

Ontogenetic integration in two species of *Schizanthus* (Solanaceae) : a comparison with static integration patterns

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Abstract

Floral integration refers to the patterns of co-variation among floral traits and can result from genetic correlations, developmental constraints and the function of traits in pollination and reproduction. Most studies have examined variation of mature flowers within populations or species (static integration) with contrasting pollination systems in order to test the role of pollinator-mediated selection in floral integration. But little is known about the ontogenetic pattern of floral integration and how it is related to floral morphology and floral integration patterns. Here we examined floral variation across ontogeny (ontogenetic integration) in two related *Schizanthus* species with contrasting floral morphology, pollination syndromes and static integration patterns. We also estimated ontogenetic integration in early and late phases of ontogeny. We found that ontogenetic integration varies among species and during ontogeny in accordance with the function of traits in pollination and static integration patterns of mature flowers. Our results suggest that both ontogenetic and static integration patterns are showing functional relationship related to the pollination process..

Keywords

Static integration, Ontogenetic integration, Modularity, Developmental tendencies, Pollinator-mediated selection.