



## *Echeveria munizii* (Crassulaceae) a new species of epiphyte from tropical Volcán de Colima, Mexico

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### Abstract

*Echeveria munizii*, a new species from the southwestern slopes of Volcán de Colima on the Colima-Jalisco border in western Mexico is described and illustrated. This species belongs to series *Gibbiflorae* and is most similar to *E. fulgens* from which it differs in having adaxially sulcate leaves with straight and hyaline margins, olive green to brownish green surface, a fewer flowered inflorescence with fewer flowers per branch, a pink / orange bicolored corolla with the inner surface pale pink to orange, the base of the carpels white, and longer pedicels. A species conservation assessment, undertaken using IUCN criteria, determines *Echeveria munizii* to be Critically Endangered (CR).

**Keywords:** *Echeveria fulgens*, endemic, Comala, tropical moist forest.

### Resumen

*Echeveria munizii* se describe e ilustra como especie nueva de la vertiente suroeste del Volcán de Colima, cerca de los límites de los estados de Colima y Jalisco en el occidente de México. Esta especie pertenece a la serie *Gibbiflorae*, difiere de *E. fulgens* por tener hojas sulcadas adaxialmente, margen hialino y recto, superficie verde-olivo a café-verdosa, un menor número de flores por rama, un menor número total de flores, corola bicolora de rosa a naranja en el exterior y de blanco-rosada a naranja en el interior, los carpelos blancos en la base y pedicelos más largos. Una evaluación del estado de conservación de *Echeveria munizii* le clasifica como en Peligro Crítico (CR).

### Introduction

*Echeveria* DC. (1828: 401) comprises about 140 known species, 95 % of which are found in Mexico, the center of species diversity and endemism for the genus (Uhl 1992, Thiede 1995, Meyrán-García & López-Chávez 2003, Etter & Kristen 2013). Currently 12 species of *Echeveria* are recorded from Jalisco State (Pilbeam 2008). These are found mostly in temperate mountainous rocky areas. Four of the species known from Jalisco occur in tropical forest: *E. pringlei* (S. Watson) Rose (Britton & Rose 1903: 6), *E. elegans* var. *tuxpanensis* Walther (1972: 101), *E. yalmanatlanensis* A. Vázquez & Cházaro (Vázquez-García *et al.* 2013: 274), and the species here described. As anticipated by Uhl (2002) and Pilbeam (2008) several new species have been described recently from the *E. fulgens* Lem. (1845: 8) complex. These include *E. roseiflora* J. Reyes & O. González (Reyes-Santiago & González-Zorzano 2010: 22), *E. perezcalixii* Jimeno-Sevilla & P.Carrillo (Jimeno-Sevilla & Carrillo-Reyes 2010: 303), *E. purhepecha* I. García (García-Ruiz 2011: 63) and *E. aurantiaca* Reyes, González-Zorzano & Brachet (Reyes-Santiago *et al.* 2011: 70).

Here we describe a new species from the *E. fulgens* complex, *Echeveria munizii*. *E. munizii* is an epiphyte occurring in the high canopy of tropical moist forest on the southwestern slopes of Volcán de Colima, Mexico.

**Discussion:**—*Echeveria munizii* belongs to series *Gibbiflorae* (Baker) A. Berger, sensu Moran (1974), a group consisting of medium to large sized stem-forming plants lacking pubescence and that have cymose-paniculate inflorescence with circinate lateral branches (Uhl 2002, Kimmach 2003, Meyrán-García & López-Chávez 2003, Carrillo-Reyes *et al.* 2009). This species was perhaps discovered back in 1880 by the famous plant collector Benedict Roezl, who reported in his “Ascent of the Volcán de Colima”, an epiphytic *Echeveria* from the SW slopes of Volcán de Colima which might correspond to *E. munizii*. Roezl, however, hardly ever collected specimens and so this cannot be confirmed (Roezl 1880, Roezl 1882, Hemsley 1883). After more than a century and independent of our work, Etter & Kristen collected *E. munizii* specimens in August 2003, but these were identified as *Echeveria* aff. *fulgens* (Etter & Kristen 2013).

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