

The epiphytic microorganisms inhabiting rosehip and rowanberry

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INTRODUCTION & AIM

Rosehip (*Rosa canina* L., RC) and rowanberry (*Sorbus aucuparia* L., SA) are two forest berries known for their nutritional content and historical use in traditional medicine. These berries are valued for their diverse bioactive compounds, including antioxidants, phenolic compounds, organic acids, minerals, vitamins, fatty acids, and dietary fibers, thus have high potential for human health and are attractive in food industry. Therefore, it is important to characterize the berries-associated epiphytic microbial communities and uncover beneficial constituents.



METHOD

During our study, the fungal and bacterial microbiota of rowanberries and rosehips were investigated. Following DNA isolation, DNA fragments of the ITS2 rRNA gene region and the V3-V4 region of the 16S rRNA for each sample were individually amplified and subjected to high-throughput sequencing. For a comprehensive assessment of wild berries-inhabiting microbial communities, analysis of cultivable yeasts was performed also.

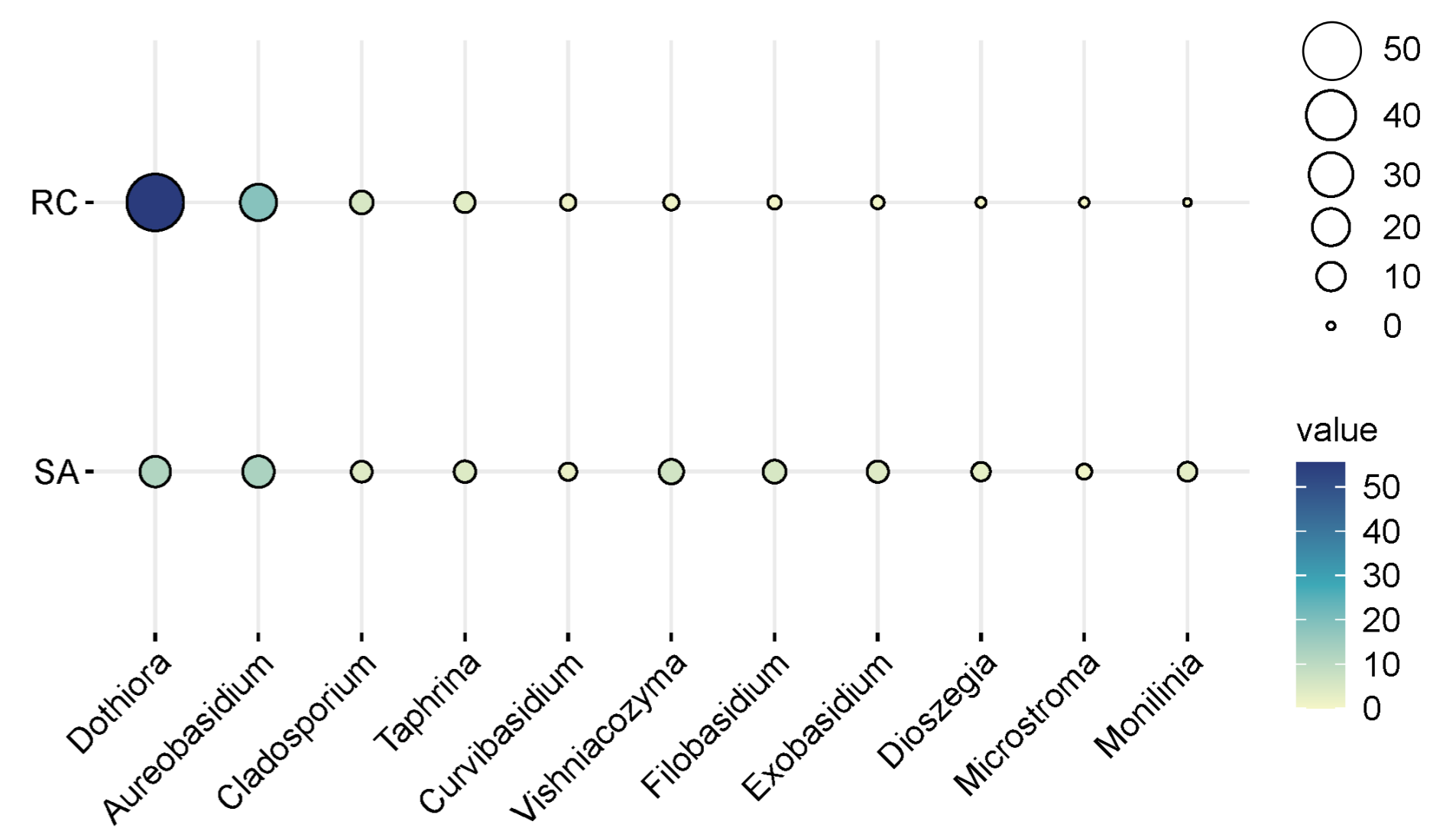
CONCLUSION

Bioinformatics data indicate that the dominant fungal microorganisms on rosehips are *Dothiora*, *Aureobasidium*, *Cladosporium*, and *Taphrina*, while the same genera and additionally *Vishniacozyma*, *Filobasidium*, and *Exobasidium* prevailed on rowanberries. Bacterial species from *Sphingomonas*, *Hymenobacter*, *Methylobacterium*, and *Pseudomonas* genus dominated on rowanberries, whereas *Pseudomonas* and *Sphingomonas* were found on rosehips.

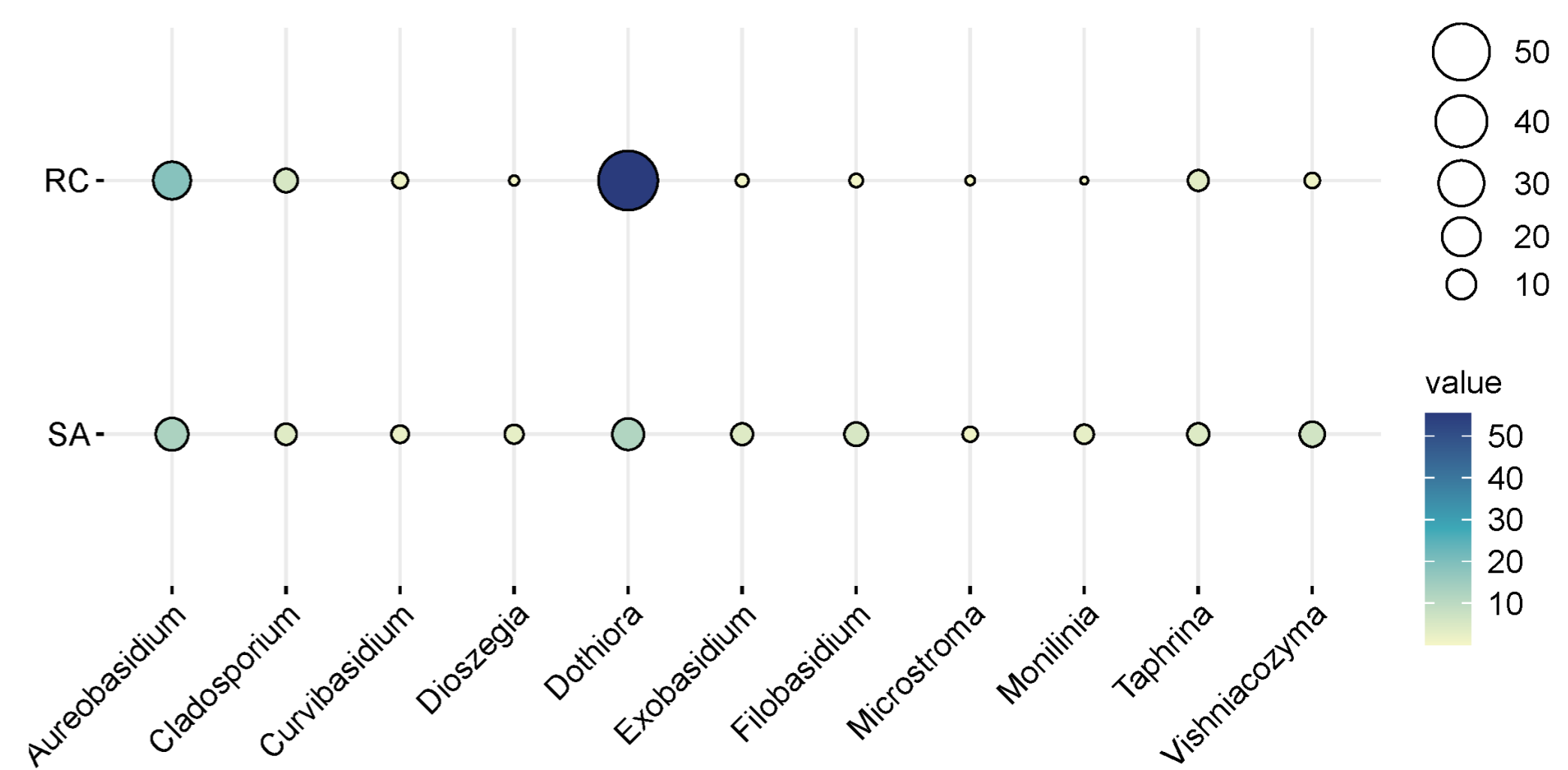
Comparable cultivable yeast profiles were obtained for rowanberries and rosehips: representatives of *Aureobasidium*, *Cryptococcus*, *Rhodotorula*, *Hanseniaspora*, *Metschnikowia*, and *Curvibasidium* genera were found on both berries. Potentially pathogenic to humans, also beneficial and relevant for biocontrol microorganisms were identified on tested health-relevant wild berries.

RESULTS & DISCUSSION

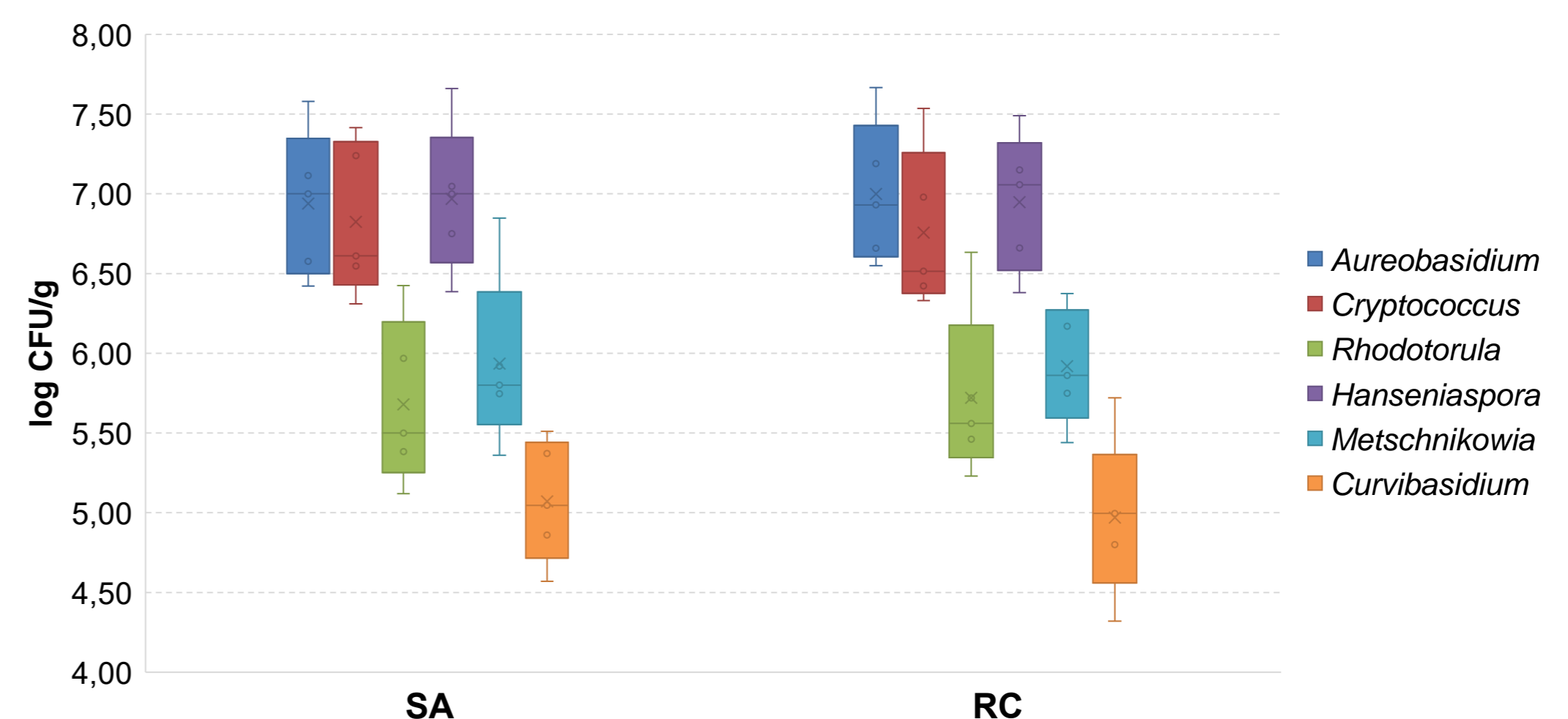
Most common genera of fungal microorganisms



Most common genera of bacteria



Distribution of cultivable fungal microorganisms



FUTURE WORK / REFERENCES

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