

Is *Gastrodia elata* a heterotrophic plant?

*Gastrodia elata* is an obligate mycoheterotrophic plant with highly reduced leaves and bracts in scape. Here, Yuan et al sequence and analyze its 1.06 Gb genome which provides insights in adaptation to a lifestyle of heterotrophy.

Is *Gastrodia elata* a obligate mycoheterotrophic plant?

(Liliales: Liliaceae), an endangered medicinal plant We present the 1.06 Gb sequenced genome of *Gastrodia elata*, an obligate mycoheterotrophic plant, which contains 18,969 protein-coding genes. Many genes conserved in other plant species have been deleted from the *G. elata* genome, including most of those for photosynthesis.

Does *Gastrodia elata* have a complete chloroplast genome?

A complete chloroplast genome sequence of ... *Gastrodia elata* is a non-photosynthetic saprophytic plant of medicinal use in the oriental countries. We report the second complete chloroplast (cp) genome of *G. elata* from a sample collected in Korea.

What is *Gastrodia elata*?

*Gastrodia elata* (Orchidaceae) is an orchid popularly used in traditional Chinese medicine that has a fully mycoheterotrophic lifestyle with highly reduced leaves and bracts in scape, although field guides and systematists often refer to the plants as leafless 4,5.

How many genes are in *Gastrodia elata*?

Nature Communications 9, Article number: 1615 (2018) Cite this article We present the 1.06 Gb sequenced genome of *Gastrodia elata*, an obligate mycoheterotrophic plant, which contains 18,969 protein-coding genes. Many genes conserved in other plant species have been deleted from the *G. elata* genome, including most of those for photosynthesis.

How many SNPs does *Gastrodia elata* Blume have?

Relatively, high intra-specific variation (457 SNPs and 670 indels) is detected in the species comparing it with other seed plants. *Gastrodia elata* Blume is a perennial saprophytic species in Orchidaceae. It is distributed in South and East Asia including Nepal, Bhutan, India, China, Taiwan, Japan, and Korea.

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The soil that had not been planted with *Gastrodia elata* was used as a control to study the characteristics of soil microbial communities in the rhizosphere of *Gastrodia elata* from 0 to 5 years of ...

Changes in Soil Chemistry and Microbial Communities in Rhizospheres of Planted *Gastrodia elata* on a Barren Slope and under a Forest February 2024 *Forests* 15(2):331

This study investigates the optimal extraction conditions, monosaccharide composition, and antioxidant activity analysis of polysaccharides from the aerial parts of three different varietal varieties of *Gastrodia* (i.e., *G. elata* Bl. f. *elata*, *G. elata* Bl. f. *Viridis* MaKino, and *G. elata* Bl. f. *Glaucula* S Chow). The influence of extraction temperature (30-70 °C), extraction ...

*Gastrodia elata*, which is known as Tianma in Chinese and "heavenly hemp" in Asia, is a fully mycoheterotrophic perennial herb in the family Orchidaceae.

*Gastrodia elata* Bl. was first recorded in the Shennong's Classic of Materia Medica ... *Gastrodia elata* (Tianma), a rare plant used in traditional Chinese medicine, ... In the clinical practice of Kampo, *G. elata* is used alone or in combination under the direction of Kampo theory similar to the basic theory of TCM (Yu et al., 2006).

*Gastrodia elata* Blume (GE) (Orchidaceae), well known as traditional medicinal material in East Asia, adopts a heterotrophic lifestyle, thus being considered to be more prone to horizontal ...

*Gastrodia elata* Bl. f. *glaucula* is an important traditional Chinese medicinal plant. The yield and quality of *Gastrodia elata* Bl. have significantly decreased due to multigenerational asexual ...

*Gastrodia elata* is an obligate mycoheterotrophic plant with highly reduced leaves and bracts in scape. Here, Yuan et al sequence and analyze its 1.06 Gb genome which ...

We assembled a chromosome-level genome of the fully mycoheterotrophic plant *Gastrodia elata* (Orchidaceae) and performed comparative genomic analyses on the genomes of *G. elata* and ...

*Phlebiopsis* is a genus of poroid crust fungi belong to the family Phanerochaetaceae. The genus contains 19 species, which show a widespread distribution. In this paper, a strain of *Phlebiopsis* sp., named WS01, was isolated from tubers of *Gastrodia elata* collected in southern China. The endophytic fungus WS01 bearing fruiting-body was cultivated ...

*Gastrodia elata* Bl, as an important herb and ingredient, is favored for its unique pharmacological effects []. *Gastrodia elata* Bl is mainly artificially cultivated. Due to the increase in demand, more *Gastrodia elata* Bl is being cultivated []. At present, the most common planting methods are imitation wild and facility cultivation []. Wild cultivation is conducted under the ...

The individuals growing under an open canopy and the plants situated deeper in the forest were observed for nearly equal amounts of time each year (i.e., approximately 20 h each). To record the behavior of insect visitors, we either walked around the study area or sat near flowering *G. elata* plants. We noted the frequency, duration, and ...

*Gastrodia elata* is a PERENNIAL growing to 1 m (3ft 3in) by 0.3 m (1ft). See above for USDA hardiness. It is hardy to UK zone 6. It is in flower from July to August. The species is hermaphrodite (has both male and female organs). Suitable for: light (sandy), medium (loamy) and heavy (clay) soils. Suitable pH: mildly acid, neutral and basic (mildly alkaline) soils.

The dried tubers of *Gastrodia elata* Bl. f. *glauca* S. Chow, which are growing within the protection scope of geographical indication products (GB/T 19776-2008), are also known as "*Gastrodia elata* originating from Zhaotong", which in Chinese is "Zhaotong Tianma", and recognized as the first Chinese national geographical indication product ...

Gastrodia\_elata\_2.JPG + Has search name: gastrodia elata + and tien ma + Has shade tolerance: Permanent shade + Has soil ph preference: Acid +, Neutral + and Alkaline + Has soil texture preference: Sandy +, Loamy + and Clay + Has sun preference: Partial sun + Has taxonomic rank: Species + Has taxonomy name: *Gastrodia elata* + Has water ...

**ABSTRACT** Background: *Gastrodia elata* Blume is a saprophytic perennial plant in the Orchidaceae family and its agricultural and medicinal effectiveness spurs researches on its genome and chemical ...

*Gastrodia elata* f. *glauca* (*G. elata*) is a commonly used Chinese Medicinal Materials with great medicinal value. The medicinal plant and its endophytic bacteria are a symbiotic whole, and the ...

*Gastrodia elata* Blume (Tianma in Chinese), a myco-heterotrophic orchid, is widely distributed in China. Tubers derived from this orchid are traditionally used as both medicinal and edible materials.

Diverse orchids are among the most significant flowering plant groups. Of them, *Gastrodia* R. Br. plants are regarded as a special group because of their heterotrophic life strategy, which enables these plants to obtain carbohydrates from both *Armillaria* and *Mycena* fungi (Yuan et al., 2018) traditional Chinese medicine (TCM), dried tubers of *Gastrodia* ...

*G. elata* has been widely cultivated in the mountainous area of the Republic of Korea, China, and Japan. To understand the genetic history and relationship, we characterized the completed ...

We assembled a chromosome-level genome of the fully mycoheterotrophic plant *Gastrodia elata* (Orchidaceae) and performed comparative genomic analyses on the genomes of *G. elata* and four orchids



# Gastrodia elata planted under photovoltaic panels

(initial mycoheterotrophs), three parasitic plants ( *Cuscuta australis*, *Striga asiatica*, and *Sapria himalayana* ), and 36 autotrophs from various angiosperm lineages.

Although Tianma is a relatively safe herbal medicine, it is still strongly recommended to use it under proper conditions. Download chapter PDF. Similar content being viewed by others. The Chemical Composition ... Zhao et al (2013) Medicinal and diet plant: *Gastrodia elata* Blume. *J Gui zhou Normal Univ(NatSci)* 4:9-12 (in Chinese) CAS ...

This study provided a scientific basis for the production and artificial cultivation site selection of *Gastrodia elata* in China, which provided reference significance for formulating strategies to ...

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Web: <https://maximgroup.co.za/contact-us/>

Email: [energystorage2000@gmail.com](mailto:energystorage2000@gmail.com)

WhatsApp: 8613816583346

