

# Revision of the genus *Oreomyrrhis* Endl. (Apiaceae) in Taiwan

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**Abstract.** Based on a taxonomic study of the genus *Oreomyrrhis* in Taiwan three species are recognized, all endemic to Taiwan: *O. involucrata* Hayata; *O. taiwaniana* Masamune (previously reduced to synonymy under *O. involucrata*); and, *O. nanhuensis* C. H. Chen & J. C. Wang sp. nov. *Oreomyrrhis nanhuensis* is so far known only from exposed gravelly grasslands on the high-altitudinal region (ca. 3,400-3,700 m) of Mt. Nanhutashan in Taroko National Park. The number and shape of pinnatifid-lobes of leaflets, morphology of involucre bracts, and color of flowers are shown to be the most useful characters for separating Taiwanese species. A key to taxa, discussion of taxonomic characters, description, illustration, geographical distribution, specimens examined, and taxonomic notes are provided for each taxon. The chromosome number of  $n=6$  is observed for the new species *O. nanhuensis*.

**Keywords:** Apiaceae; Chromosome number; Lectotypification; New species; *Oreomyrrhis*; Revision; Taiwan; Taxonomy; Umbelliferae.

## Introduction

*Oreomyrrhis* Endl. (Apiaceae) consists of about 25 species distributed around the Pacific basin, which includes Mexico, South America, New Zealand, Tasmania, New Guinea, Borneo, and Taiwan. Taiwan is the northernmost limit in the distribution of the genus. Most species are locally endemic, high mountain plants, but near the South Frigid Zone, *Oreomyrrhis* occurs at sea level. The most recent world monographic treatment is by Mathias and Constance (1955).

In Taiwan, two species, *Oreomyrrhis involucrata* and *O. gracilis*, were published by Japanese taxonomists Hayata (1911) and Masamune (1931) respectively. Thereafter Masamune (1938) reduced *O. gracilis* to the rank of variety under *O. involucrata*, and described another new species, *O. taiwaniana*, and an additional variety, *O. involucrata* var. *pubescens*. Later, Mathias and Constance (1955) recognized only two species, *O. involucrata* and *O. taiwaniana*, from Taiwan in their monographic study. They referred to Hiroe's view (their pers. comm.) that these two species should be included in the same species, but Hiroe (1958, 1979) finally decided to keep the two taxa as distinct species. The treatment of Mathias and Constance was adopted by Liu et al. (1961) and Liou (1979). These two taxa were later treated as synonymous in the Flora of Taiwan (Liu and Kao, 1977) and its subsequent edition (Kao, 1993).

## Materials and Methods

Materials used in the present studies were collected from the central mountain at high altitudes in Taiwan, and deposited in the herbarium TNU. In addition, specimens from the herbaria HAST, TAI, TAIF, TI were also examined. For the cytological observation, young flower buds collected in the field were fixed in a mixture of absolute alcohol and acetic acid (3:1/v:v), the anthers stained by aceto-carmin and squashed. The chromosome count reported here was obtained from more than two individual plants.

## Taxonomic Characters

According to the original description, Masamune (1938) distinguished *Oreomyrrhis taiwaniana* from *O. involucrata* by noting its rather stout plant body, glabrous leaves, and shorter involucre bracts. Mathias and Constance (1955) mentioned that the peduncles, bracts, height of stylopodium and style, fruit number per umbel, and fruit shape, are different between these two species. Liu et al. (1961) argued that the cross section of fruits, especially vittae numbers, are the most important character in separating Taiwanese *Oreomyrrhis*. After a detailed observation of gross morphology, the characters shown to be useful for the taxonomic treatment in Taiwan are concisely discussed below.

## Habit

The plants of the genus in Taiwan are small herbs, usually less than 12 cm tall (Figures 1A, D, G). Following our observation of the robust taproot and other field research,

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