

***Verbascum rotundifolium* subsp. *haenseleri* (Boiss.) Murb. (Scrophulariaceae), an overlooked taxon in the Portuguese flora**

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Abstract

Verbascum rotundifolium subsp. *haenseleri* (Boiss.) Murb. was first collected in Portugal in 1970 (in Beira Baixa) but has remained uncited in all reference works regarding the Portuguese flora. In recent years, the plant was observed in Beira Baixa at four distinct sites along the valley of the Erges river. This plant is not an occasional or vagrant species in Portugal and, thus, should be considered as native and added to the Portuguese flora.

Key words: mullein, Erges river, Portugal, citizen science.

Resumen

***Verbascum rotundifolium* subsp. *haenseleri* (Boiss.) Murb. (Scrophulariaceae), un taxon ignorado en la flora portuguesa**

Verbascum rotundifolium Ten. fue recolectada por primera vez en Portugal en 1970 (Beira Baixa), pero permaneció ausente de todos los trabajos de referencia sobre la flora portuguesa. En los últimos años, la planta también fue observada en la Beira Baixa en cuatro sitios distintos en el valle del río Erges. La planta no es una especie ocasional ni adventicia en Portugal por lo que debe considerarse nativa y agregarse a la flora portuguesa.

Palabras clave: gordolobo, río Erges, Portugal, ciencia ciudadana.

Verbascum rotundifolium Ten. is a biennial herb, distributed in the western Mediterranean basin, present in South Italy, Sicily, the Iberian Peninsula, and in North Africa, from Tunisia to Morocco (Benedí, 2009; GBIF, 2023).

In 2023, the authors observed and collected *Verbascum rotundifolium* in the valley of the river Erges, in the Beira Baixa botanical province (Figure 1). The plant was observed at two different sites, about 800 m apart. The analysis of the collected specimen suggests that the taxon present in Portugal is *Verbascum rotundifolium* subsp. *haenseleri* (Boiss.) Murb., a subspecies found in the western part of the species distribution range, occurring in western Spain (GBIF, 2023; Anthos, 2023) and in northern Morocco (Fennane *et al.*, 2007). This plant is unmentioned in the reference works for the Portuguese vascular flora

(Coutinho, 1939; Sampaio, 1943; Franco, 1984; Benedí, 2009; Sequeira *et al.*, 2011), however, in the GIBF database there is a record of a specimen previously collected in Portugal and preserved in the herbarium of the Agrarian Research Institute Finca “La Orden-Valdesequera” (HSS), Extremadura, Spain. This specimen (HSS59413) was collected in 1970, at Portas de Ródão, Beira Baixa (Figure 2), located circa 60 km west from the 2023 collection site. At first it was identified as *Verbascum giganteum* Willk., but in 2014 it was reviewed and determined as *V. rotundifolium* by F.M. Vázquez.

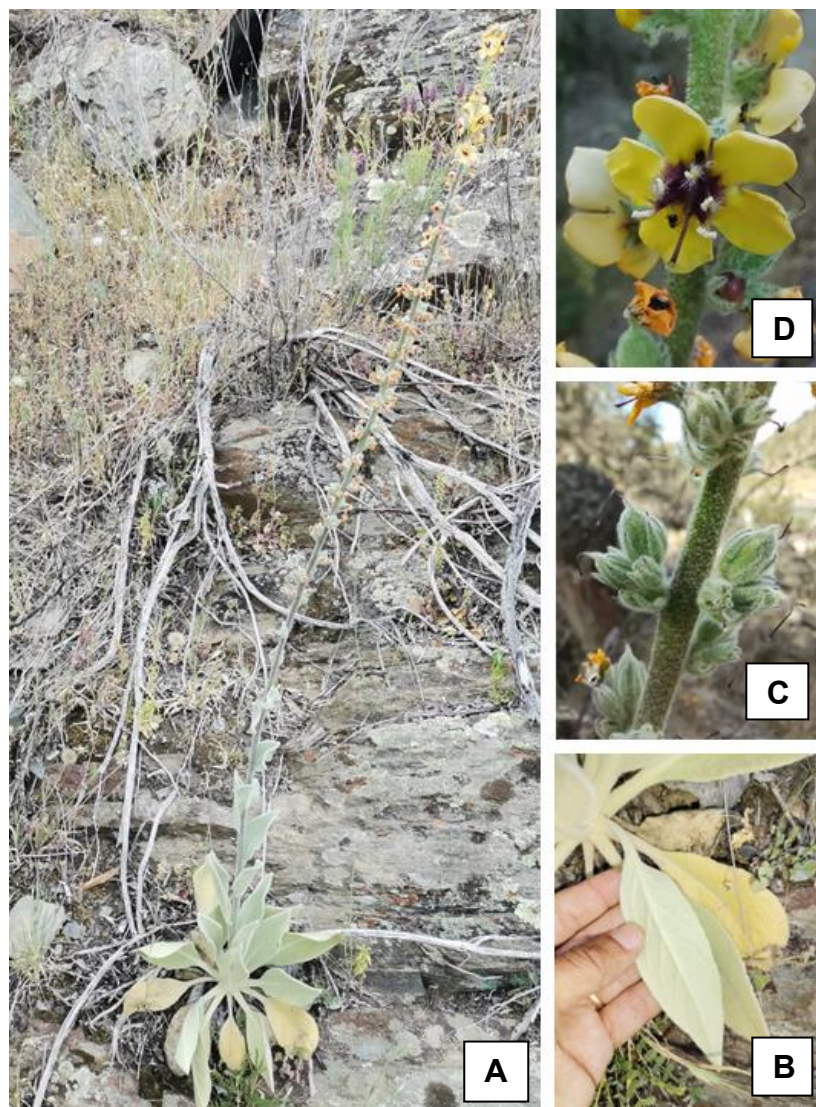


Figure 1. *Verbascum rotundifolium* subsp. *haenseleri* in Fainina, Rosmaninhal (Beira Baxa). A) Habitat and habit; B) Basal leaves; C) Fruits in clusters; D) Part of inflorescence with fully opened flowers.

Figura 1. *Verbascum rotundifolium* subsp. *haenseleri* en Fainina, Rosmaninhal (Beira Baxa). A) Hábitat y hábito; B) hojas basales; C) frutos agrupados en fascículos; D) parte de la inflorescencia con flores totalmente abiertas.

A search in citizen science platforms (inaturalist.org) revealed two other observations in Portugal, the first one made by Henk Feith in April 2020, and the second one made by Francisco de Sousa in March 2024. Both records are from the vicinity of Segura (Idanha-a-Nova, Beira Baixa), also located in the valley of the Erges river, some 12 km north of the 2023 collection site. The correct identification of the taxon is supported by the photographs available in the online platform (<https://www.inaturalist.org/observations/43303245>; 203533765). Another possible previous observation, made in 2011 near Segura, was communicated to the authors by Pedro Ministro (pers. com., 2023). However, the identification of this record is inconclusive because the photographed plant has morphological traits that do not agree with *V. rotundifolium* subsp. *haenseleri*, such as an open-branched

inflorescence and very large basal leaves. This record possibly corresponds to a hybrid between *V. sinuatum* and *V. pulverulentum*, both present in the surrounding area (Clamote *et al.*, 2024a, 2024b).

***Verbascum rotundifolium* Ten. subsp. *haenseleri* (Boiss.) Murb**

Examined material: Portugal, Beira Baixa (BB), Portas de Rodão, taludes e margem direita do Tejo, 11-V-1910, A. Cadete, J. A. Guerra & J. Malato-Beliz 8084 (HSS059413); Fainina – Rosmaninhal (Idanha-a-Nova) UTM 29SPD79, em encosta soalheira, no vale do rio Erges, colonizando clareira de matagal mediterrânico em regeneração num antigo olival, 24-V-2023, A. Carapeto & J. Serafim s.n. (COI00107968–00107969).



Figure 2. Voucher of *Verbascum rotundifolium* (HSS 59413). Image by Francisco Márquez García.
Figura 2. Pliego de *Verbascum rotundifolium* (HSS 59413). Imagen por Francisco Márquez García.

These two herbarium specimens and the other three confirmed observations suggest that the Portuguese population is restricted to a small geographical area in Beira Baixa, along the valleys of the Tagus and its subsidiary Erges (Figure 3). In the adjoining Cáceres province (Spain), there are several records of *V. rotundifolium* subsp. *haenseleri* (GBIF, 2023; Anthos, 2023). One of them (SALA 68242-1) is located near the Portuguese border (Cilleros), and a few others are located along the valley of the Tagus, including MAF 107339 (Anthos, 2023). Considering all the above evidence, we consider that the plant is neither an occasional nor a vagrant species in Portugal, as there are four confirmed records in the last 50

years in the same geographical area, and therefore it should be regarded as native and added to the Portuguese flora.

The Portuguese population of this plant seems to be relatively small, confined to a small area that is not easily accessible, and therefore not thoroughly explored by botanists in the past. Although the specimen HSS59413 shows a previous label from ELVE (Herbário da Estação Nacional de Melhoramento de Plantas, in Elvas, Portugal), currently no duplicate is known to be preserved in that institution, nor in other consulted Iberian herbaria, including COI, LISU, MA, PO, LISE, LISI and UEVH.

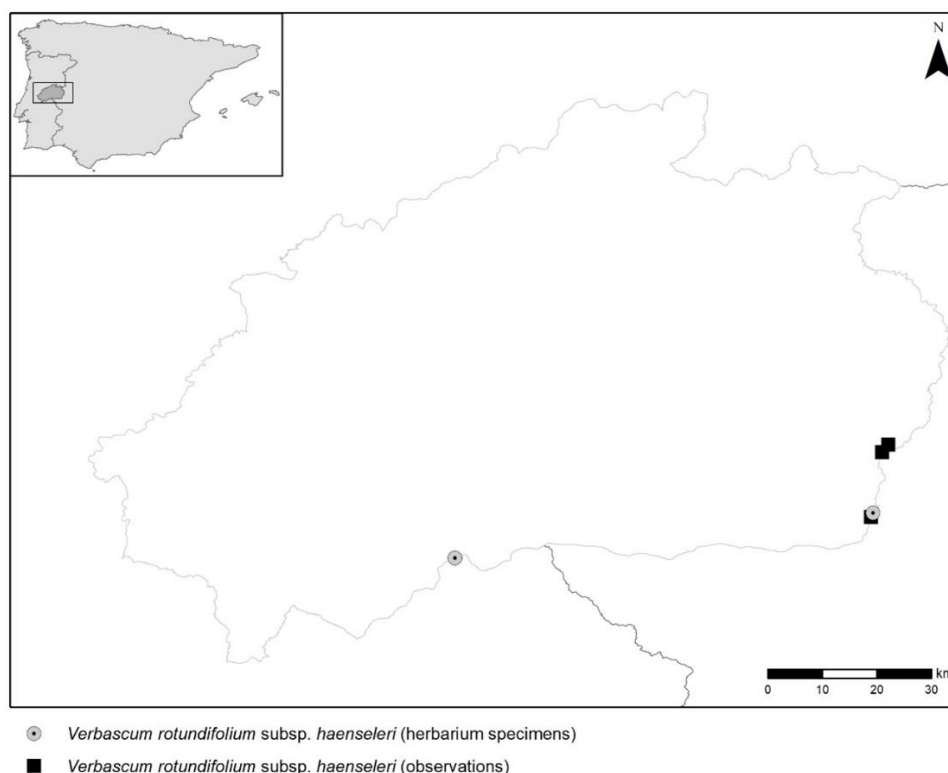


Figure 3. Location of the portuguese records of *Verbascum rotundifolium* subsp. *haenseleri* (Province of Beira Baixa).

Figura 3. Localización de los registros portugueses de *Verbascum rotundifolium* subsp. *haenseleri* (provincia de Beira Baixa).

This plant should be considered in a future addendum of the Portuguese Flora checklist (Sequeira *et al.*, 2011), and in the Red List of Vascular Plants of Mainland Portugal (Carapeto *et al.*, 2020), because it is likely to qualify in a threat category due to its small population size. However, further research is still needed to fill in the information gaps concerning its exact geographical distribution, population size and trend in Portugal.

Conflict of interest

None.

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Valdesequera” - CICYTEX), for the information and photograph of the specimen HSS59413; Benvindo Maças (ELVE – Herbário da Estação Nacional de Melhoramento de Plantas), Ana Isabel Correia (LISU – Herbário do Museu Nacional de História Natural e da Ciência), Cristiana Vieira (PO – Herbário da Universidade do Porto), Jorge Capelo (LISE – Herbário da Estação Agronómica Nacional), Carla Pinto Cruz (UEVH – Herbário da Universidade de Évora), Pedro Arsénio (LISI – Herbário João de Carvalho e Vasconcellos) and Eva García Ibáñez (MA – Herbario del Real Jardín Botánico de Madrid) for searching possible specimens in the herbaria and finally, Miguel Porto and João Farminhão for all the comments and help.

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