



UNIVERSIDAD DEL AZUAY
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Redes mutualistas planta-colibrí: partición del nicho utilizando cargas de polen en los Andes del sur del Ecuador

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MAGISTER EN RECURSOS NATURALES RENOVABLES MENCIÓN
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ABSTRACT: Many animal pollinators visit several flowers when foraging and carry pollen loads with a mix of pollen from different plant species. Gaining knowledge about the diversity of those pollen loads is important for determining the role of different pollinator species and how they can contribute to niche partitioning of plants. Nevertheless, pollen loads in pollinators have been understudied, in particular how pollen can be transported in different body parts of a pollinator. Here, we studied pollen loads of hummingbirds in three shrubby habitats located in the southern Andes of Ecuador. Using mist nets to capture hummingbirds, we took pollen samples from different body parts: bill, base of bill, front, throat, and chest-belly. We evaluated the diversity of pollen loads considering those different body parts and explored how hummingbird functional traits could explain pollen diversity patterns. Additionally, we evaluated if plants can increase niche partitioning by using different body parts. We captured 9 hummingbird species and counted 165.051 pollen grains corresponding to 37 taxonomic entities. We found variations in pollen loads among hummingbirds. Bill and tarsus length were related to pollen diversity patterns. Moreover, we found an increase in niche partitioning of plants when considering the different body parts of a hummingbird. Our results demonstrate that hummingbirds can carry different types of pollen, potentially determined by their functional traits. We also showed that plants can deposit pollen on different parts of hummingbirds, and this increases niche partitioning. This last result contributes to explaining coexistence in species-rich systems where many species co-flower and share pollinators.

Keywords: Foraging behavior, pollen placement, pollination ecology, pollinator performance, species-rich areas.

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