

# **The Giant Orchid (*Himantoglossum robertianum*) in the Moncloa University Campus**

## *Technical Report*

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## **Introduction**

*Himantoglossum robertianum* (Loisel.) P. Delforge, the Giant Orchid, is a circumMediterranean species dispersed throughout almost the entire Iberian Peninsula and Balearic Islands (Aedo 2005). In the Madrid Region it is known in areas within the Mesomediterranean thermotype (Martínez-Labarga et al. 2017). This species is considered worthy of the regional category of Vulnerable (VU D1).

The Moncloa University Campus is located in the NW of the City of Madrid occupying more than 300 ha, including large greenspaces. Although the Giant Orchid was not included in the first checklist of the Ciudad Universitaria (Gavilán et al. 1993), this species has been cited since the last decade in nearby urban parks and natural areas (Martínez-Labarga et al. 2017), and finally recently in the University Campus (Bona Rosales 2022). The UCM biodiversity-monitoring-group has set itself the goal of sampling orchid populations on campus since 2022 to determine their populations, habitats and threats. This communication is the first report to refer to the current number and distribution of the Giant Orchid found in the Moncloa University Campus.

## Methods

To achieve this goal, for the last four years (2022-2025) we have carried out random routes through the Campus greenspaces from late February to late April, the optimum growth period for this plant. Each individual found was georeferenced and its phenology and habitat were recorded. When possible, the plots were marked out by wooden stakes and marking tape (Figure 1).



Figure 1. Some examples of marked-out orchid plots.

## Results and Discussion

### *Distribution*

So far, 34 individuals of *H. robertianum* have been inventoried, grouped into seven sites (Figure 2). Nineteen individuals were found flowering or fruiting at the time of sampling. Over the years, a growth in the number of individuals in the population has been observed in two sites, and new individuals have been seen in previously unrecorded sites. The occurrence and distribution of this species in the study area is in accordance with the expansion described for its distribution in recent years (Martínez-Labarga et al. 2017). Variations in rainfall and temperature, in addition to changes in land use, have been suggested to favour the expansion of this plant.

### *Habitat*

This plant was found in Mediterranean native graminoid communities mostly developed in open conifer – mainly *Pinus* – plantations starting after the Spanish Civil War. The Giant Orchid grows both in annual communities of *Bromus sp. pl.* and *Hordeum murinum* subsp. *leporinum* and in perennial communities of *Dactylis glomerata* (Figure 1). Both plant communities constitute an important spontaneous vegetation matrix in less managed

Mediterranean urban greenspaces, as is the case of some parts of the Moncloa University Campus (Molina et al. 2023, Torija et al. 2025).

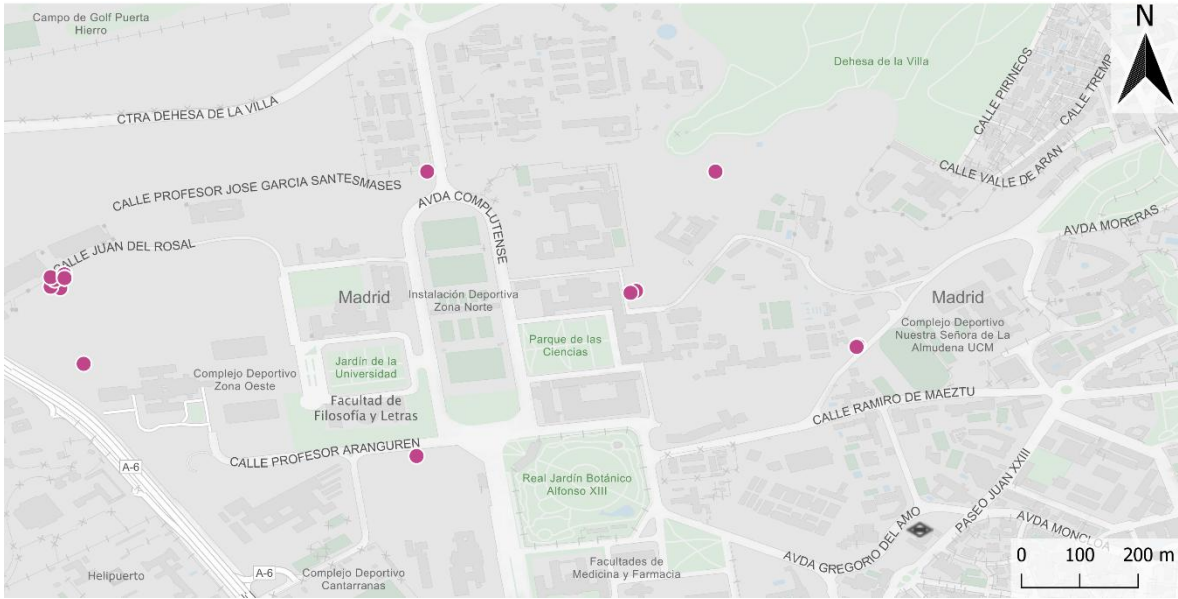


Figure 2. Distribution of the Giant Orchid (*Himantoglossum robertianum*) in the Moncloa University Campus.

### Threats

In the study period, different threats have been observed affecting the orchids in the Moncloa University Campus (Figure 3). Trampling was a detected threat, affecting three populations. The optimum germination of *H. robertianum* occurs at a warm temperature (Parlak 2022), which, in combination with water availability, is reached in autumn and spring according to the local climate (<https://www.aemet.es/es/eltiempo/observacion/>). Thus plants would likely be more sensitive to this impact in these seasons. Harvesting is another threat we have observed (Figure 3). A recent fire in a greenspace in the Ciudad Universitaria (<https://madridpress.com/archive/291256/>) caused the disappearance of a population of *Anacamptis papilionacea*, but we are not aware that it affected any of the *Himantoglossum* populations.



Figure 3. Examples of individuals affected by trampling (a) and harvesting (b,c).

### Conclusions

We can conclude that there is a relevant occurrence of *H. robertianum* in the Moncloa University Campus. Within this urban environment, the Giant Orchid has been found in spontaneous Mediterranean grasslands. It would be useful to continue monitoring this plant population to understand its long-term dynamics. It would be advisable for conservation purposes to protect the monitored plots from trampling and vandalism; these impacts could be prevented by adequate signage of the sampling populations. Finally, further investigation of their habitat is required to increase knowledge of what drives their occurrence and distribution, and their possible relationships with climate change.

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