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**

**Francisco Hernando Molerinos-Hurtado**1,2,3*, R. T. González-Mina1,3, J. T. Otero1,4,5 & N. S. Flanagan1,6

1Research Group in Orchids, Ecology, and Plant Systematics; 2Universidad Nacional de Colombia, Palmira, Colombia; 3Agronomy Program, Universidad del Pacífico, Buenaventura, Colombia; 4Biological Sciences Department, Universidad Nacional de Colombia, Palmira, Colombia; 5Environmental Studies Institute (IDEA Palmira), Universidad Nacional de Colombia, Palmira, Colombia; 6Biology Program, Pontificia Universidad Javeriana, Cali, Colombia; *Author for correspondence: franhermohur@yahoo.com

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)**

**María Isabel Mujica**1* & **Fernanda Pérez**1,2

1Instituto Milenio de Ecología y Biodiversidad, Facultad de Ciencias, Universidad de Chile, Las Palmeras 3425, Ñuñoa, Santiago, Chile; 2Center for Advanced Studies in Ecology and Biodiversity (CASEB), Departamento de Ecología, Pontificia Universidad Católica de Chile, CP 6513677, Santiago, Chile

*Autor para correspondencia: mimujica@uc.cl

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.