

{rokbox title=| Quantitative plant–flower visitor interaction networks on Aride island, Seychelles, during the (a) early, (b) mid and (c) late flowering season :: Image:
Authors|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-seasonal-shifts-network-jaca-2026-thumb-et-al.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-seasonal-shifts-network-jaca-2026-et-al.jpg{/rokbox}

Alba Costa, **Julia Jaca**, Christopher N. Kaiser-Bunbury, Anna Traveset ,2026. [Seasonal shifts in network structure and species roles in atropical island plant–flower visitor community.](#)

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Abstract: Interactions between plants and their flower visitors underpin pollination processes, yet these relationships can shift as flowering phenology and community composition change. Such temporal dynamics remain poorly documented in insular ecosystems, where species turnover is low but ecological roles may vary seasonally. We examined seasonal variation in the composition and structure of a plant–flower visitor network on a small tropical island. Using a temporally resolved network approach, we quantified visitation frequency, species specialization, the structural roles of plants and visitors, and tested whether flower size influenced visitor diversity and activity. Visitation rates and species strength were similar across early, mid and late flowering periods, but network composition and specialization changed markedly. Visitor specialization was lowest at the beginning and end of the season and peaked mid-season, indicating increased generalization at seasonal edges that may buffer temporal mismatches and enhance network robustness. Both plants and visitors shifted structural roles through time, with a few taxa, including an endemic bee, recurrently acting as module hubs or connectors. Visitation frequency, but not visitor richness, increased with flower size throughout the season, suggesting that floral traits influence interaction intensity and the distribution of pollination services. Our findings show that apparently constant visitation patterns over the whole flowering season can mask the internal reorganization of species roles and trait-mediated interactions. Recognizing the hidden seasonal dynamics within pollination networks is therefore essential for improving conservation strategies and anticipating how small insular ecosystems may respond to increasing anthropogenic pressures and biodiversity loss. © 2026 The Author(s). Insect Conservation and Diversity published by John Wiley and Sons Ltd on behalf of Royal Entomological Society.

Keywords: ecological networks, ecosystem functioning, island ecosystems, modularity, plant–pollinator interactions, species functional roles, temporal dynamics.