

by *Drosophila immigrans*. Further investigation will target the scent produced by the flowers and the small projections on the sepals, to which the flies are attracted. The complex investigated diverged into four allopatric

genetic lineages separated by the tall central mountain range in Costa Rica. Based on morphological and genetic differences we propose to recognize the different lineages as four separate species.

Morphological and phylogenetic characterization of the diversity of the genus *Vanilla* in the Colombian Pacific region

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Vanilla extract, derived principally from the species *Vanilla planifolia* Andrews (Orchidaceae), is a high-value crop for cultivation in lowland, humid tropical zones, offering an important economic opportunity for the “campesino” communities in these regions. The Neotropics represent the center of diversity for the clade that produces aromatic fruits, including *V. planifolia*. Eleven species of *Vanilla* are registered for Colombia. However, this genus is poorly documented in Colombia and across the region. Although the natural distribution of *V. planifolia* is controversial, the consensus is that it is native to Central America, and plants found in other regions are the result of anthropogenic activities. The taxonomy of the genus is difficult, with many herbarium accessions being sterile and infrequent flowering in natural populations. This

study investigated the diversity of species of *Vanilla* present in the lowland humid tropical region along the Pacific coast of Colombia, combining morphological descriptors and DNA sequence data from the *matK* locus of the plastid genome and the ITS locus of the nuclear genome. Nine species were described. Three of these are new reports for Colombia: *V. bicolor*, *V. helleri*, and also a definitive identification of native *V. planifolia*. These results represent an important contribution to the knowledge of the Colombian flora, particularly of the Chocó Biodiversity Hotspot of the Colombian Pacific region. Additionally, this is an important first step in the development of sustainable vanilla production systems using native material. The promotion of effective conservation and sustainable management plans for these species is now a priority.

Evolución de rasgos florales y vegetativos en el género *Gavilea* (Orchidaceae)

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El género *Gavilea* Poepp. (Orchidaceae) es endémico del sur de Sudamérica. En Chile habitan 11 especies del género, que se distribuyen desde la zona central (30°S) hasta el extremo sur del país (55°S),

incluyendo una especie endémica del Archipiélago de Juan Fernández. El objetivo de este trabajo fue aclarar la trayectoria evolutiva de los distintos rasgos florales y vegetativos de las especies del género