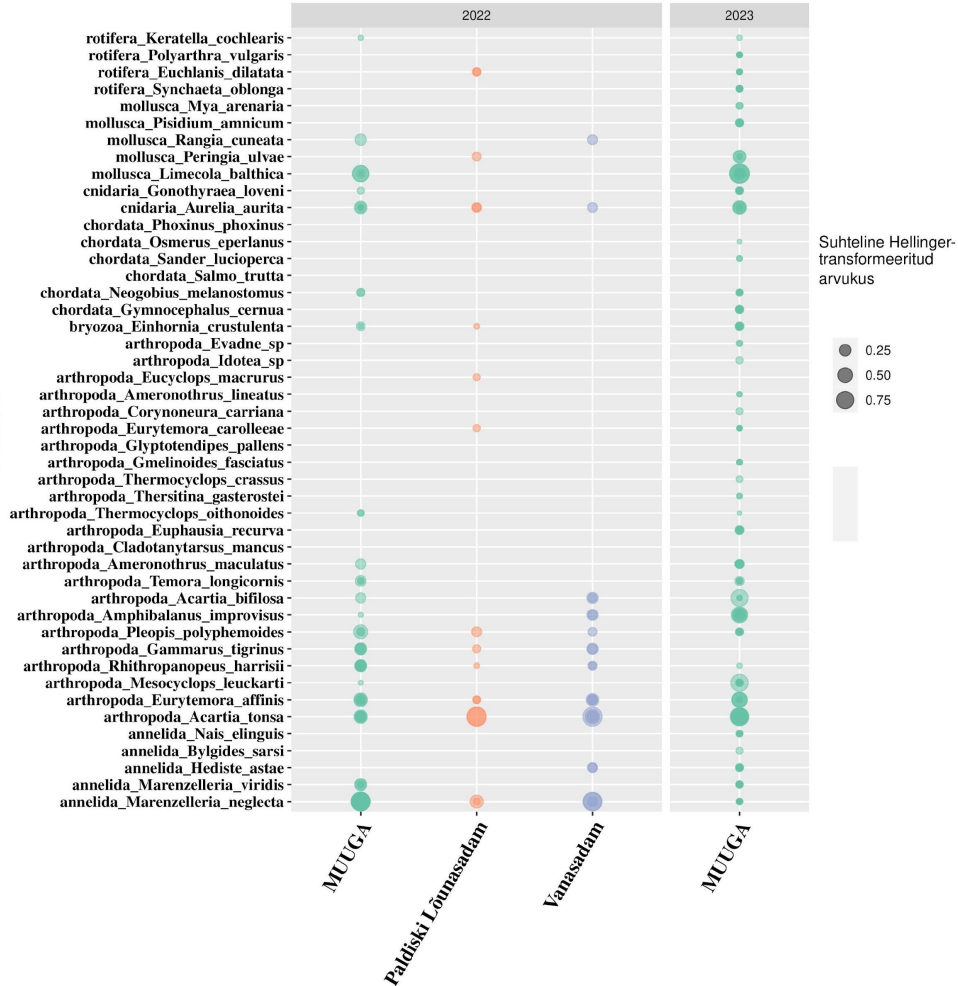
Liik	NCBI	BOLD	DNA	Leid eDNAs
<i>Nippoleucon hinumensis</i>	puudub	puudub	ebapiisav	Ei
<i>Mytilopsis leucophaeata</i>	COI/LSU/mito	+	piisav	Ei
<i>Pontogammarus robustoides</i>	COI/LSU/SSU	+	piisav	Ei
<i>Orchestia cavimana</i>	COI/SSU	puudub	piisav	Ei
<i>Relictogammarus storerensis</i>	COI/SSU	puudub	piisav	Ei



## 2. eesmärk, sadamate bioloogilise seire eDNA meetodi arendus: mtCO1 andmebaasi täiendamine ja testimine



Takson

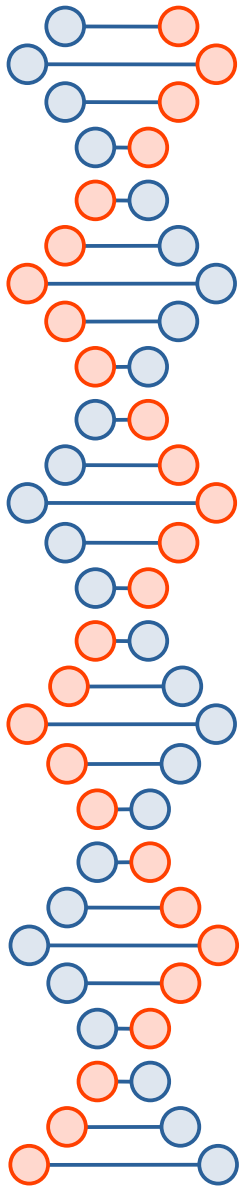


- “Müra” – imetajate, lindude,  
putukate DNA jne

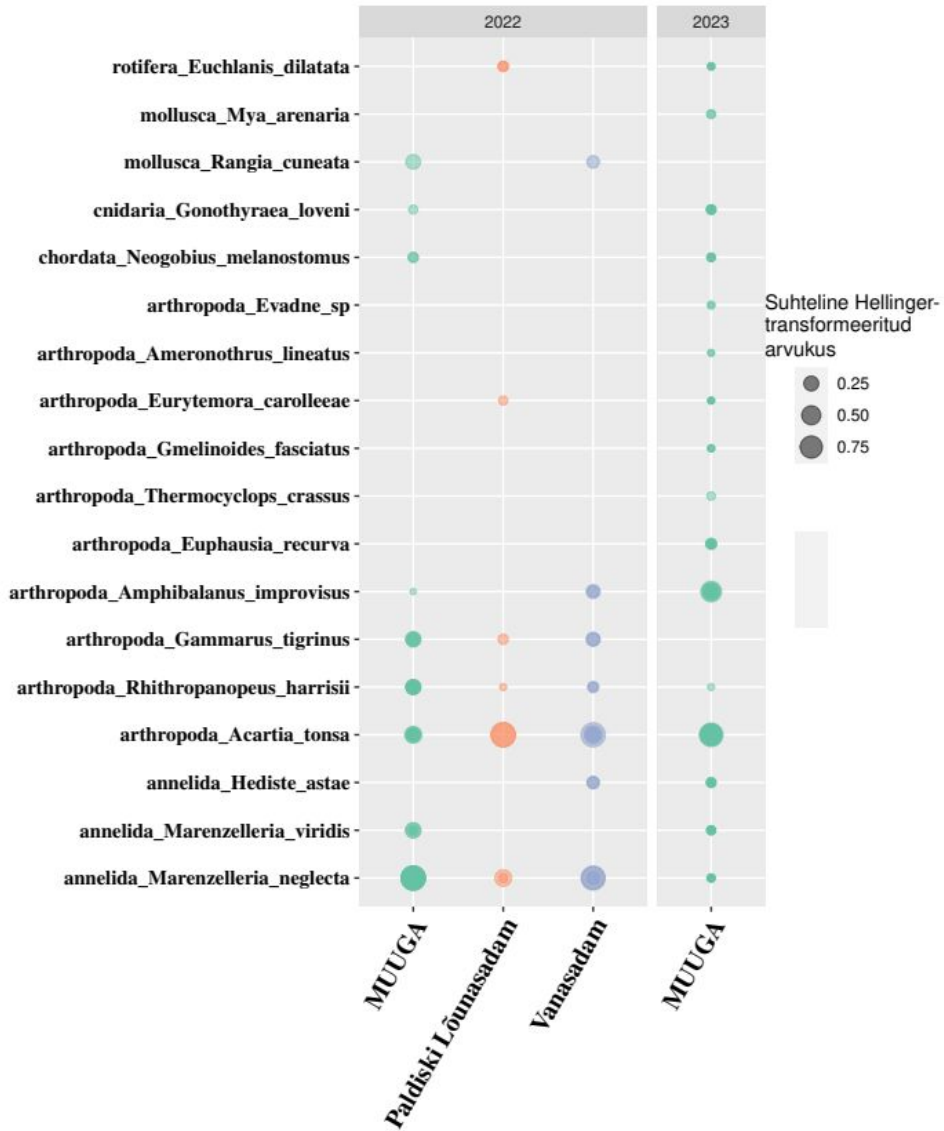
- põhjaloomade ebapiisav  
esindatus, puuduvad arvukad  
liigid *Mytilus trossulus*,  
*Cerastoderma glaucum* jne

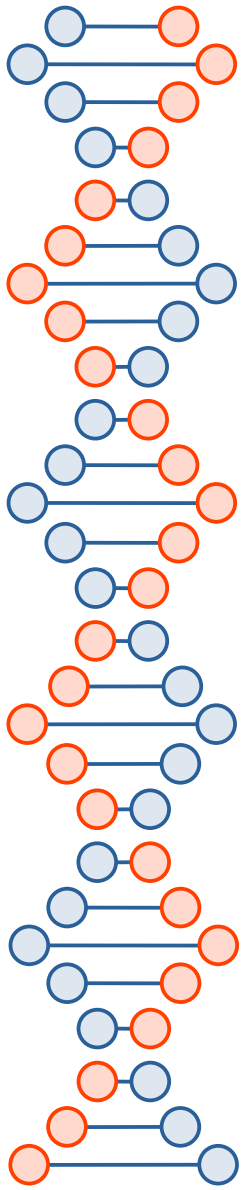
- andmebaasid ei saa kunagi  
valmis



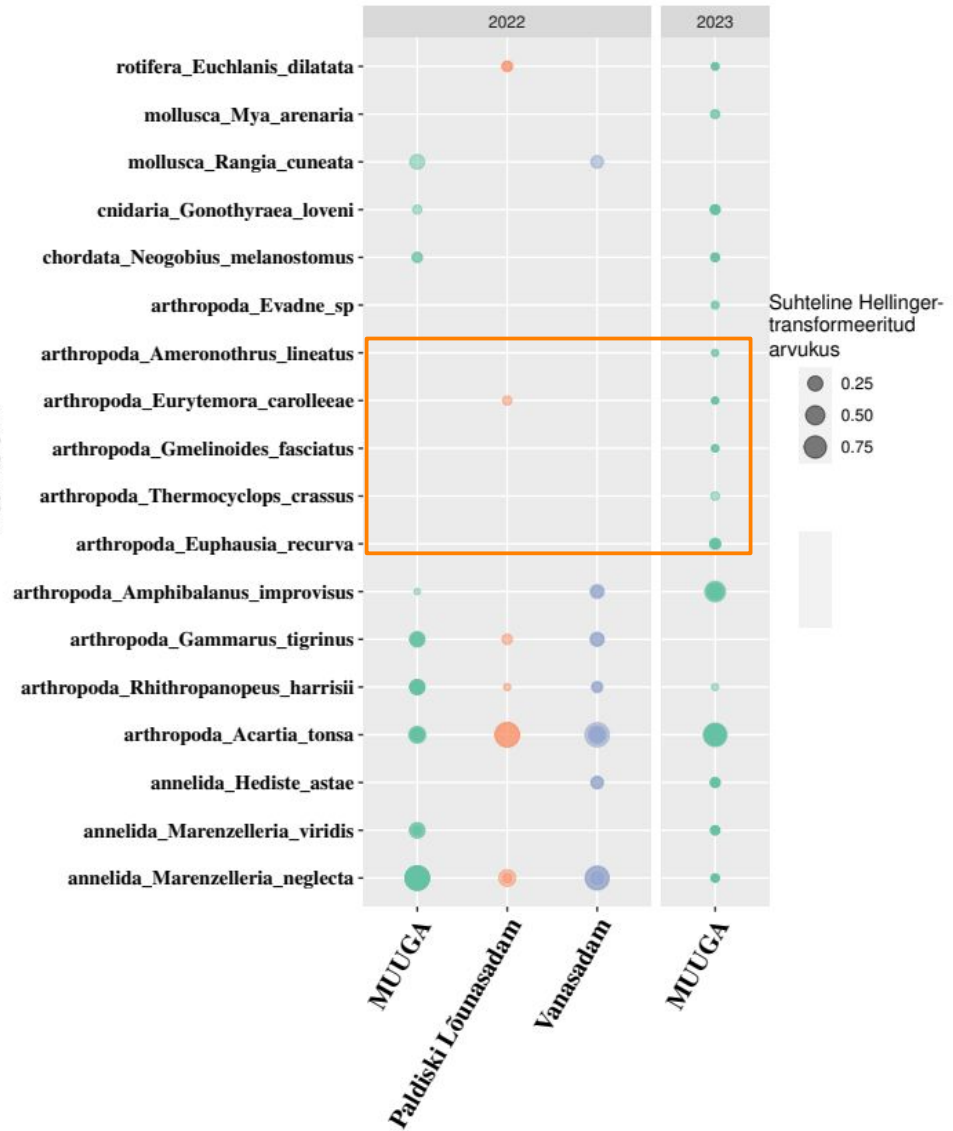


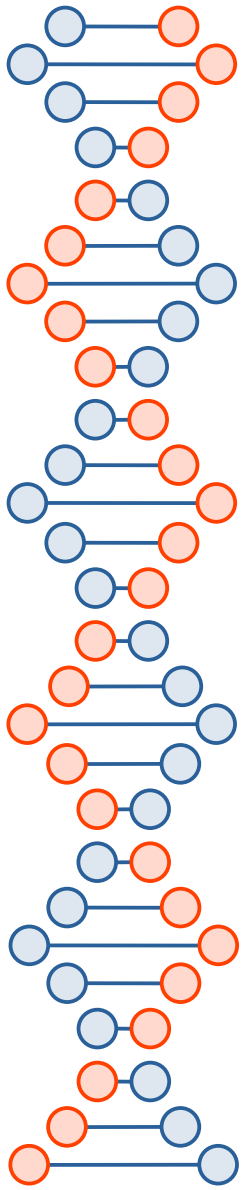
**Takson**



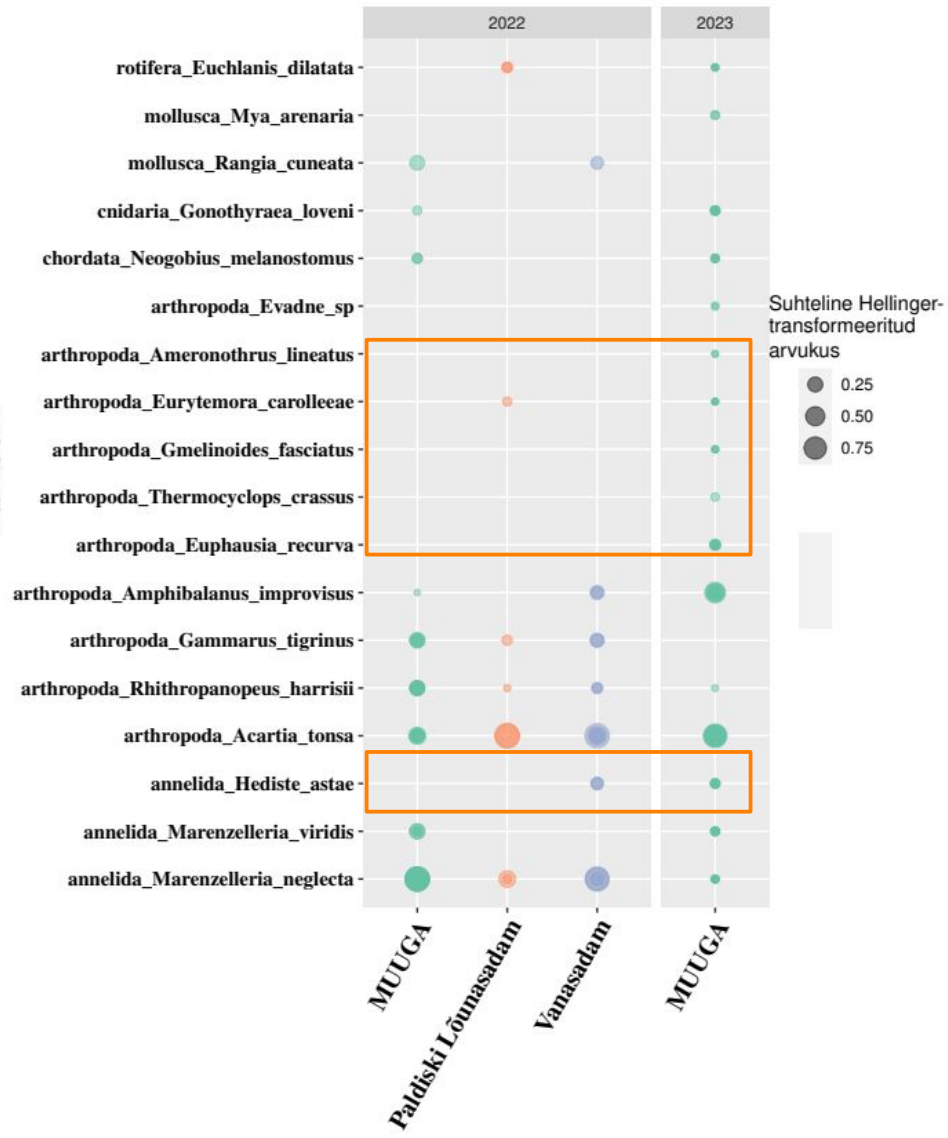


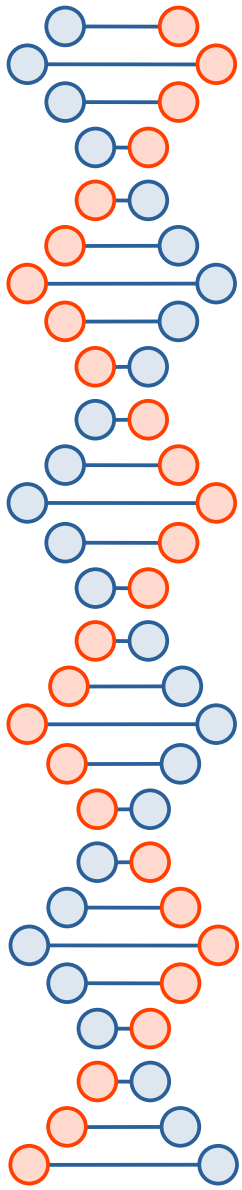
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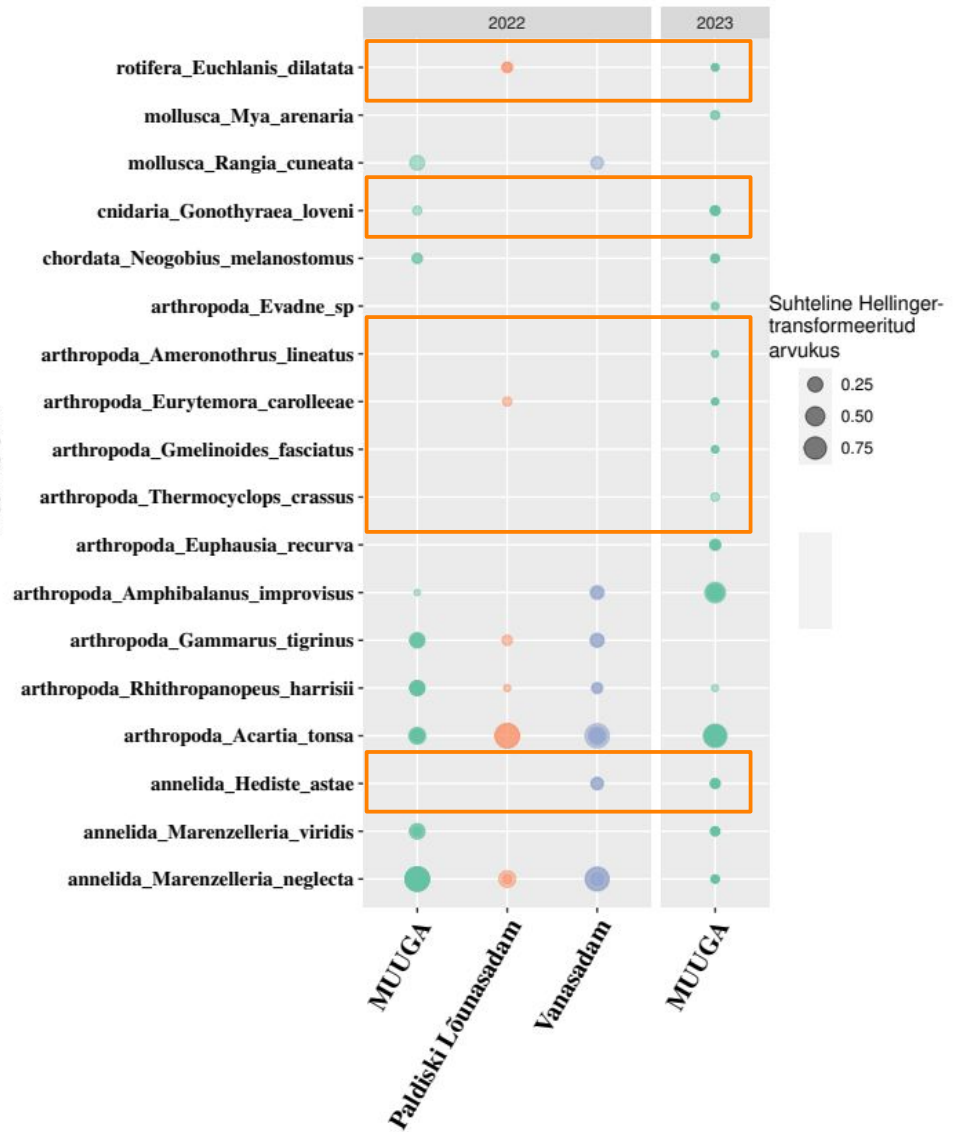


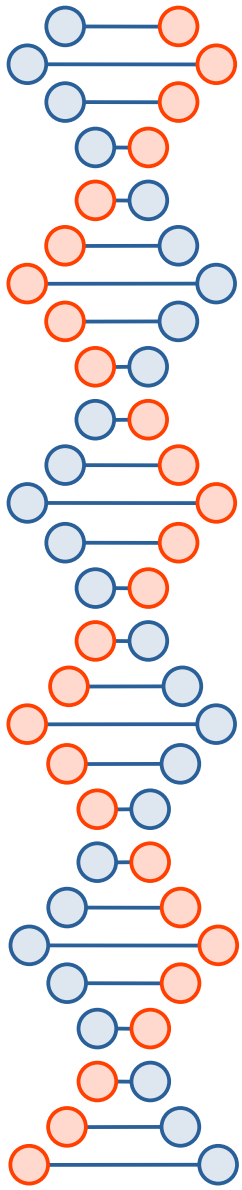
**Takson**



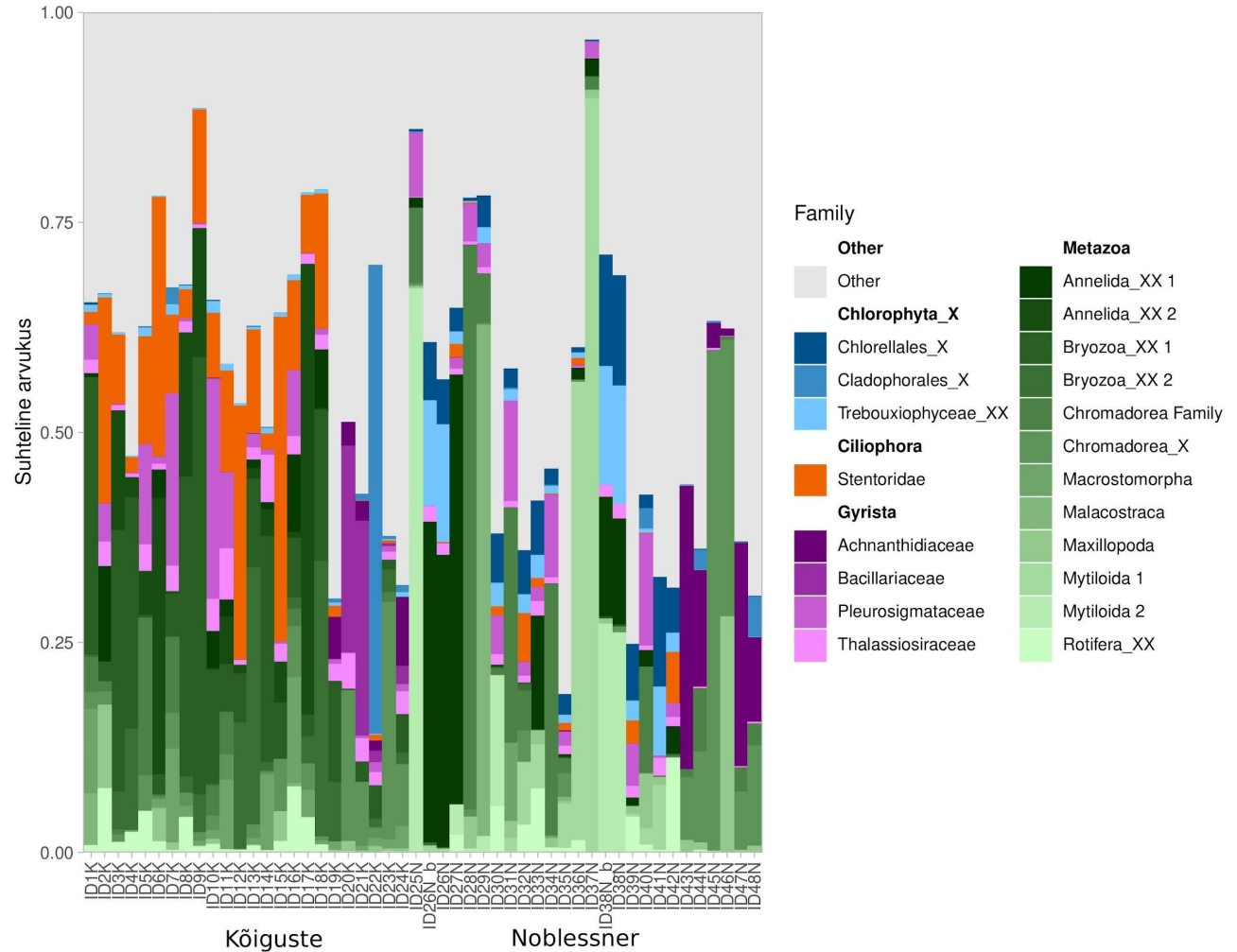


**Takson**



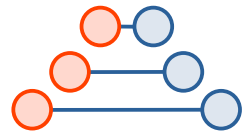
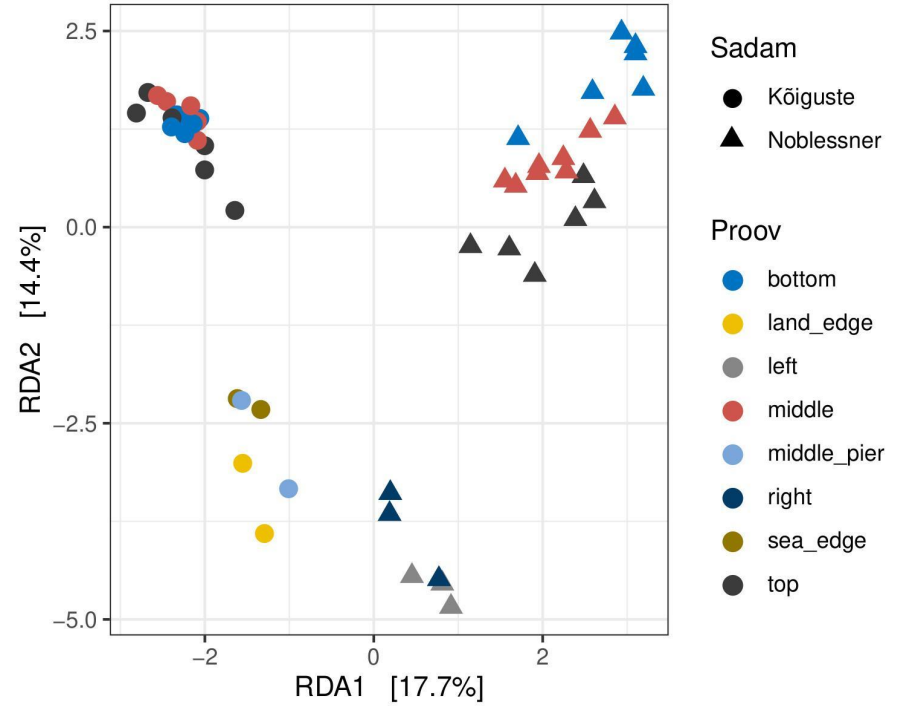
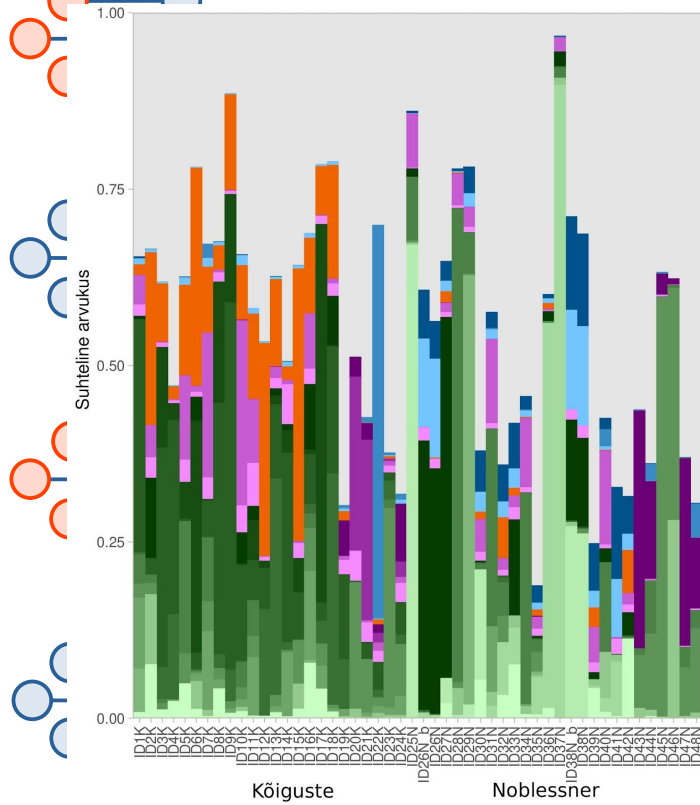
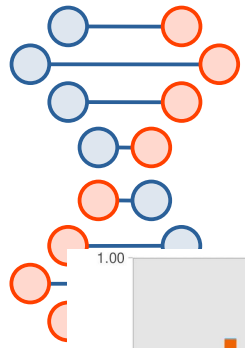


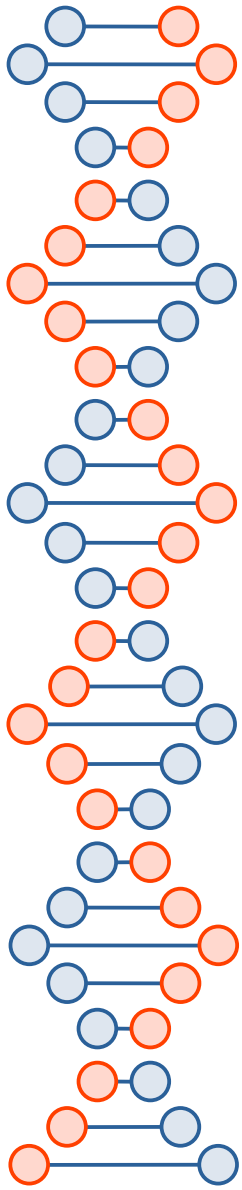
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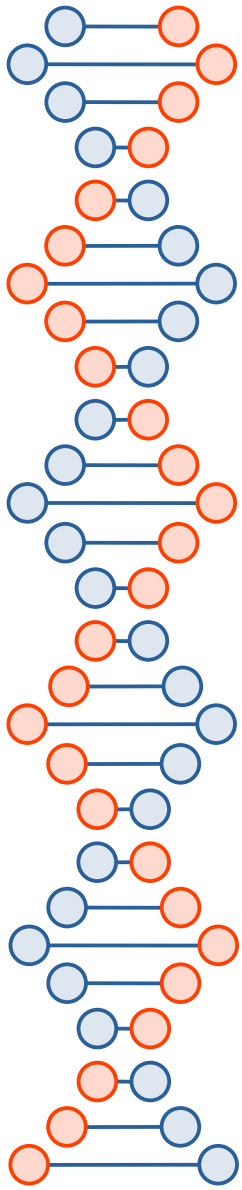
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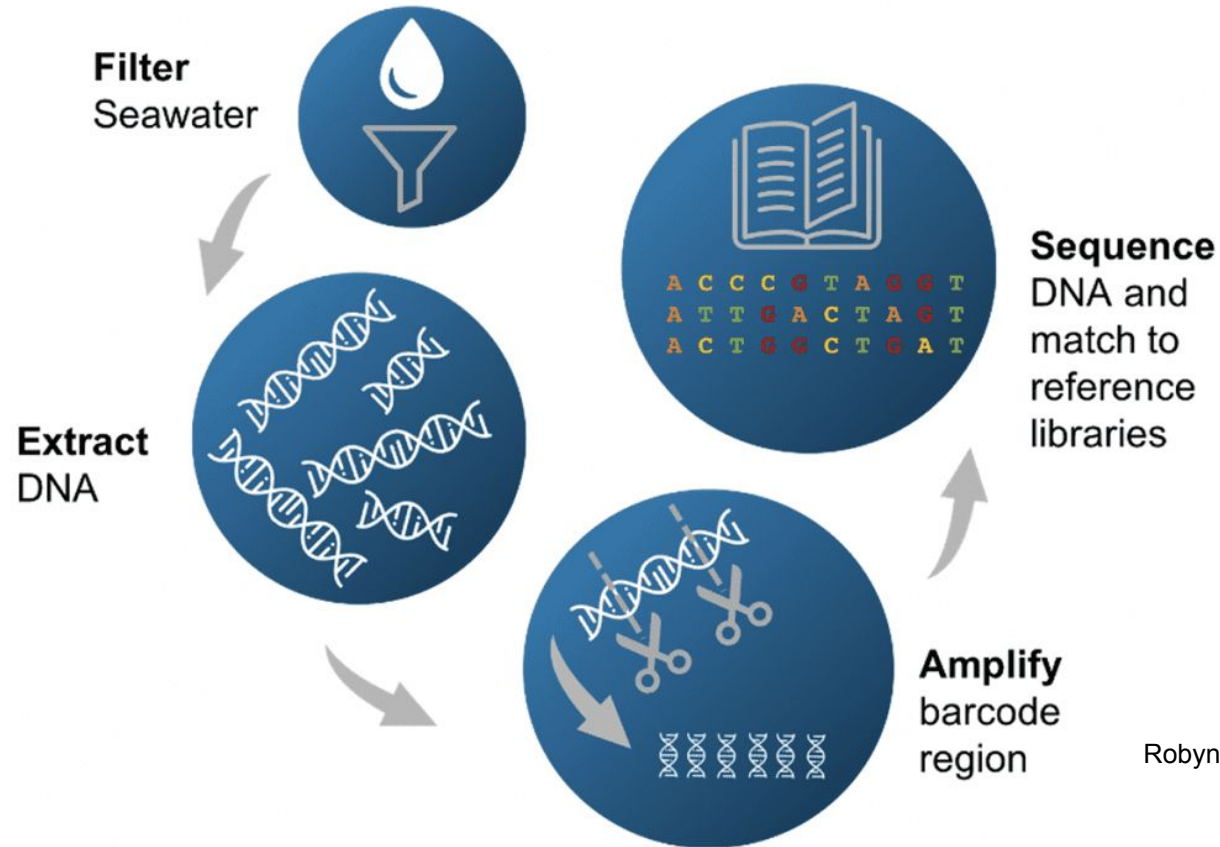


# Lahtised küsimused/probleemid

- Kolmekordne seire: aprill/mai; juuli ja september/oktoober, on ebapiisav;
  - - passiiv-samplerid?
- Vee- *versus* setteproovid;
  - - sette pindmine kiht?
  - - kaide äärest vee võtmine?
- (Laevade ballastvee analüüs)



# Tänan!



Robyn Samuel NOC, joonistus