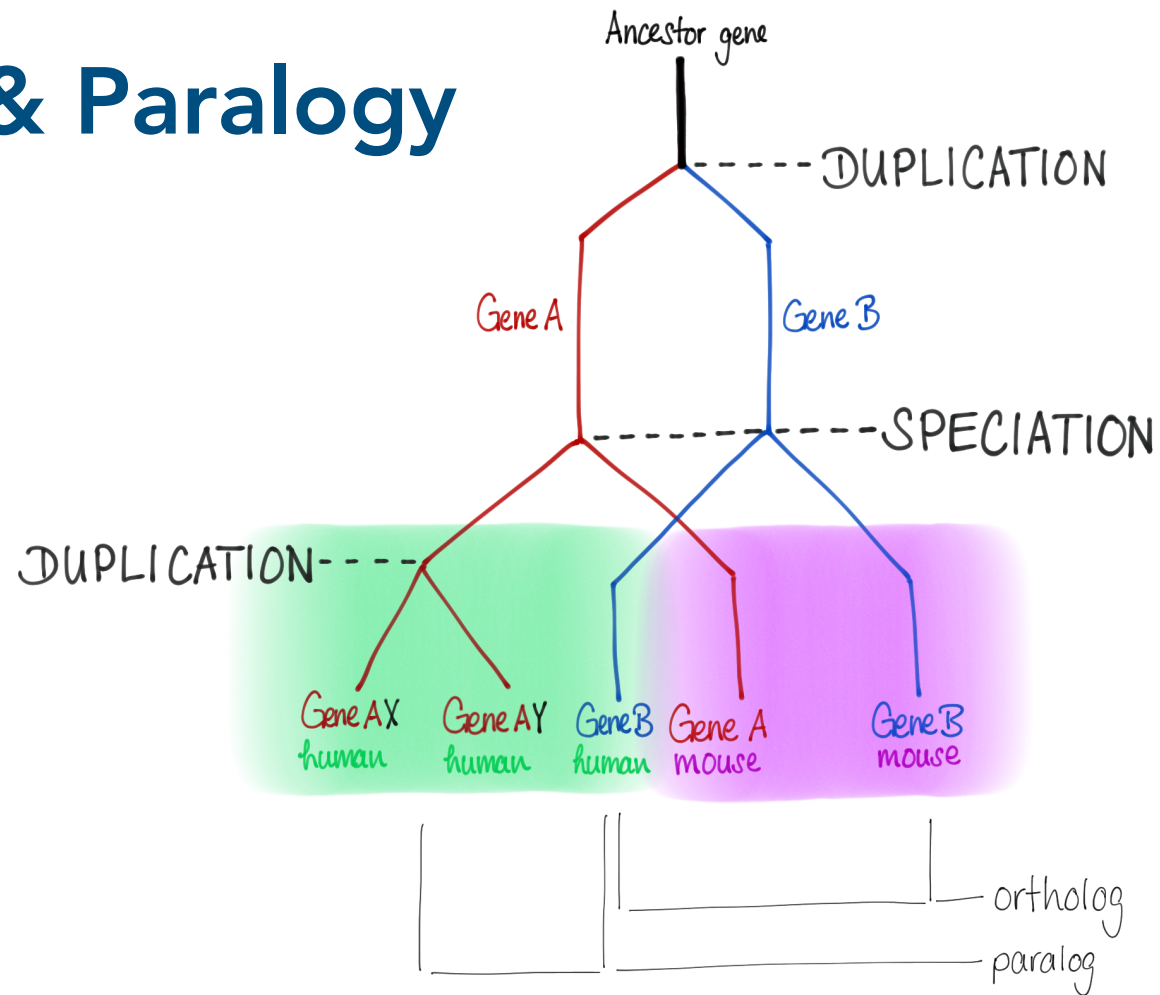# OrthoInspector: comprehensive orthology analysis and visual exploration

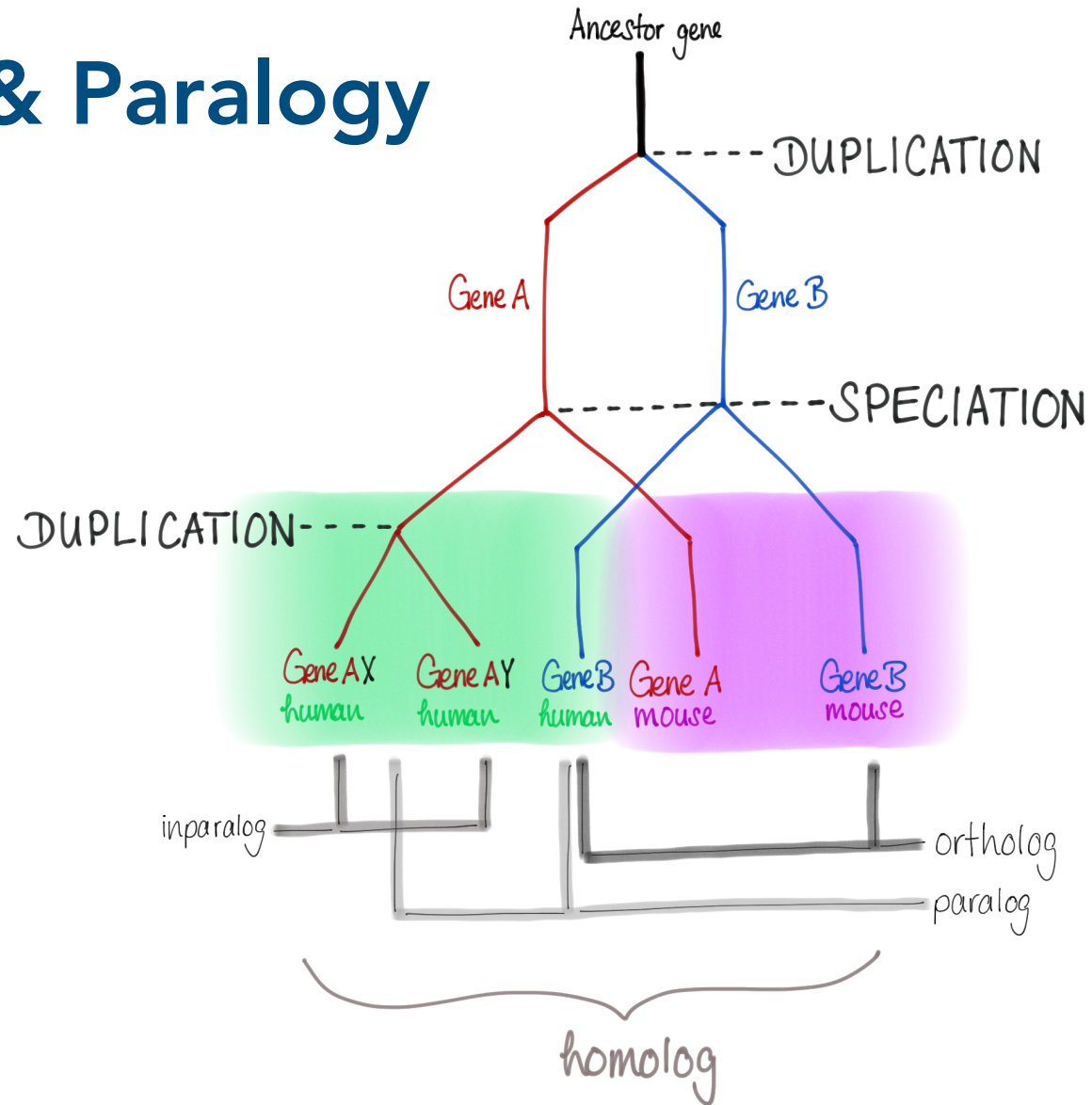Benjamin Linard, Julie D. Thompson, Olivier Poch, Odile Lecompte

Kassoum Wonogo and Carina Zschammer

Biological Motivation

Ortho- & Paralogy

Ortho- & Paralogy

Problem & Solution

Find all Orthologs

Problems of existing methods:

- Primary search for reciprocal best hits in sequence data

- Risk of false negative hits

Solution by OrthoInspector:

- First find inparalog genes and form corresponding groups

- In a second step pairwise comparisons between inparalog groups to find potential (co)-orthologs

Practical Motivation

Problem & Solution

Software Application

Problems of existing methods:

- Complex use: programming knowledge is often required

Solution by OrthoInspector:

- Application via two user interfaces: command line client & graphical interface

Conclusion

- OrthoInspector is a functional software tool for orthology/inparalogy analyses

- Reliable and safe predictions

    - Well balanced sensitivity and specificity

    - Advantages of different prediction methods should be combined to further improve both sensitivity and specificity

- Very user-friendly

Thank you for your attention!

Linard, B., Thompson, J.D., Poch, O. *et al.* OrthoInspector: comprehensive orthology analysis and visual exploration. *BMC Bioinformatics* **12,** 11 (2011). https://doi.org/10.1186/1471-2105-12-11