Grape Hyacinth (*Muscari neglectum* Guss. Ex. Ten.) in Oxfordshire

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Summary

Muscari neglectum (*M. atlanticum* Boiss. & Reuter, *M. racemosum* Lam. & DC. Non (L.) Miller) is a member of the family *Liliaceae*. A perennial, it is native throughout southern Europe to northern France, parts of Germany, south-central Russia and North Africa, where its habitats, in a variety of soils, include heaths, pastures, waysides, Rhenish vineyards, and rocky places up to 2200m on Mount Olympus in Greece. (Strid 1980).

Introduction

Muscari neglectum (not to be confused with *M. armeniacum* Leichtlin ex Baker, a species commonly grown in gardens) has a round, tunicated bulb measuring c. 3 cm in diameter when mature. The leaves, which appear in the autumn and grow to c. 30 cm in length, are linear, semi-cylindrical and narrowly grooved above. Stems vary in length to c. 30 cm. The dense racemes bear distinctive dark blue to almost blackish-blue flowers with white lobes, and terminal pale blue infertile flowers that never open. The capsules, broader than long, measure c. 4-8 mm and the black seeds, 2.5 mm in diameter, are described by Butcher (1961) as ‘triquetrous-obcordate’ and ‘coarsely honeycombed’. Flowering is from early April to mid-May. Pollination is by insects, or selfed, and reproduction is by bulbils and seeds.

Figure 1. *Muscari neglectum* at Chadlington
Photo by Frances Watkins

In Britain, *M. neglectum* is classified as a Red Data Book species (Wigginton 1999). Nationally rare and vulnerable, it now occurs only in south-east Cambridgeshire, West Suffolk and Oxfordshire. In West Suffolk its habitats include the margins and headlands of cultivated fields, grassy roadside verges, hedgebanks and wind-blown sand beneath Scots Pine (*Pinus scotica*). It is also recorded in several county floras as an escape or casual. Although earlier botanists, including George Claridge Druce, believed it to be native, this status is now considered to be applicable only to the East Anglian plants.

The species was first recorded in Oxfordshire in 1860 at Shotover. References to Druce's *Flora of Oxfordshire* (1886, 1927), and to specimens collected by or given to him and preserved in the Fielding-Druce Herbarium in the University of Oxford Plant Sciences Department show that in the mid-19th century it was found as 'an alien or denizen' at Kiddington, in a damp plantation north of Adderbury, on old walls in Bicester and Wendelbury and in Shotover plantations. More recent sporadic county records include Finstock, Ewelme, Eynsham and Newnham Wood (Killick *et al*. 1998).

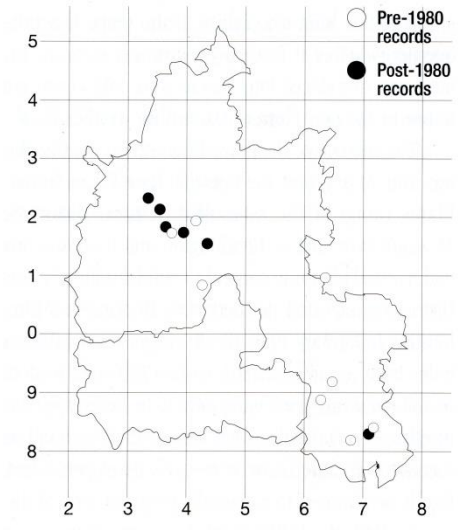

Figure 2. Distribution of the grape hyacinth (*Muscari neglectum*) in Oxfordshire

One entry in the second edition of Druce's Flora states:

Very abundant over a considerable portion of a large upland pasture near Ditchley Park where it has all the appearance of being native, and was in such quantity as to give a colour to the field. This pasture during the war [1914-1918] was tilled and much of it destroyed. In July 1924 it was in excellent fruit … and undoubtedly native.

A specimen in the Herbarium collection is accompanied by the following note by Druce:

Chadlingson [sic] Oxfordshire, April 1911. Found by Miss Burlton. Here it is in immense quantity, giving colour to the turf in an extensive upland pasture on the Great Oolite, about five miles from the similar locality near Kiddington … the villagers having long known of it. It is far distant from houses.

There are now only two known extant sites in Oxfordshire. Both are in Chadlington: one on the village allotments, and the other along a grass verge bordering an upland

arable field beyond the village which within living memory is known to have held a large population of the grape hyacinth.

When botanists Gigi Crompton and Rosemary FitzGerald visited the allotments site in April 1985, they estimated the population at 40,000 plants. They also found plants in many of the village gardens, and talked with elderly residents who, as children, had earned a little pocket money by digging up and removing the bulbs, which were considered by allotment holders and gardeners to be ‘a nuisance’, ‘a pest’ or a ‘weed’.

It is this long association of the grape hyacinth with cultivated land that has led some botanists to question whether it is a truly native species, or as in the case of many wild flowers associated with arable land, was introduced long ago as seed, with cereal grain imported from Europe. It is, however, described as native in the new Flora of Oxfordshire (Killick *et al*. 1998).

The survival of the grape hyacinth on the Chadlington allotments was threatened in 1996 when the site was sold. Because at that time the Cotswold Rare Plants Group (formed in 1995 in association with the Rare Plants Group of the Ashmolean Natural Society of Oxfordshire) was already monitoring the *M. neglectum* sites in Chadlington, it became involved in early discussions between the developer who had received planning consent to build dwelling-houses on part of the site, representatives of West Oxfordshire District Council and the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust. Following an on-site meeting in January 1997, the developer was required, at his own expense, to remove a quantity of topsoil and bulbs from am area selected by the CRPG and to stockpile them until two holding plots had been prepared on the remaining land which was to be landscaped and left as an open space for the village. Shortly after this meeting c. 4000 bulbs were transplanted by hand and the plots clearly flagged. This operation has been successful. By agreement between the developers, Chadlington Parish Council and the CRPG, these bulbs will finally be removed to a specially prepared area of the public open space.

In 1998 the CRPG decided to carry its rescue operations a step further by seeking permission from English Nature to translocate bulbs from the Chadlington allotments site to what was believed to be an historic site between Chadlington and Sarsden. A clue to this location had been found in the Fielding-Druce Herbarium. A note attached to one of the *M. neglectum* specimens reads: ‘*Muscari racemosum*. Upland pasture between Chadlington and Sarsden in great quantity and native. Oxon. April 1911. G.C.Druce.’ After examination of a large-scale map and a visit to the area, an upland field between the two villages was identified. Pending a decision by English Nature, an approach was made to the landowner, a farmer who manages his land under the Countryside Stewardship Scheme. He readily gave provisional consent to the request and checked his fields to confirm that they contained no remnant populations of *M. neglectum*; a proviso made by English Nature when it later gave its approval to the translocation.

Early in September 1998, with the agreement of the landowner, two different habitats were selected for the translocated bulbs: one along a grass verge bordering a wildflower meadow; the other on the highest field, where the land is cultivated to provide feeding and nesting places for skylarks and lapwings.

In two separate collections, 100 bulbs were then removed from the holding plots and the same number from the north side of the site, where plants had remained

undisturbed for many years. Bulbs in the latter area were found to have produced many bulbils.

In mid-September 1998, 100 bulbs (50 from each of the two separate collections) were planted in each of the two chosen habitats. In April 1999, 94 flowering stems were counted on the grass verge, and 117 on the upland, cultivated field where there is minimal competition from other plants. On 8 April 2000 only 36 flowering stems were recorded on the grass verge. On the upland field the plants were found to have been severely damaged by sheep which were grazing the grassland surrounding the cultivated area. Some leaves had been completely eaten away, while others had lost 50% or more of their potential maximum length and only two small emergent racemes were noted. The sheep were removed a few days later, and by 10 May the plants had made a remarkable recovery. Although in most cases leaf regrowth had been slow, the bulbs had produced 87 stems, of varying height, bearing racemes in bud, flower and seed.

Annual monitoring of the four Chadlington sites (two original, two newly-established) will continue, and future records will be added to those already compiled by the CRPG. This information includes all known published and oral data on *M. neglectum*: notes on herbarium material, annual counts and condition of habitats, details, maps and diagrams relating to the translocation, relevant correspondence and photographs. These records are held by the Secretary of the CRPG.

As many will know, rare plant preservation work is seldom easy or straightforward. It requires, first of all, a sound knowledge of the chosen species, vigilance, enterprise, protracted discussion, co-operative goodwill, and a lot of physical effort. This account is presented as an example of collective achievement in ensuring the survival, into the new millennium, of one of Britain's threatened wild flowers.

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