



## A new and endangered species of *Iochroma* (Solanaceae) from the cloud forests of central Peru and its phylogenetic position in Iochrominae

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### Abstract

*Iochroma amicorum* M. Cueva, S. D. Sm. & S. Leiva (Solanaceae), a new species from cloud forests of Central Peru, is described and illustrated. Phylogenetic analyses of DNA sequence data suggest that *Iochroma amicorum* is closely related to *I. nitidum*, *I. umbellatum*, *I. grandiflorum* and *I. tingoanum*, which collectively form the “U” clade of Iochrominae. Certain morphological characteristics of calyx and corolla as well as the type of habitat appear to be common in species of this clade. *Iochroma amicorum* is easily distinguished from other members of the “U” clade by its campanulate or funnel-shaped corolla with short and slightly reflexed lobes, the presence of an expanded staminal tube at the point of filament insertion with short lateral extensions united to the corolla, and its globose usually white fruits with tinges of purple at the base. Distribution, phenology and are discussed together with the position of the new species in Iochrominae. *Iochroma amicorum* is assessed as Endangered according to IUCN criteria B1ab (i, iii).

**Key words:** Andes, South America, taxonomy, Cloud forest

### Resumen

Se describe e ilustra a *Iochroma amicorum* M. Cueva, S. D. Sm. & S. Leiva (Solanaceae) una especie nueva procedente de los bosques nublados del centro del Perú. Según el análisis filogenético molecular, *I. amicorum* está relacionada a *I. nitidum*, *I. umbellatum*, *I. grandiflorum* y *I. tingoanum*, las cuales forman el clado “U” de Iochrominae. Ciertas características morfológicas del cáliz y corola además del tipo de hábitat parecen ser comunes en las especies de este clado. *Iochroma amicorum* se distingue fácilmente de los otros miembros del clado “U” por su corola campanulada infundibuliforme con lóbulos cortos y ligeramente reflexos, filamentos estaminales insertados en el borde basal del tubo corolino formando un petalostemo extendido con pequeñas prolongaciones laterales unidas a la corola, y por sus frutos globosos blancos con la parte basal púrpura. Se adicionan datos sobre la distribución y fenología de esta nueva especie y se discute sobre su posición filogenética en Iochrominae. *Iochroma amicorum* es considerada En Peligro según los criterios B1ab (i, iii) de la IUCN.

**Palabras clave:** Andes, Sudamérica, taxonomía, bosque nublado

### Introduction

*Iochroma* Benth (1845: 20) is a Neotropical genus whose center of diversity is in the Andes, between Colombia and northern Peru (Smith & Baum 2006). This group of unarmed shrubs and treelets comprises an estimated 25 species (Leiva 1995, 2006, 2007, 2009, Leiva & Quipuscoa 1998, Leiva & Lezama 2005, Leiva *et al.* 1998, 2003, Lezama *et al.* 2007, Smith *et al.* 2008, Smith & Leiva 2011). The species generally present showy colorful flowers (Smith & Baum 2006) that are pollinated by hummingbirds and various types of insects (Smith *et al.* 2008). Accordingly, several *Iochroma* species have become popular as ornamentals (Shaw 1998, Meerow *et al.* 2004). The fruits of *Iochroma* are globular or elongated berries with sclerosomes, and they are usually accompanied by an accrescent calyx (Hunziker 2001, Smith & Baum 2006, Lezama *et al.* 2007). *Iochroma* species typically inhabit cloud forest gaps, clearings, and disturbed areas between 1800 and 2800 m.