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Melodious melancholia: Analysing the effect of anthropogenic sound on bird calling behaviour

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INTRODUCTION & AIM

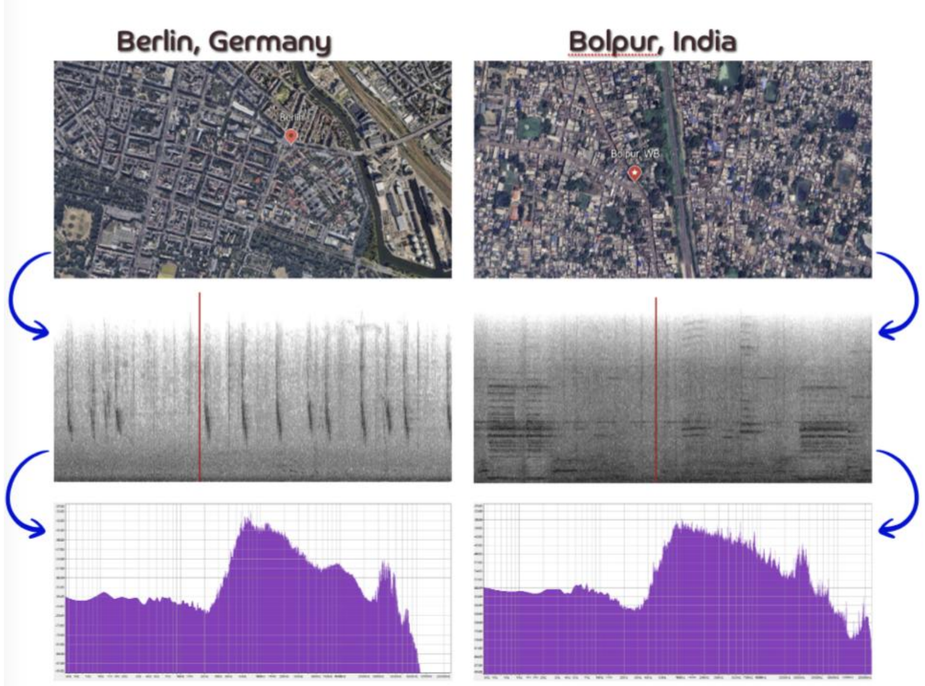
Birds depend profoundly on auditory perception for essential behaviours such as communication, navigation, predator avoidance, and social interaction. Vocalization plays a central role in these functions and is closely linked to their sensory ecology. However, the intensifying presence of anthropogenic and urban noise is transforming natural soundscapes, interfering with bird's ability to perceive and produce acoustic signals.
This research examines how varying levels of human disturbance affect vocal communication in birds across contrasting environments, from densely urbanized areas to undisturbed forest habitats.

METHOD

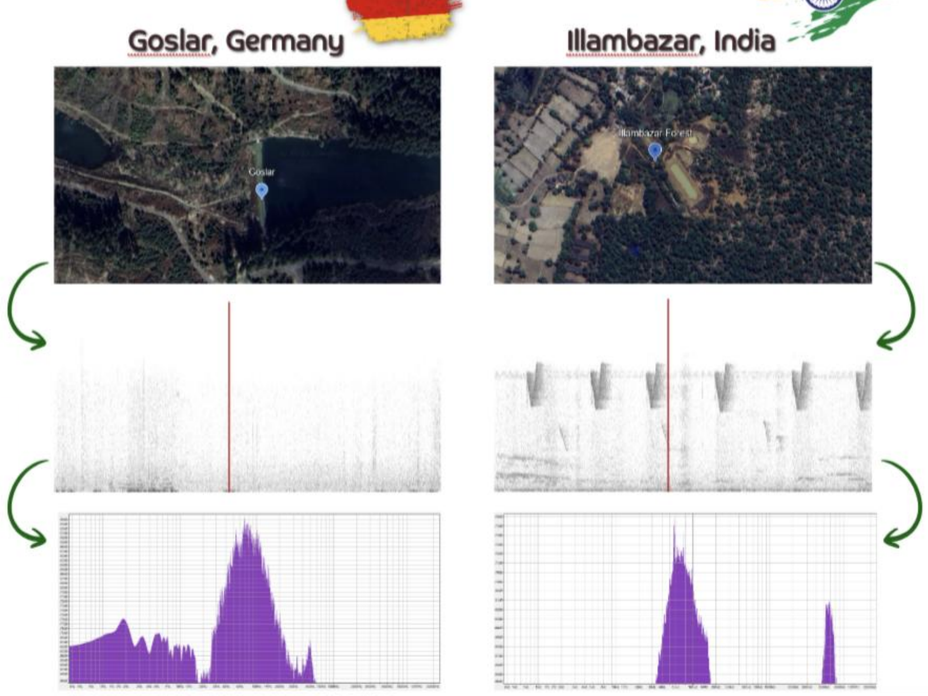
Acoustic data were collected using high-sensitivity recording systems from multiple sampling points representing a gradient of urbanisation. We used urban, suburban, and rural and forest areas for the collection of the acoustic data. Geographic Information System (GIS) tools were used to integrate landscape features.

RESULTS & DISCUSSION

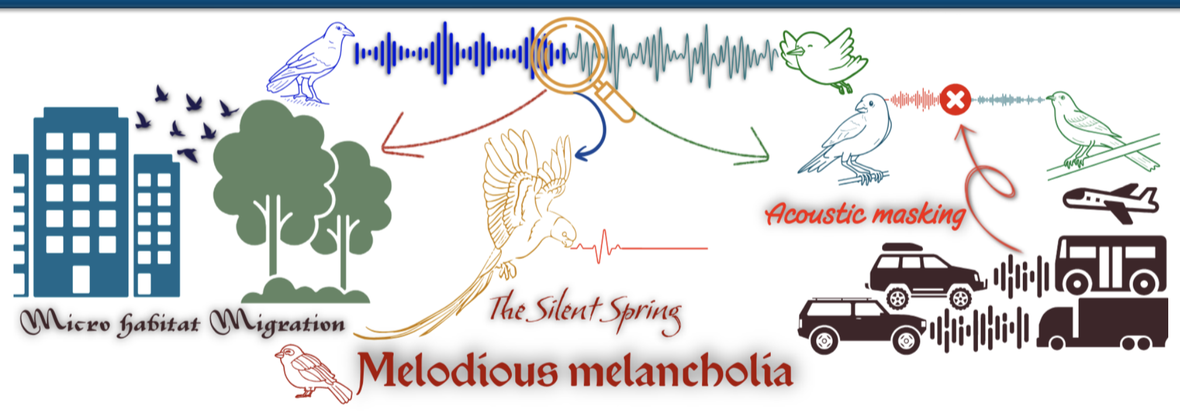
Bird vocal communication frequencies and interactive calling bouts are significantly affected by human-made artificial sounds. However, it is a fact that collective bird calling can be considered a behavioural marker of migration from extreme to moderate to less urban areas.



The results imply a high potential for acoustic masking in urbanized environments, where anthropogenic noise may interfere with bird's ability to perceive and transmit vocal signals effectively. However, it is a fact that collective bird calling can be considered a behavioural marker of migration from extreme to moderate to less urban areas. The results imply a high potential for acoustic masking in urbanized environments, where anthropogenic noise may interfere with bird's ability to perceive and transmit vocal signals effectively.



CONCLUSION



The frequency and intensity-dependent variation in bird calling supports our hypothesis that urban noise disrupts avian communication, or collective bird calling in the ecosystem becomes masked by the mechanical soundscape.

FUTURE WORK / REFERENCES

However, to substantiate our hypothesis, it is important to have a long-term study on the collective vocalizing intricacies in birds. We are focused on long-term monitoring of bird vocalization patterns across diverse habitats to better understand the cumulative effects of anthropogenic noise on avian communication.