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CITIZEN SCIENCE AS A “HANDS-ON” TOOL TO LINK SCIENCE LEARNING TO CONSERVATION ON POLLINATORS AND POLLINATION SERVICE

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ABSTRACT

The approximation between the scientific knowledge generated in academia and its application is gaining relevance to address conservation problems such as pollinator and pollination service loss. In this perspective citizen science is a valuable approach to promote engagement and building science literacy.

This on-going research applies the Citizen Science project Guardiões dos Sertões as a teaching tool in the curricular component Science of Life, of the agrarian science courses at Federal University of Sergipe (UFS), in semi-arid Sergipe, Northeast, Brazil. From September 2022 to April 2023, students performed observations in private gardens, due to their importance for pollinator's conservation in urban context.

The 125 engaged students provided 159 records on interactions between flower visitors and plants. Mostly bees and butterflies were recorded, and pollination was the main recognized interaction. So, the “Guardiões” project was successfully integrated into the pedagogic practice, as a hands-on teaching method of didactic transpositions, providing field experience and training in observations using scientific protocols. The data generated by the students are used to discuss ecological concepts, while providing field data for the monitoring of the interactions between animals and flowering plants from semi-arid Caatinga.

CLOSE-FOCUSING CAMERA TRAPS: A VALUABLE NEW TOOL FOR POLLINATION STUDIES

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ABSTRACT

Camera traps allow for remote recordings of animal behaviour in places and at times that are not suitable for direct human observations. I discuss applications of close-focusing camera traps in pollination studies, with special reference to issues of cost, sensitivity, reliability, battery life and resolution of cameras. The most sensitive camera traps use video motion detection (VMD), but addition of close-focusing lenses to cameras with passive-infrared (PIR) detection can bring sensors close enough to the subject to allow cameras to be triggered by some insect pollinators. Close-focussing enables recordings of sufficient resolution to allow identification of some insects to species level. Camera traps with capability for night-time video recordings using infra-red illumination have provided important recent breakthroughs in our understanding of the behaviour of nocturnal pollinators such as bats, rodents and moths. Close-focusing camera traps therefore have tremendous potential to improve our understanding of plant-pollinator interactions which are not easy to study using traditional methods.