

Artificial and natural lights: spectral comparison weighted by the visual response of Heterocera

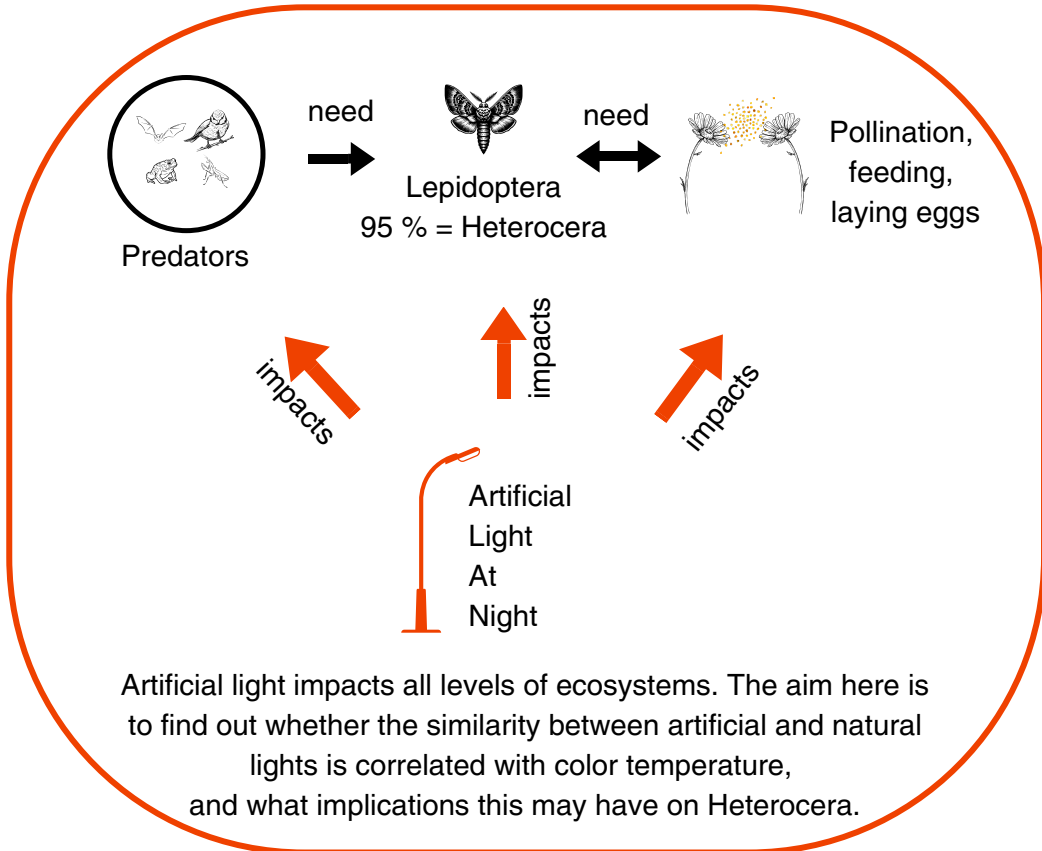
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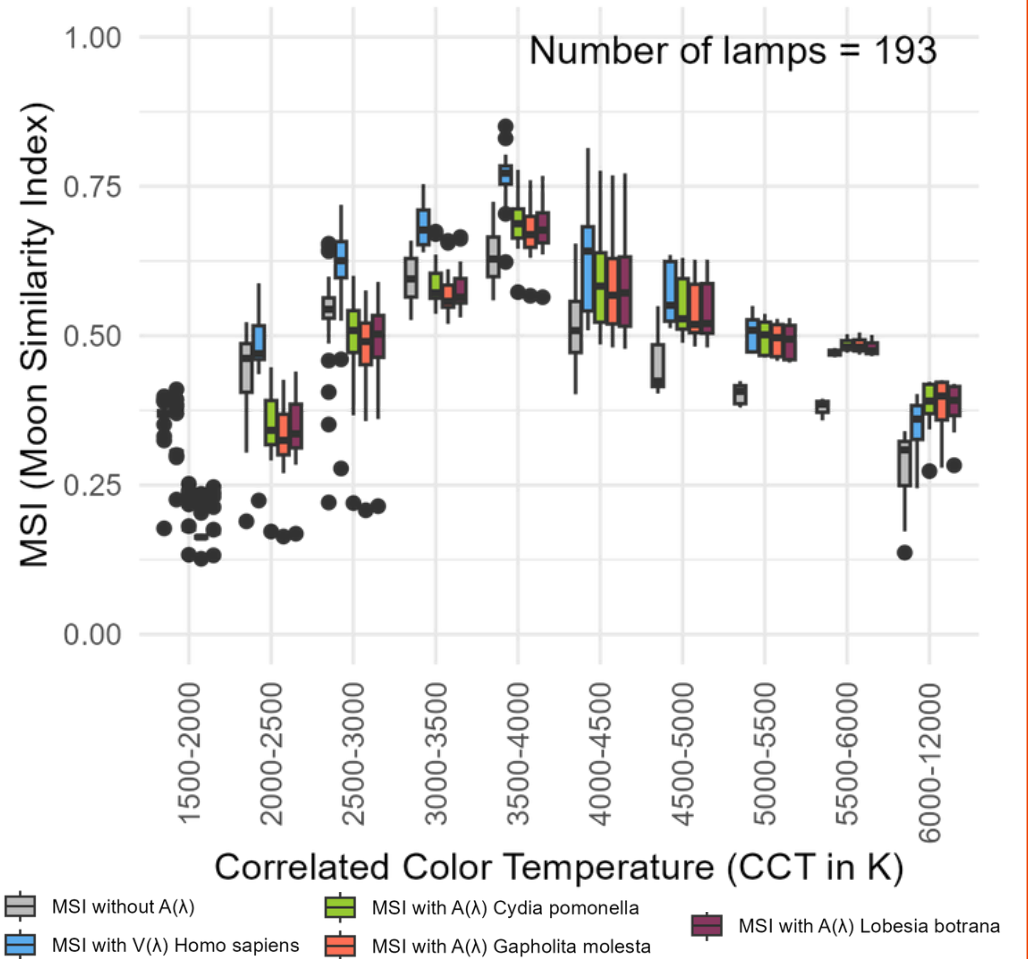
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INTRODUCTION & AIM



RESULTS & DISCUSSION

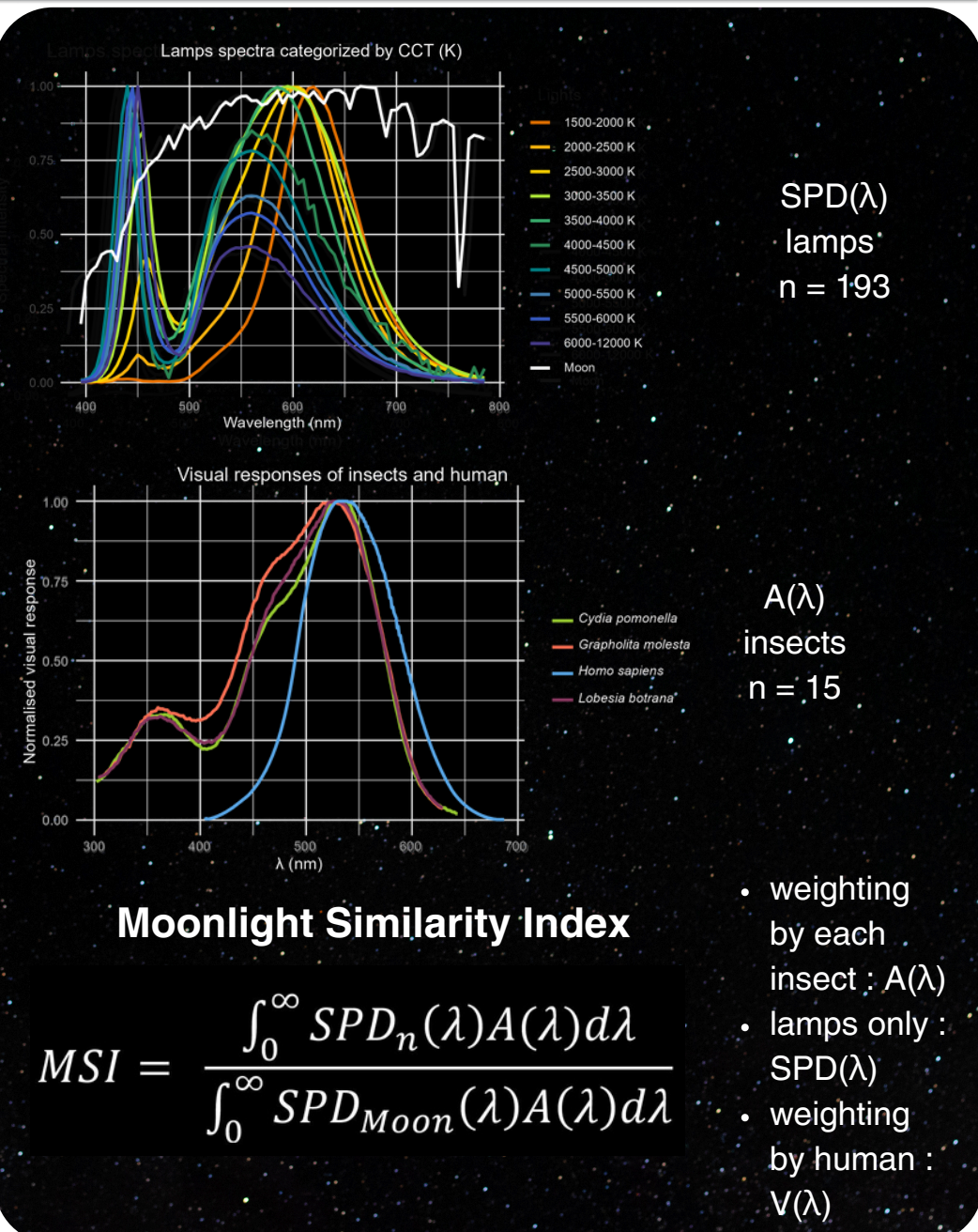
Comparison of lamps MSI, weighted by insects and human visual responses, categorized by CCT



Statistical analysis Anova + Tukey tests

- No significant differences in MSI values for the different Heterocera within a CCT category (p-value > 0.05)
- Significant differences between the MSI of Heterocera and the MSI calculated without A(λ) within a CCT category (p-value < 0.05)
- Significant differences in MSI values for Heterocera between different CCT categories (p-value < 0.05)

METHOD



CONCLUSION

These three species have different light-related lifestyles (diurnal, crepuscular, nocturnal), but this does not influence their light perception. They perceive artificial light as closer to moonlight once the CCT reaches or exceeds 4500 K. After this point, MSI decreases to levels found at lower CCTs, showing a peak in light perception at a CCT close to natural light. Since artificial light is based on human vision, considering other visual systems would allow for a more environmentally respectful approach.

FUTURE WORK / REFERENCES

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