

The Role of Citizen Science in Monitoring Biodiversity Changes in Urban Areas

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Description

Urban biodiversity monitoring and conservation are becoming more and more important as the world's cities continue to grow in population. The diversified land uses and high human density of urban areas provide particular challenges to biodiversity. Through citizen science programs, they do, however, also provide chances for civilian participation in biodiversity monitoring. Understanding and monitoring biodiversity changes in urban environments has been made easier with the help of citizen science, which is defined as the involvement of non-professionals in scientific research. This article examines the advantages, difficulties and prospective applications of citizen science in urban biodiversity monitoring.

The diversity of living forms, including fungi, animals, plants and microbes, that may be found in cities is referred to as urban biodiversity. Cities may support a surprisingly wide range of biodiversity, frequently including species that have adapted to urban surroundings, despite the difficulties given by urbanization. On the other hand, substantial losses in biodiversity may result from accelerated urbanization, pollution, habitat degradation and climate change. In order to support sustainable urban planning and provide information for conservation initiatives, it is imperative to keep an eye on these changes. Because citizen science may improve data collecting, involve local populations and raise public knowledge of biodiversity concerns, it has become an essential tool for monitoring urban biodiversity. The potential of citizen science to include local people in scientific research is one of its main advantages. By getting the public involved in biodiversity monitoring, scientists may take advantage of the mass effort of many volunteers to collect data over large metropolitan areas. This grassroots method improves the quality and accuracy of biodiversity assessments while also increasing the quantity of data gathered. Urban biodiversity monitoring may benefit from community involvement, as demonstrated by a number of fruitful citizen

science initiatives. One yearly initiative that encourages urban dwellers to watch and record local wildlife and flora is the 'City Nature Challenge'. By utilizing smartphone applications, participants may capture their observations and add significant information to databases on biodiversity. By encouraging a feeling of accountability and ownership, these programs enable residents to actively participate in the knowledge and preservation of their local ecosystems.

Large amounts of data generated by citizen science initiatives are essential for tracking changes in urban biodiversity. Volunteers may now quickly record species observations, habitat conditions and environmental changes because to the development of mobile technologies and web platforms. Researchers may then compile and evaluate this data to find patterns, monitor species ranges and evaluate how urbanization affects biodiversity. Moreover, citizen science can enhance standard scientific research methods by giving localized knowledge that may not be acquired by regular monitoring efforts. For example, residents may have access to places that are hard for researchers to get to, so they may offer special perspectives on urban biodiversity. Furthermore, the incorporation of data supplied by citizens into pre-existing databases might augment the comprehensive comprehension of biodiversity patterns and trends in urban settings. Initiatives promoting citizen science are essential for increasing public awareness of environmental and biodiversity concerns, in addition to aiding in the collecting of data. By taking part in biodiversity monitoring, residents learn more about their local ecosystems and the difficulties they confront. More support for conservation initiatives and a deeper love of nature may result from this enhanced awareness. This effect can be further amplified by educational initiatives linked to citizen science initiatives. Participants can learn about the local flora and fauna, ecological concepts and the value of biodiversity through workshops, training sessions and community activities. Citizen science has the potential to encourage people to adopt sustainable habits and support biodiversity conservation by creating a sense of connection between them and their local environment.

Conclusion

A potent technique for tracking changes in biodiversity in urban environments is citizen science. Through community engagement, improved data collecting and increased public awareness, citizen science activities can advance our understanding of urban biodiversity and its associated difficulties. Even if there are obstacles to be solved, citizen science has bright future prospects for tracking urban biodiversity. Using the combined efforts of people will be essential to guaranteeing the preservation of biodiversity in an increasingly urbanized world and fostering healthy urban ecosystems as cities continue to develop and change. Citizen science may help close the gap between science and society by promoting a stronger bond with the natural world and a dedication to the preservation of biodiversity in urban settings via cooperation and creativity.