

# *Lomatogonium chilaiensis* (Gentianaceae), a newly recorded genus and new species in Taiwan

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**Abstract.** A newly recorded genus *Lomatogonium* A. Braun (Gentianaceae) from Taiwan, and a new species *L. chilaiensis* C. H. Chen & J. C. Wang are described and illustrated. *Lomatogonium chilaiensis*, thus far known only from one population, was found on the high-altitudinal (ca. 3,100-3,300 m) moist gravelly slopes and cliff faces of Mt. Chilaishan of Taroko National Park. The new species is most similar to *L. carinthiacum* (Wulfen) Reichenbach, a widely distributed species, but differs from the latter by its nearly white corolla, calyx lobes almost equal in length to the corolla lobes, with the apex acute to acuminate, and appendages on nectaries few or absent.

**Keywords:** Gentianaceae; *Lomatogonium*; *Lomatogonium chilaiensis*; New species; Newly recorded genus; Taiwan; Taxonomy.

## Introduction

In recent years members of Taiwanese Gentianaceae have been studied by Murata (1988, *Pterygocalyx*), Murata (1989, *Tripterospermum*), Ying (1989, Gentianaceae), Wang and Lu (1998, *Swertia*), and Chen and Wang (1999, *Gentiana*). The results were compiled into the Flora of Taiwan, 2nd Edition by Wang and Chen (1998).

Recently, in our botanical exploration near the summit of Chilaishan in Taroko National Park, Taiwan, a new species of *Lomatogonium*, a genus heretofore unknown in Taiwan, was found. The genus *Lomatogonium* A. Braun (Gentianaceae) consists of about 20 species mainly in temperate Asia, with only few species occurring in North America and Europe (Liu and Ho, 1992; Ho and Pringle, 1995). *Lomatogonium* is distinguished from other genera of the Gentianaceae by having nectaries on the corolla tube near the base of the lobes and stigma decurrent on ovary (Ho, 1988). On the basis of data on chromosome numbers and morphology, *Lomatogonium* appears to be most closely related to *Comastoma* (Yuan and Küpfer, 1993); studies of seed-coat morphology are compatible with this conclusion (Yuan, 1993). According to Ho (1988), this new species belongs to *Lomatogonium* sect. *Lomatogonium* because of its blue anthers and tubal nectaries.

## Systematic Treatment

*Lomatogonium* is a newly recorded genus for the flora of Taiwan. In Gentianaceae, five genera were recorded

from Taiwan (not including *Nymphoides*, which should be placed in Menyanthaceae). In order to distinguish it from other genera of Taiwan, a key is provided here:

### Key to Genera of Gentianaceae in Taiwan

1. Corolla with plicae between lobes.
  2. Stems ascending to erect; stamens equal, straight ..  
..... *Gentiana*
  2. Stems twining or trailing; stamens unequal, recurved  
..... *Tripterospermum*
1. Corolla without plicae between lobes.
  3. Stems twining; calyx tube with wings .....  
..... *Pterygocalyx*
  3. Stems ascending to erect; calyx tube without wings.
    4. Corolla lobes without nectary on inner surface ..  
..... *Centaurium*
    4. Corolla lobes with 1 or 2 nectaries on inner surface.
      5. Stigma elevated above ovary, not decurrent; nectaries on corolla lobes . ..... *Swertia*
      5. Stigma decurrent on ovary; nectaries on corolla tube near base of lobes .. *Lomatogonium*

***Lomatogonium*** A. Braun, Flora (Regensburg) 13: 221. 1830; Fernald, Rhodora 21: 194. 1919. 肋柱花屬

*Pleurogyne* Eschscholtz ex Chamisso et Schlechtendal, Linnaea 1: 187. 1826; Bentham et Hooker f., Gen. Pl. 2: 816. 1876.

*Swertia* subgen. *Lomatogonium* (A. Braun) Satake, J. Jap. Bot. 20(7): 338. 1944.

Herbs annual or perennial. Roots fibrous or woody. Stems prostrate, ascending, erect, striated or angled,

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