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## The rediscovery of two species of biogeographical interest in the Maltese islands (Central Mediterranean)

### Abstract

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*Ononis oligophylla* (*Fabaceae*), last recorded during the first 2 decades of the twentieth century, and *Pteranthus dichotomus* (*Caryophyllaceae*), last recorded in the nineteenth century, and thereafter both thought to be extinct in the Maltese Islands, were rediscovered on coastal clay slopes in Gozo. Details regarding population size and accompanying vegetation are given. Both species have a restricted Mediterranean distribution and are in danger of extinction due to anthropogenic factors, particularly soil erosion.

*Key words:* *Ononis oligophylla* var. *pubescens*, *Pteranthus dichotomus*, Flora, Malta.

### *Ononis oligophylla* Ten. (*Fabaceae*)

*Ononis oligophylla* Ten. [= *Ononis alba* var. *oligophylla* (Ten.) Fiori] was recorded in the past from : “Gozo, piuttosto rara, verso la *Torre dei Giganti*, fra *Rabato* e *Nadur*, sulla strada fra *Rabato* e *Marsalforn*” (Sommier & Caruana Gatto 1915, later cited by Borg 1927, Haslam & al. 1977); “ at Xaghra, along the road from Xaghra to Nadur ”(Borg 1927). Thereafter the species was presumed extinct, as it was “not seen for many decades” (Lanfranco 1989).

During May 1994 the author discovered a population of *Ononis oligophylla* below Rđum ta' Kililu, east of Marsalforn, Gozo. While the population number was not counted at the time of discovery, approximately 270 individuals, occurring in 2 separate sub-populations, were counted during a site visit on the 24<sup>th</sup> July 2007. A third sub-population that used to occur along a pathway at the upper part of the site seems to have disappeared since the date of discovery. The site in question consists of heavily weathered coastal clay slopes (middle Miocene), furrowed by wide erosion gullies, at an altitude of approximately 15 - 35 m. The landscape consists of low maritime garigue which in most parts has been degraded to steppe by past agricultural and grazing activities. Due to competition from ruderals, *O. oligophylla* is largely absent from the level area at the higher altitudes and from within the erosion gullies, which are thickly vegetated and dominated by naturalised *Hedysarum coronarium* L., a relic of cultivation. Most of the population occurs on bare clay with much

landslip stone debris, interspersed among clumps of vegetation and isolated shrubs. In these particular areas, the dominant species are: *Darniella melitensis* (Botchantsev) Brullo (only in the more rupestral parts), *Lotus cytisoides* L. (sub-dominant in some patches), and *Limbarda crithmoides* (L.) Dumort. *Hedysarum coronarium* L. and *Dactylis hispanica* Roth. are sub-dominant in certain parts. Other important accompanying species are: *Scorpiurus muricatus* L., *Convolvulus lineatus* L., *Plantago serraria* L., *Anthemis urvilleana* (DC.) Sommier & Caruana Gatto, *Galactites tomentosa* Moench, *Helminthotheca echioides* (L.) Holub and *Podospermum resedifolium* (L.) DC. Also present are: *Beta maritima* L., *Limonium melitense* Brullo, *Euphorbia exigua* var. *pycnophylla* Kramer & Westra, *Euphorbia pinea* L., *Daucus* cfr. *gingidium* L., *Daucus lopadusanus* Tin., *Crucianella rupestris* Guss., *Centaureum pulchellum* (Swartz) Druce, *Plantago macrorrhiza* Poir., *Carlina involucrata* Poir., *Cynara cardunculus* L., *Reichardia picroides* (L.) Rothm., *Sonchus oleraceus* L., *Allium lojaconoi* Brullo, Lanfranco & Pavone, *Allium melitense* (Sommier & Caruana Gatto) Ciferri & Giacomini, *Romulea* sp. pl., *Parapholis incurva* (L.) C. E. Hubbard and *Trachynia distachya* (L.) Link.

*Ononis oligophylla* is endemic to the Central Mediterranean region, occurring in South Italy (Marche, Abruzzo, Campania, Puglia, Basilicata, Calabria) and Sicily, apart from Gozo (Pignatti 1982). The plants found in Gozo have been ascribed to *O. oligophylla* var. *pubescens* Guss., that is frequent in Sicily (Pignatti 1982). A specimen has been deposited in the private herbarium of Mr. E. Lanfranco.

According to IUCN (2001) *Ononis oligophylla* is critically endangered in the Maltese Islands due to soil erosion and building development encroaching onto its habitat. The author is attempting to conserve the species by cultivating it in his own private garden.

### ***Pteranthus dichotomus* Forssk. (Caryophyllaceae)**

*Pteranthus dichotomus* Forssk. (= *Pteranthus echinatus* Desf.) was recorded in the nineteenth century from: "In argillosis et arenosis; Marsa, ecc." (Grech Delicata 1853, later cited by Sommier & Caruana Gatto 1915, Haslam & al. 1977), Marsascala and Chambray, Gozo (Gulia Mss. in Sommier & Caruana Gatto 1915, later cited by Haslam & al. 1977). Nobody observed it after Gulia and was thus presumed extinct (Caruana Gatto 1913; Haslam & al. 1977; Lanfranco 1989).

On the 26<sup>th</sup> February 1994, the author discovered a population of *Pteranthus dichotomus* at Ta' Rдум, opposite the island rock known as Il-Ġebbla tal-Halfa. While the population number was not counted at the time of discovery, 242 individuals were counted during a site visit on the 28<sup>th</sup> May 1995. Another site visit on the 24<sup>th</sup> July 2007 revealed that much of the first discovered population had been degraded (see below), while other previously unknown sub-populations were found in the vicinity in other patches with similar habitat and at approximately the same altitude. The site in question consists of coastal clay slopes (middle Miocene), furrowed by wide erosion gullies, at an altitude of approximately 15 - 30 m. The clays support steppic vegetation dominated by *Lygeum spartum* L. The more level upper parts were intensely cultivated in the past, as is evidenced by collapsed dry-stone walls and the dominance of *Hedysarum coronarium* L., a formerly extensively grown fodder crop. Other associated species are: *Mesembryanthemum nodiflorum* L., *Beta*

*maritima* L., *Lotus cytisoides* L. (only 1 specimen seen in 1995), *Scolymus maculatus* L. and *Sonchus oleraceus* L.

*Pteranthus dichotomus* occurs in Spain, North Africa (Morocco, Algeria, Tunisia, Libya, Egypt, Sinai), Cyprus, from the Middle East (Israel, Lebanon, Jordan, Syria) to South West Pakistan (Baluchistan) (Burdet & al. 1984; Ghafoor 1977).

A specimen has been deposited in the private herbarium of Mr. E. Lanfranco.

According to IUCN (2001) *Pteranthus dichotomus* is critically endangered in the Maltese Islands due to soil erosion which is being accelerated by burning of vegetation, usually to make space for bird-trapping sites, trampling and grazing and burrowing by wild rabbits. The author is attempting to conserve the species by cultivating it in his private garden.

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