
Using citizen science to study garden birds behavior and ecology : do birds follow the ideal free distribution when recruiting to garden feeders ?

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Résumé

The proportion of humans living in urban contexts has been steadily increasing, now surpassing those living in rural areas. This demographic shift brings about several consequences: humans' connection to nature is altered due to limited opportunities to experience it firsthand. One activity that can provide such an experience is birdfeeding, particularly popular during the winter months.

BirdLab aims to enhance this experience by engaging participants in a citizen science program to collect data on bird attendance and interactions at feeders. Participants were instructed to position feeders approximately 1 meter apart, while maintaining other variables as similar as possible (e.g., using the same type and amount of sunflower seeds), and observe bird recruitment for a 5-minute period.

By analyzing data gathered over 10 years of the BirdLab program, we investigated whether bird recruitment to feeders follows the ideal free distribution (IFD). Our findings suggest that common garden bird species generally adhere to the IFD. However, the extent to which different species adhere varies. While the odds of adhering to the IFD are high for species like great tits and blue tits, the recruitment patterns of gregarious species such as goldfinches or greenfinches depend on the total abundance already present at the feeder. Additionally, factors such as landscape context (urban vs. rural) and winter severity also influence the likelihood of birds following the IFD.

Mots-Clés: citizen science, garden birds, foraging behavior, urban ecology, ideal free distribution

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