



## A new and rare rosulate species of *Viola* (Violaceae) from Argentina

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### Abstract

*Viola singularis*, a new cryptic species from Argentina belonging to the exclusively Andean *Viola* sect. *Andinium*, is here described as new to science. It is only known from the type specimen. No collector's name or complete locality data are available, but there is no doubt that it was collected in the Uspallata Mountains in the Province of Mendoza, Argentina. The present poorly represented status of *V. singularis* as a depauperate, lone gathering is discussed in view of the rarity of species in this section. Its morphology suggests that this new species belongs to an alliance of species surrounding *Viola volcanica*.

**Key words:** Andes, endemism, morphology, style crest structure, systematic relationship, temperate flora, *Viola* sect. *Andinium*

### Introduction

*Viola* section *Andinium* Becker (1925: 374) is a poorly understood group of ca. 100 species distributed in South America between the equator and southern Patagonia (ca. 45°S), and from sea level up to over 4500 m. It includes several new taxa awaiting publication (Watson & Flores, 2007; H.E. Ballard, *pers. comm.*). Argentina and Chile contain the section's centre of diversity (Sanso *et al.*, 2008). The two countries are known to share 15 more common and widespread species. Argentina has the second largest number of species in this section of *Viola* after Chile, with a provisional count of 51 species, including the present novelty. 64% of the Argentinean species are endemic to that country.

Species delimitation can sometimes be based on clearly distinct and unique morphological characters, but closely related groups are frequently encountered whose taxonomic components can only be separated out by comparison of less obvious features. These are often only discriminative in combination, requiring careful examination and comparison (Rossow *et al.*, 2003; Watson & Flores, 2007). The crucial morphological character in the taxonomy of *V.* sect. *Andinium* is the small crest on the tip of the style that is usually but not invariably involved in species delimitation. Although highly diverse in form, its morphology is constant within species (Becker, 1925; Watson & Flores, 2007). The crest morphology distinguishes certain species, but a number of additional characters is usually more effective in species circumscription, including the plant's life history and life form, lamina texture and outline, characteristic glandular formations, and foliar and floral indument (Reiche, 1892). Geographical distribution often supports both distinctions and relationships between taxa. Complex, minor differences indicate sets of closely allied species and will form the basis for future formal definition of infrasectional groups. Rosette and leaf morphology are the critical primary features of a complex represented by *Viola volcanica* Gillies ex Hooker & Arnott (1833: 145), to which the present novelty is most probably related. The latter also shows a certain alliance to *V. montagnei* Gay (1846: 222). The centre of diversity of both these groups is based on the presumed region of origin of the new species.

The specimen representing the type and only collection of the new species was encountered during a visit to the Ruiz Leal Herbarium (MERL) in Mendoza, Argentina. On detailed investigation this collection differs