

**BROMUS CATHARTICUS VAHL (FAM. POACEAE), A NEW RECORD FOR THE MALTESE ISLANDS**Timothy J. TABONE<sup>1</sup>, Alex CASHA<sup>2</sup> and Stephen MIFSUD<sup>3</sup>**ABSTRACT**

The discoveries of the first 4 known populations of the alien *Bromus catharticus* from the Maltese Islands are reported. Notes on the species' distribution range, local habitat and invasive potential are also given.

**KEYWORDS:** *Bromus catharticus*, Malta, alien flora, watercourses.

*Bromus catharticus* Vahl [= *B. unioloides* (Willdenow) Kunth; *B. willdenowii* Kunth; *Ceratochloa cathartica* (Vahl) Herter; *C. unioloides* (Willdenow) P. Beauvois] was first found in the Maltese Islands by one of the authors (TJT) during March 2000 on a muddy substrate permeated by a semi-permanent watercourse at Ghajn Istan, overlooking the Pwales graben in the North of the island of Malta. The watercourse in question flows across the soft Blue Clay formation (early to mid-Miocene), intersecting intensively cultivated land and thus subject to much anthropogenic disturbance, with the accompanying phytocoenosis mainly consisting of field weeds and relictual stands of specialised stream vegetation. The dominant species was *Helminthotheca echioides* (L.) Holub, with *Verbena officinalis* L. and *Panicum repens* L. as sub-dominant species. Important accompanying species present: *Beta maritima* L.; *Parietaria judaica* L.; *Galium aparine* L.; *Convolvulus arvensis* L.; *Ipomoea indica* (Burmann) Merrill; *Avena* sp. pl.; *Lolium perenne* L.; *Phalaris minor* Retzius; *Polypogon monspeliensis* (L.) Desfontaines; *Schedonorus arundinaceus* (Schreber) Dumortier.

Another three populations have since been found at the following localities, all on permanently wet substrates among cultivated fields adjacent to roadsides: Triq il-Manikata (at the western extremity of the Pwales graben), discovered by TJT on the 15<sup>th</sup> April 2008 along irrigation canals; population consisting of 2 clumps; Wied tal-Mistra (limits of Mellieħa and Xemxija), discovered by AC on the 14<sup>th</sup> April 2011 among vegetation dominated by *Arundo donax*, this being the most extensive population; and Tal-Imbordin (overlooking the Pwales graben), discovered by SM on the 20<sup>th</sup> April 2012 among vegetation dominated by *Arundo donax*, with the *Bromus catharticus* population consisting of isolated clumps. The sites from which this species has been found so far are all at an altitude of between 0-150m.

*Bromus catharticus* is native to Central and South America (GRIN; Stace 1991) and occurs as a naturalised alien on all main continents: North America, South and East Tropical Africa, Australia, New Zealand, China (USDA; GRIN). It has also been recorded from the following European territories: Lithuania (LISD); Ukraine (CABI); UK (where it is rarely cultivated for fodder and has become naturalised and also occurs as an accidentally introduced grain- and wool- casual alien, found on rough ground, roadsides and field margins, scattered in Central and South Britain), the Channel Islands and the Scillies (Cope and Gray 2009; Stace 1991); Italy, where it was similarly introduced as a forage plant and wool-alien and became naturalised in a number of localities, but today persisting solely within the Latium province (Pignatti 1997); Sicily (Pignatti 1997), where it has become established at Messina and in good numbers "at Marina di Cottone and Mascali in the Catania area", showing a preference for wet habitats (Giardina *et al.*, 2007).

It is unlikely that *Bromus catharticus* will turn out to be an invasive species with a negative impact on native vegetation. It has clearly failed to become widely established within the Central Mediterranean: most populations in Italy have disappeared (Pignatti 1997) and is still "rare" in Sicily, despite the fact that a century has passed since the first sighting on that island by Sommier (Giardina *et al.*, 2007). The first-known Maltese population at Ghajn Istan has already declined considerably to a mere 4 clumps within the 12 years that have lapsed since the original discovery date.

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**CABI:** Centre for Agricultural Bioscience International. (Last accessed on 20 May 2012.) <http://www.cabi.org>

**GRIN:** United States Dept. of Agriculture, Germplasm Resources Information Network website. National Germplasm Resources Laboratory, Beltsville, Maryland. (Last accessed on 20 May 2012.) <http://www.ars-grin.gov>

**LISD:** Lithuanian Invasive Species Database. (Last accessed on 20 May 2012.) <http://www.ku.lt/lisd/species.html>

**USDA:** United States Department of Agriculture. (Last accessed on 17 May 2012.) <http://plants.usda.gov>

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