

## A NEW RECORD OF *SERAPIAS BERGONII* (FAM. ORCHIDACEAE) FROM THE MALTESE ISLANDS

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### ABSTRACT

*Serapias bergonii* E.G.Camus is a very rare species for the Maltese islands and was assumed extinct from the island of Gozo due to lack of substantiated records. This paper gives details about a new record from Xlendi, a locality along the west coast of the island of Gozo (Maltese Islands).

**Keywords:** *Serapias bergonii*, *Serapias vomeracea* subsp. *laxiflora*, Orchidaceae, Mediterranean region, Malta, Gozo

### INTRODUCTION

The distribution of the genus *Serapias* is centred within the Mediterranean region, and extends from the Azores and Canaries at the West, the Caucasus at the East and the Brittany (North France) at the North. The genus is monophyletic, that is its member species are descended from a common ancestor, and is rather isolated from the other genera of Orchids. *Serapias* is closest to the Genera of *Orchis* and *Anacamptis* with which intergeneric hybrids have been described. The flowers of *Serapias* are not highly coloured, do not form nectar and do not exhibit pollinator mimicry, hence non-rewarding. Pollinators are attracted by the warmer (up to +3°C) temperature accumulated in the cavity formed by the upper tepals and hypochile of the labellum. The monochromatic epichile serves mostly as a supporting platform for the pollinator. Exceptions for this type of pollination are *S. parviflora* which is self-pollinating, and *S. lingua* which has a complex pollination involving sexual attraction of the pollinator. (Delforge, 2006)

*Serapias bergonii* E.G.Camus -- Monogr. Orchid. 61. 1908 [30 Oct 1908] (Bergon's *Serapias*) has several synonyms which are given in the list below (EMP, 2010), however *S. vomeraceae* subsp. *laxiflora* is the one mostly used in the Maltese flora.

- *Serapias laxiflora* Chaub., nom. illeg.
- *Serapias laxiflora* forma *wettsteinii* (H. Fleischm.) Soó
- *Serapias wettsteinii* Fleischm.
- *Serapias hellenica* Renz
- *Serapias pseudocordigera* var. *laxiflora* Nyman
- *Serapias cordigera* subsp. *laxiflora* (Soó) H.Sund.
- *Serapias vomeracea* subsp. *laxiflora* (Soó) Gözl & H.R.Reinhard
- *Serapias bergonii* subsp. *cilentana* Presser
- *Serapias parviflora* subsp. *laxiflora* Soó
- *Serapias occultata* var. *columnae* (Asch. & Graebn.) E. G. Camus

5 taxa of *Serapias* have been recorded from the Maltese islands and apart from *Serapias parviflora* Parl. they are very rare or doubtfully extinct due to lack of recent records. The taxa of *Serapias* recorded from Malta are:

1) *Serapias parviflora* Parl:

Frequent, distributed throughout the Maltese islands from at least 53 stations (Bartolo et al., 2001)

2) *Serapias cordigera* L.:

Recorded from Malta by Grech Delicata (1853) and Gulia (1873) and presumed extinct from the Maltese Islands by Bartolo et al. (2010) due to the lack of recent confirmed records from Malta.

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3) *Serapias lingua* L.:

Recorded by Grech Delicata (1853) and later confirmed by Sommier and Caruana Gatto (1915). Bartolo et al. (2010) analysed all bibliographical citations of this taxon and concluded that some past records (namely, Borg's records from Wied il-Ghasel and Misrah Ghonoq) likely refer to *S. vomeracea* subsp. *laxiflora* while other records are believed to have been truly *S. lingua* (Wied Incita and Wied il-Baruni). However, Bartolo et al (2001) also considered, due to the lack of recent records, that this species has become extinct from the Maltese islands, though this cannot be confirmed due to lack of herbarium material.

4+5) *Serapias vomeracea* s.l. (N.L.Burman) Briquet :

Unfortunately there is confusion in past records, because no distinction has been made between the 2 recorded subspecies – *S. vomeracea* subsp. *vomeracea* and *S. vomeracea* subsp. *laxiflora*. (Bartolo et al, 2001). However the same authors give separate records for the two subspecies based on recent and confirmed specimens as follows:

4) *Serapias vomeracea* subsp. *vomeracea*

Recorded from Ghargur, Pembroke (Rifle Ranges), Nadur Tower, Tal-Merhla, Ta' Zuta and Wied Babu. No records from Gozo have been cited. (Bartolo et al, 2001)

5) *Serapias vomeracea* subsp. *laxiflora* (= *Serapias bergonii*)

Recorded from Tigne' (l/o Sliema) and Wied il-Ghasel. (l/o of Mosta) both located in mainland Malta. (Bartolo et al, 2001)

A group of 4 late-flowering specimens of *Serapias* spp. were found by the author on the 19th April 2010 at the valley side of Wied tax-Xlendi, Xlendi Gozo. The identification as *Serapias bergonii* was confirmed a week later after obtaining a permit from the Malta Environment and Planning Authority to dissect and analyse the morphology of the flower parts. The 6mm wide epichile, the lax inflorescence and most important the orbicular basal part of the upper petals, were the most decisive characters to identify the specimens as such. It was easily distinguished from the close relative *S. vomeracea* subsp. *vomeracea* because it has a narrower epichile of 4-7.5mm in contrast to 8-26mm wide in the nominate subspecies. (Delforge 2006). The habitat where this population was found was a Thermo-Mediterranean Pre-Desert Scrub, characterised by medium sized shrubs of *Euphorbia dendroides* L., *Teucrium fruticans* L., and *Hypericum aegyptium* L. The accompanying species in a radius of 10m away from the specimens' locus were recorded and listed in Table 1.

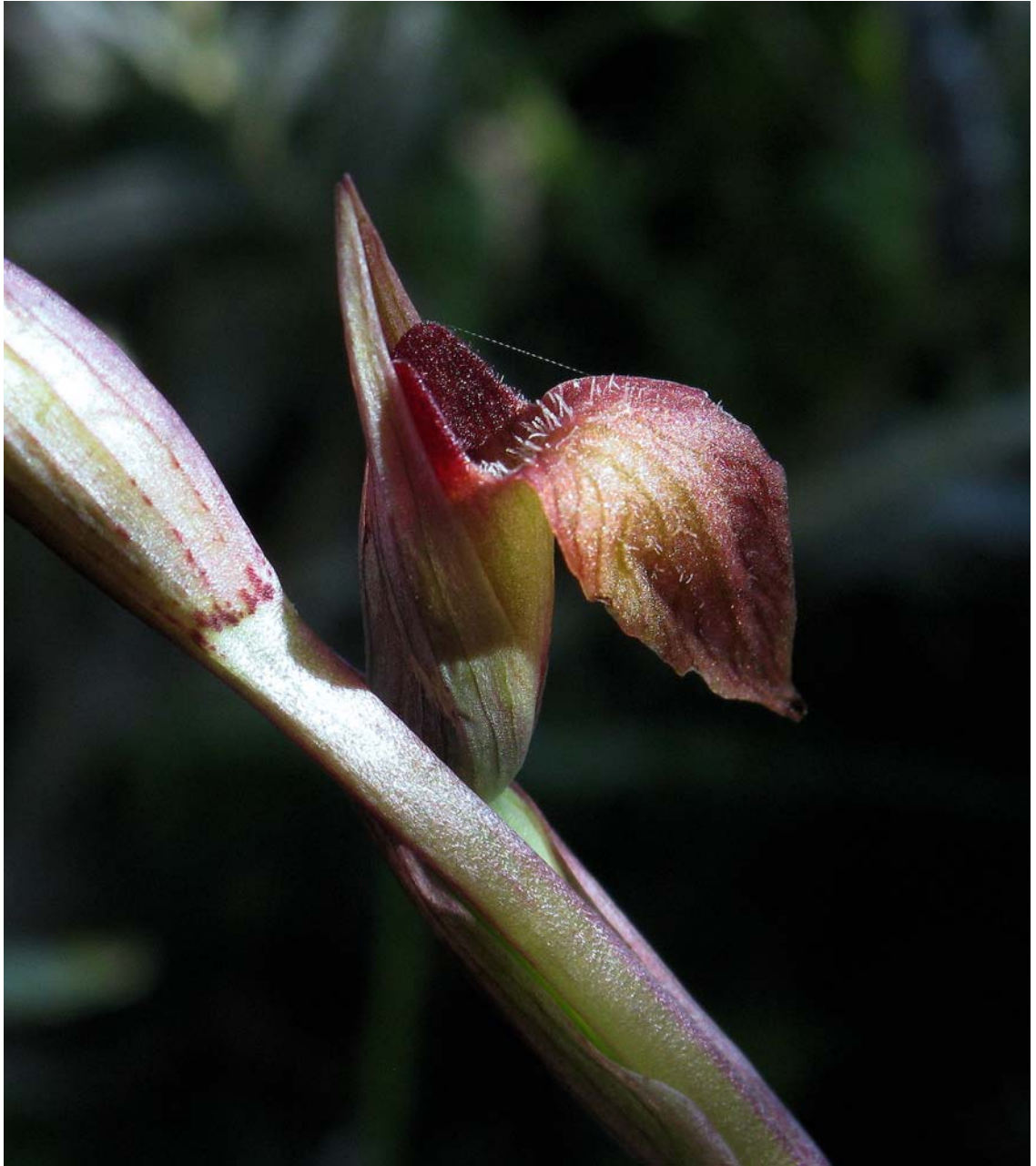
The occurrence of *S. bergonii* in Malta is quite interesting from the distribution point of view of the species. Its distribution is based on the Eastern part of the Mediterranean, were it is recorded from Greece (GBIF; Delforge; MCL) Eastern Aegean archipelago (excluding Astypalea and Lesbos), Albania, Anatolia, Crete, Cyprus, Italy (Calabria), Jugoslavia, Turkey (Delforge, 2006; MCL, 2010) and Sicily (Delforge, 2006). In Italy, the species is recorded from Calabria, Apulia, Campania, Molise (Conti et al., 2005) and Sicily (Conti et al., Verner et al.2009) The Sicilian and the Maltese are the westernmost stations for the distributional range of the species (Fig. 3). Delforge (2006) does not include the Maltese islands in the list of countries where this species occurs. The distribution of *S. bergonii* on the Maltese islands is shown in Figure 4. The taxon *Serapias bergonii* is listed in Schedule VI (animal and plant species of National interest in need of strict protection) in the Environment Protection act (CAP. 435) and Development Planning act (CAP. 356) - Flora, Fauna and Natural Habitats Protection Regulations – L.N.311/2006.

Table 1: List of plants accompanying *Serapias bergonii* at Wied tax-Xlendi, Gozo, within a radius of 10m to 12m - recorded on 19-April-2010.

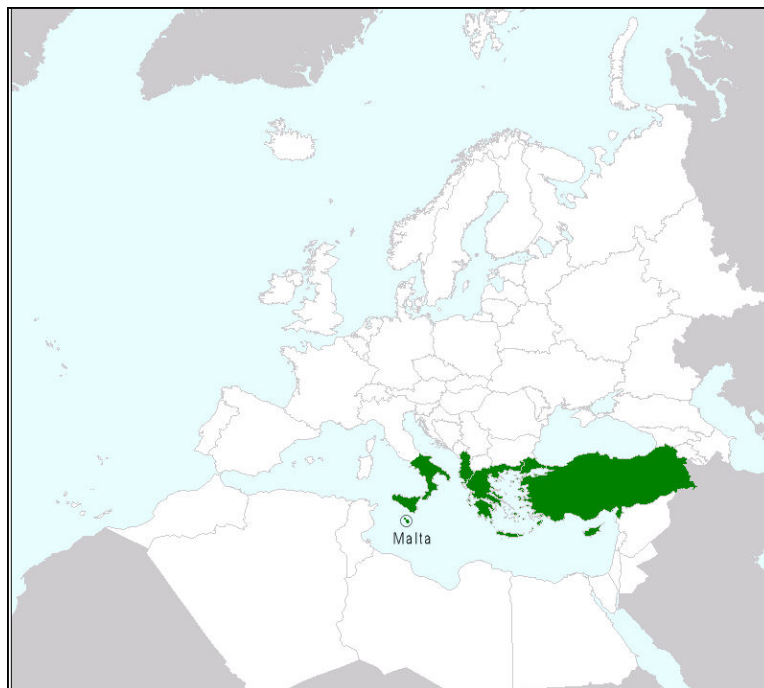
<i>Euphorbia dendroides</i> L.	C	<i>Lotus cytisoides</i> L.	R
<i>Hypericum aegypticum</i> L.	C	<i>Inula crithmoides</i> L.	R
<i>Teucrium fruticans</i> L.	C	<i>Ruta chalepensis</i> L.	R
<i>Senecio bicolor</i> L.	S	<i>Prasium majus</i> L..	R
<i>Phagnalon rupestre</i> (L.) DC.	S	<i>Jasonia bocconeii</i> Brullo	R
<i>Thymra capitata</i> (L.) Cavanilles	S	<i>Erica multiflora</i> L.	R
<i>Lagurus ovatus</i> L.	S	<i>Reichardia picroides</i> (L.) Roth	o
<i>Asparagus aphyllus</i> L.	S	<i>Calendula arvensis</i> L.	o
<i>Capparis orientalis</i> Veillard	S	<i>Bituminaria bituminosa</i> (L.) Stirton	o
<i>Bromus fasciculatus</i> Presl.	S	<i>Urginea pancration</i> (Steinheil) Philippe	o
Key: C=Common; rather dominating. S= Scarce amounts, more than 10 specimens but not dominating. R=Individual or up to 10 plants. o=Opportunistic casual or ruderal plants.			



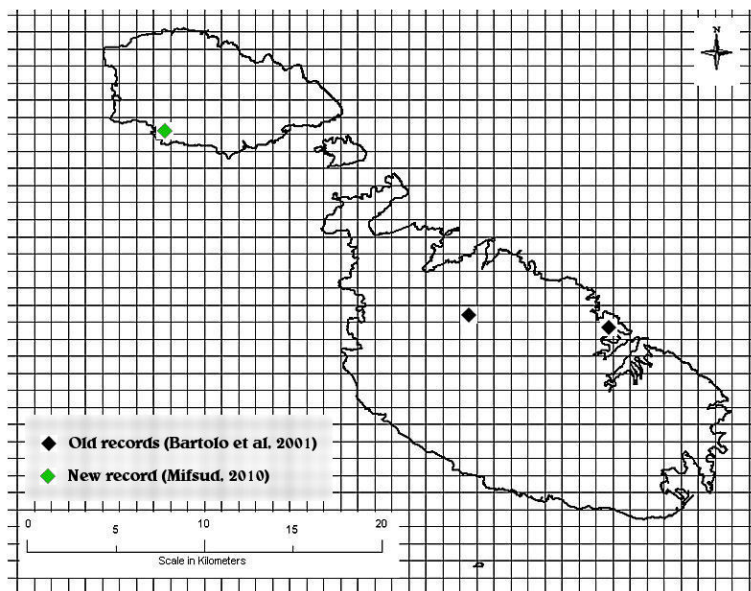
**Figure 1:** New population of *Serapias bergonii* at Wied tax-Xlendi, Xlendi, Gozo. (19-Apr-2010)



**Figure 2:** Close up of flower of *Serapias bergonii* in situ at Wied tax-Xlendi, Xlendi, Gozo. (19-Apr-2010)



**Figure 3:** Distribution of *Serapias bergonii* in Europe, restricted to the Eastern Mediterranean region. Adapted from EMP (2010). Shaded area for Italy is adapted from the regional occurrences given by Conti et al (2005).



**Figure 4:** Distribution of *Serapias bergonii* in the Maltese islands (UTM, zone 33S, 1 x 1 km grid)

All photographs in this article were taken by the author himself.  
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