Review Article
CODEN (USA): IJPLCP

ISSN: 0976-7126
Shukla, 14(1):12-14, 2023

International Journal of Pharmacy & Life Sciences
Open Access to Researcher

An overview on Importance of Pollinators in Ecosystem

Kamal Kishor Shukla*

Anand Nagar, Ward No. 8, Near Nescent Public School, Rewa, (M.P)

Article info

Received: 03/12/2022

Revised: 11/01/2023

Accepted: 27/01/2023

© IJPLS

www.ijplsjournal.com

Abstract

Pollinators are essential for orchard, horticultural and forage production, as well as the production of seed for many root and fibre crops. Pollinators such as bees, birds and bats affect 35 percent of the world's crop production, increasing outputs of 87 of the leading food crops worldwide. Food security, food diversity, human nutrition and food prices all rely strongly on animal pollinators. The consequences of pollinator declines are likely to impact the production and costs of vitamin-rich crops like fruits and vegetables, leading to increasingly unbalanced diets and health problems. Maintaining and increasing yields in horticultural crops under agricultural development is critically important to health, nutrition, food security and better farm incomes for poor farmers. A vast variety of insect species, including bees, wasps, flies, butterflies, beetles, and moths, perform the crucial ecological service of pollination. According to recent estimates, pollinators are necessary for the survival of around 88% of all flowering plants and 35% of the world's plant-based food supply. In the present paper the role and importance of pollinators has been discussed and highlighted.

Key-Words: Pollination, Ecology, Importance

Introduction

Pollen in flowering plants is transferred by widely different groupings of animal species known as pollinators. Insects are the most varied and plentiful pollinators; for example, the Lepidoptera order is thought to have more than 140,000 species, the Coleoptera about 77,300, and the Hymenoptera over 70,000. Diptera and Thysanoptera are the two groups of insect pollinators with the least variety. Thysanoptera have actually received a bad rap and their function in pollination has received little attention. Hoverflies from two families of the Diptera, the Syrphinae with around 1800 species and the Eristalinae with over 3800 species, have been identified as pollinators. But there is little information on moth and fly pollinators. [1-3]

Vertebrates are capable pollinators as well. For instance, there are over 1000 species of birds known to be pollinators, making them the most diversified group. There is evidence that bats are significant pollinators of both domestic and wild plants. About 528 species of 259 genera of flowering plants, including significant crops like durian, jackfruit, and columnar cacti, are pollinated in particular by pteropodid and phyllostomid bats. When compared to other pollinators like bees and butterflies, such as marsupials, rodents, lemurs, and reptiles, these other animal species receive very little attention. Bees are the most important group of pollinators for wild plants and agricultural crops, and are in need of conservation.

***Corresponding Author**
E.mail: drshukla37@gmail.com

each year while other portions are left to grown and flower in the spring.

Importance

Without a doubt, pollination services are crucial for plant reproduction and are therefore crucial for the upkeep of plant communities. According to a recent study without pollinators, half of all flowering plants would have a fertility decline of over 80%, and a third would not produce any seeds at all. The significance of biotic pollination in the natural ecosystem has been outlined and highlighted in numerous research. Yet, it is still important to highlight the extra advantages of various pollinators, particularly wild pollinators, which cannot be obtained by enhancing the abundance of managed pollinators.

Table 1: Importance of Pollinators in Ecosystem

Importance of Pollinators	**Attributes**
Overcomes pollen limitation	Enhances pollination and genetic diversity
Promotes seedling recruitment	Enhances plant diversity in the natural ecosystem
Increases fruit sets of crops	Apple fruits, almond, pumpkin, coffee, oilseed rape, jalapeño
ncreases quality of agricultural yield	Sugar level of pitayas, weight of coffee, weight of cotton seeds, weight of mangoes, loquat fruit weight, and sugar level

Conclusion

The diversity of pollinators preserves the ecologically important natural plant communities. More and more research is demonstrating the unique and important ecosystem services that pollinator variety provides, which are pertinent to food security, as well as the critical role that various pollinator groups play in promoting environmental safety through ecological monitoring. Also, a variety of pollinators boost human welfare by offering aesthetic value and social-cultural advantages. Using ecosystem management strategies that combine ecosystem services (such pollination) with social-cultural services, the biological control of crop pests, and disease vectors are thus necessary for improving pollinator diversity conservation.

References

1. D.L. Wagner, E.M. Grames, M.L. Foriste (2021). Insect decline in the Anthropocene: Death by a thousand cuts Proc. Natl. Acad. Sci. U.S.A., 118.
2. J. Ollerton (2017). Pollinator diversity: distribution, ecological function, and conservation. Annu. Rev. Ecol. Evol. Syst., 48 (2017), pp. 353-376,
3. C.W. Wardhaugh (2015). How many species of arthropods visit flowers? Arthropod Plant Interact., 9 (2015), pp. 547-565,
4. Daniel Mutavi Katumo, Huan Liang, Anne Christine Ochola, Min Lv, Qing-Feng Wang, Chun-Feng Yang (2022). Pollinator diversity benefits natural and agricultural ecosystems, environmental health, and human welfare, Plant Diversity, 44(5): 429-435.
5. J.G. Rodger, J.M. Bennett, M. Razanajato vo (2021). Widespread vulnerability of flowering plant seed production to pollinator declines Sci. Adv., 7, p. eabd3524

Cite this article as:
Shukla K.K. (2023). An overview on Importance of Pollinators in Ecosystem. *Int. J. of Pharm. & Life Sci.*, 14(1): 9-11.

Source of Support: Nil
Conflict of Interest: Not declared
For reprints contact: ijplsjournal@gmail.com