Two new species of *Graffenrieda* (Melastomataceae: Merianieae) from Colombia and Panama

FRANK ALMEDA¹, MARCELA ALVEAR¹ & HUMBERTO MENDOZA²

¹ Institute for Biodiversity Science and Sustainability, Department of Botany, California Academy of Sciences, 55 Music Concourse Drive, Golden Gate Park, San Francisco, CA 94118, USA. E-mail: falmeda@calacademy.org; malvear@calacademy.org
² Investigador independiente, Claustro de San Agustín, Villa de Leyva, Colombia. E-mail: hummendoza@gmail.com

Abstract

Two new species of *Graffenrieda* (Melastomataceae: Merianieae) are described from Colombia and Panama. *Graffenrieda jefensis*, a Panamanian endemic from Cerro Jefe, is characterized by a calyptrate calyx that falls away as a unit at anthesis, 5-merous flowers, 3-locular ovary, and conspicuous persistent calyx teeth. *Graffenrieda maklenkensis*, a Colombian endemic from the Cordillera Oriental in the northern Andes of Colombia, has a calyx that is fused in bud but ruptures into four (rarely three) lobes at anthesis that lack external calyx teeth, 4−(5)-merous flowers, a 3−(4)-locular ovary, and hypanthial indumentum (at anthesis) that is minutely lepidote intermixed with glandlike or resinous scurfy trichomes. Each species is illustrated, compared with presumed relatives, and provided with a conservation assessment using IUCN guidelines.

Resumen

Se describen dos nuevas especies de *Graffenrieda* (Melastomataceae: Merianieae) de Colombia y Panamá. *Graffenrieda jefensis*, endémica de Panamá de Cerro Jefe, se caracteriza por el cáliz caliptrado que es dehiscente como una unidad en anthesis, flores 5-meras, ovario 3-locular, y dientes del cáliz persistentes y conspicuos. *Graffenrieda maklenkensis*, endémica de Colombia de la Cordillera Oriental en los Andes del norte, se caracteriza por tener el cáliz fusionado en botón, pero que es dehiscente en cuatro (raramente tres) lóbulos en anthesis sin dientes externos, flores 4−(5)-meras, ovario 3−(4)-locular, indumento del hipanto (en anthesis) diminutamente lepidoto entremezclado con tricomas glandulares o escamas resinosas. Para cada especie se incluye la ilustración, comparación con las presuntas especies cercanas, y una evaluación del estado de conservación utilizando criterios de la UICN.

Introduction

*Graffenrieda* Candolle (1828: 105), a neotropical genus of shrubs and trees (rarely woody climbers), is distributed from southern Mexico, Central America, and the West Indies to Andean South America (Venezuela south to Bolivia), east to the Guianas and Venezuelan tepuis, and south to southeastern Brazil between sea level and 3200 m (Wurdack 1973, 1980, Almeda 2009, Mendoza-Cifuentes & Fernández-Alonso 2010). Like other woody members of the neotropical tribe Merianieae, it is characterized by capsular fruits, narrow seeds that lack conspicuous sculpturing, and appendiculate anther connectives. In many ways it is a streamlined member of the Merianieae clade with small to medium sized white flowers (petals mostly 0.5−1.5 cm long), isomorphic yellow anthers, anther connectives modified dorso-basally into small deflexed toothlike appendages, dorsally arcuate anthers with mostly ventrally inclined pores, and cuneiform, filiform, or linear-pyramidate seeds with straight embryos (Almeda 1984, Mendoza-Cifuentes & Fernández-Alonso 2011).

*Graffenrieda* is the second largest genus in the tribe Merianieae. A majority of its species is centered in two main regions of South America: the Andes and the Guayana Highlands. Venezuela and Colombia, with 31 and 25 species respectively (Almeda et al. submitted, Michelangeli & Cotton 2008), collectively harbor about 70% (44) of the known species and also have a larger number of endemic species (17) than any other area of the neotropics.
Acknowledgments

We thank Gustavo Saavedra, his family, and friends at “Reserva Natural Campesina Los Maklenkes” for their hospitality, guidance, and permission to work in their reserve; Sean Vidal Edgerton for the line drawings; curators and staffs at COL, HECASA and MO for access to collections under their care; Carlos Parra for providing images of selected specimens at COL; Gordon McPherson and Gerrit Davidse for information on undistributed duplicate collections of Graffenrieda jefensis at MO; and Carmen Ulloa Ulloa and Fabián A. Michelangeli for reviews of the manuscript. This research was supported in part by a grant from the U.S. National Science Foundation (DEB-0818399-Planetary Biodiversity Inventory-Miconieae), the M. Stanley Rundel Charitable Trust, and the California Academy of Sciences. We are grateful to the Ministerio de Ambiente y Desarrollo Sostenible and Autoridad Nacional de Licencias Ambientales (ANLA) in Colombia for granting permits to collect specimens (including DNA material for molecular research) for the project entitled “Sistemática y filogenia de la tribu Miconieae (Melastomataceae)”.

Literature Cited

http://dx.doi.org/10.2307/2398821


http://dx.doi.org/10.2307/2399340


http://dx.doi.org/10.1600/036364411x553199

TWO NEW SPECIES OF GRAFFENRIEDA (MELASTOMATACEAE)

Phytotaxa 163 (1) © 2014 Magnolia Press • 47

http://dx.doi.org/10.1007/s12228-013-9321-1
http://dx.doi.org/10.11646/phytotaxa.77.3.2
http://dx.doi.org/10.3897/phytokeys.20.4344
http://dx.doi.org/10.1111/j.1096-3642.1871.tb00222.x