Genome-wide Primer Scan (GPS): A python package for a flexible, reliable and large-scale primer design toolkit

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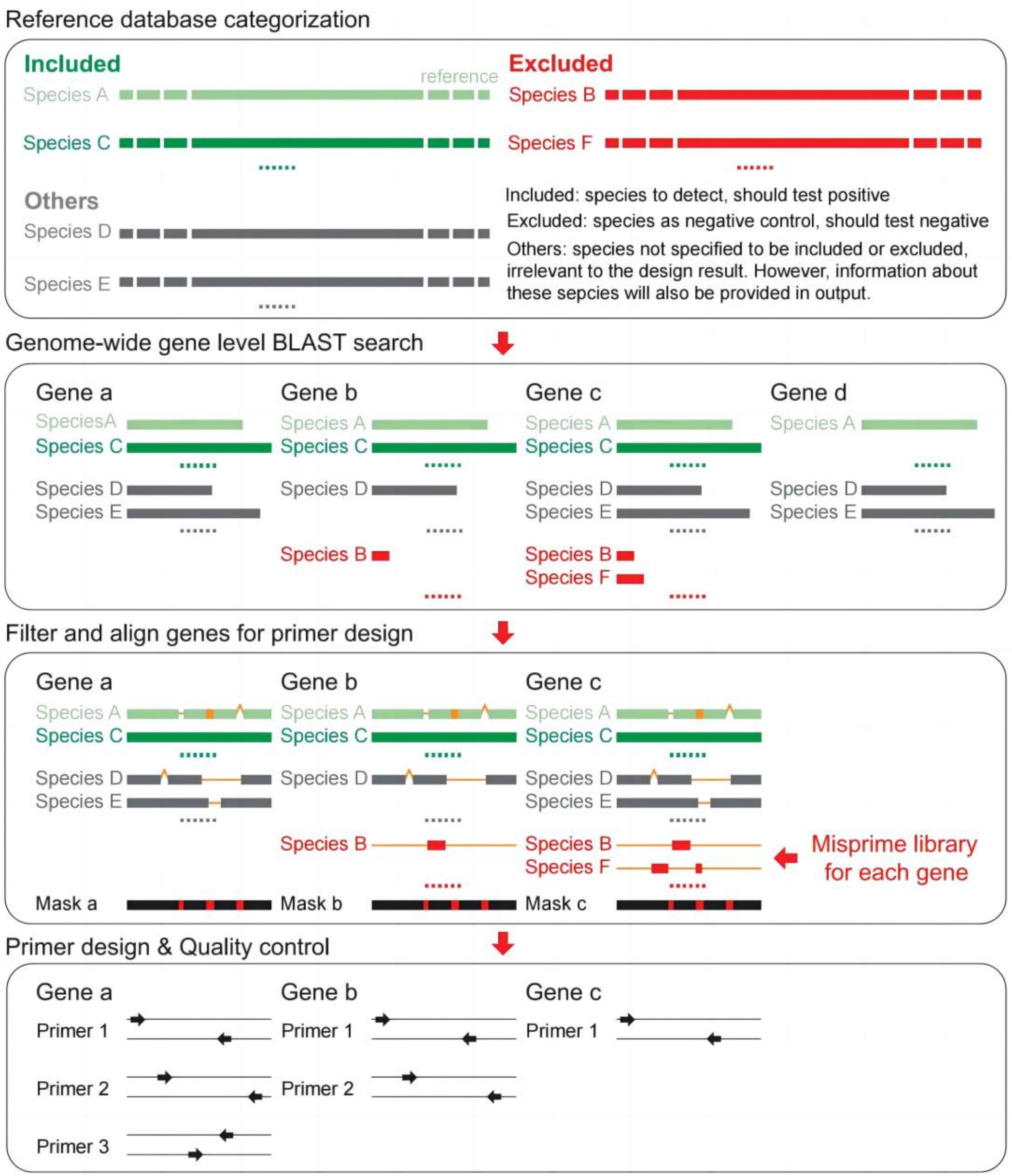
Problems & Ideas

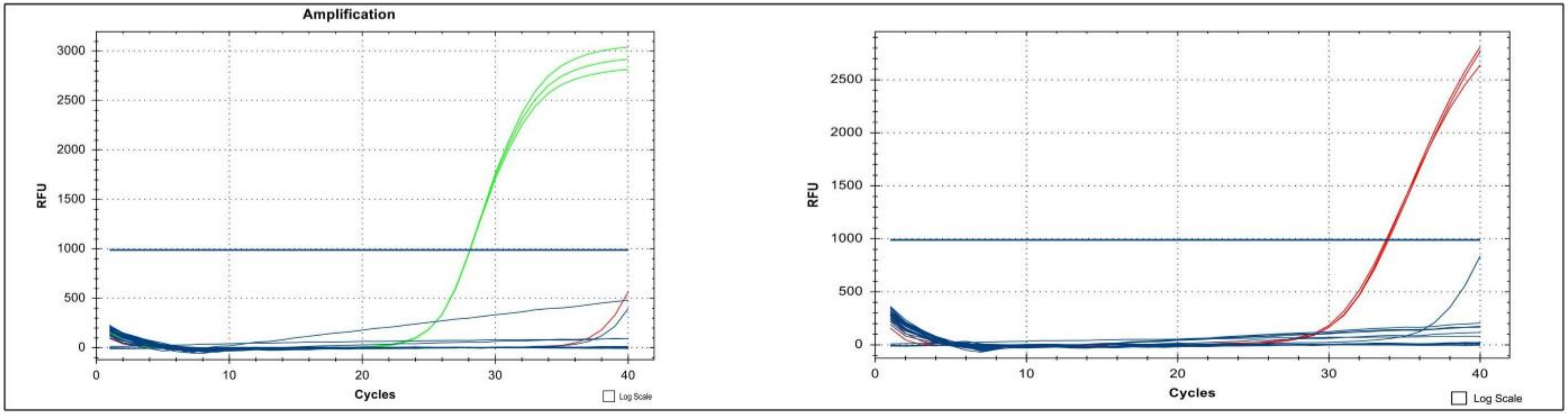
- Problems of species-specific primer design:
  - Most software packages require users to manually specify a template gene or region.

- Ideas: A software search against a large number of genomes to identify specific primers.



Main Contributions

- Contributions:
  - A tool could rapidly designing primers for evolving pathogens such as viruses or fungi;
  - A method could handle a large number of genomes to identify specific primers;
  - A species-specific primer design without specifying a template gene or region



Left: targeted species is C. neoformans (green); right targeted species is C. gattii (red). Other control species (n=9) are colored in black. RFU: Relative Fluorescence units.