

An assemblage of Coleoptera from ponds on Povington Heath, Dorset

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Introduction

The Purbeck Important Ponds Project run by Rachel Janes of Dorset Wildlife Trust offered an opportunity to survey ponds on the Ministry of Defence (MOD) Lulworth Ranges which are not normally available to visit. Previous botanical and dragonfly surveys and an active conservation policy by the MOD suggested that this area may be of high conservation potential.

The site at Povington Heath is within SY88 and is used for tank firing practice. Fuller grid references are withheld at the request of the MOD as no public access is available. It is acid heathland on Bagshot Beds clays, sands and gravels overlying Purbeck limestone (incidentally crowded with the freshwater fossil gastropod *Viviparus*). It is grazed by cattle and generally has little tree or scrub cover, although there are conifer plantations on the eastern part of the site. Ponds are numerous with 18 defined on maps and a variable number of temporary (vernal) ponds and mires. A range of ponds was surveyed in May and August 2009 covering the permanent and larger temporary water bodies.

The ponds are briefly described. The assemblage of notable beetle species is presented in Table 1 and notes given on wider and local distribution. Each pond had at least one Red Data Book (RDB) and a number of notable water beetle species, and together had notable dragonfly, caddis fly and leech species and a Biodiversity Action Plan (BAP) fern and liverwort.

The Ponds

Burgess pond is 1500m² very shallow and completely covered in *Juncus bulbosus* L., *Eleocharis palustris* (L.) Roem. & Schult. and *Eleogiton fluitans* (L.) Link.

Mare pond is a decoy pond of 2500m² set in a coniferous plantation with a wide terrestrial zone between pond and trees for 50% of the perimeter. Vegetation is dominated by *Schoenoplectus lacustris* (L.) Palla with *Persicaria amphibia* (L.) Gray and *Hypericum elodes* L.

Seasonal pond 1 is 225m², set in open heath and dominated by *Eleocharis multicaulis* (Sm.) Desv. with *Potamogeton polygonifolius* Pourr.

Seasonal pond 2 is 50m², but otherwise similar to seasonal pond 1.

Seasonal pond 3 is 125m², set in open heath and dominated by *Eleocharis multicaulis*, *Eleogiton fluitans*, *Juncus bulbosus* with *Potamogeton polygonifolius* and *Nitella translucens* (Persoon) Agardh.

Seasonal pond 4 is 1000m² and has some shading by trees and shrubs. The vegetation is dominated by *Juncus bulbosus*, with *Eleogiton fluitans*, *Hypericum elodes* and *Potamogeton polygonifolius*.

Pool pond is 1500m², almost completely circular and only a metre deep across the whole pond. Vegetation is dominated by *Juncus bulbosus*, *Eleocharis palustris*, *Hypericum elodes* and *Sphagnum auriculatum* Schimp.

Railway pond south is rather different in character with a pH of 7.4, conductivity of 376 mS/cm and no grazing. *Typha latifolia* L. dominates the vegetation with *Potamogeton natans* L., *Ceratophyllum demersum* L., *Nitella translucens* and *Calliergonella cuspidata* (Hedw.) Kindb. This pond is situated on Reading and London Clays and so is less acid than the others. Moreover it is probably influenced by the calciferous nature of a nearby track constructed from imported limestone.

Simpsons pond is a large deep pond set in a mire which makes access difficult as the surrounds are floating *Sphagnum* held together with *Myrica gale* L. roots This pond was already known to hold medicinal leech, to add to the challenges of survey!

West Holme Heath pond is the newest pond, having been created in 1995 specifically for conservation purposes. It is dominated by *Potamogeton natans* and pillwort *Pilularia globulifera* L., a BAP species. It also has a BAP liverwort, pitted frillwort *Fossombronia foveolata* Lindb. in the margins.

The ponds have low conductivity (average 126 mS/cm) and an average pH of 6.2. All are cattle grazed except Railway pond south and either completely open or only partially shaded by marginal trees and shrubs. All had silty/clay bottoms with the exception of Pool pond, which has a gravel substrate.

The beetles

All localities given are in Dorset, Vice-county 9, except for the New Forest which is in S. Hampshire, Vice-county 10.

Gyrinus minutus Fabricius (Gyrinidae) appears to be a relict species in the south with a wide distribution across Scotland and Ireland. There are recent (post 1980) local records from Little Sea, Studland (SZ08) and Morden Bog (SY98) and historical records (1966) from Hatchet Pond in the New Forest (SU30).

Graptodytes flavipes (Olivier) (Dytiscidae) is well recorded locally having a southern distribution centred on the New Forest and Dorset heaths. It is recorded from Winfrith Heath (also SY88) and historically from Corfe (SY98).

Graptodytes granularis (Linnaeus) (Dytiscidae) is much more widespread across England, Wales and Ireland than *G. flavipes*. More locally it is known from Studland (SZ08), Morden Bog (SY98), Wareham Forest (SY89) and the New Forest and historically from Parley Heath (SZ09). It occurs in rather more richly vegetated ponds than *G. flavipes*.

Hydrovatus clypealis Sharp (Dytiscidae) has a southern distribution with recent local records from Wareham (SY98), Brownsea Island, Poole Harbour (SZ08), Little Sea, Studland (SZ08) and the New Forest.

Ilybius aenescens Thomson, C.G. (Dytiscidae) is widespread in mires and pools with a strong northern bias in distribution. Local records are from Studland (SZ08), Morden Bog (SY98), Hurn (SZ19) and the New Forest and historically from Wareham (SY99). This species is replaced by *Ilybius guttiger* (Gyllenhal) in one pond, presumably as a result of additional shade (the same is noted on Studland by Garth Foster, pers. comm.). This is, like *I. aenescens*, a widespread species with a northerly bias, but extending much less into Scotland than *I. aenescens*. Locally it is recorded from Wareham Forest (SY89 and SY98) and Studland (SZ08), Lodmoor (SY68) and the New Forest in bog pools.

Table 1 Ponds where, and dates when, the notable and RDB species were found

Species	Status	Burgess	Mare	Seasonal 1	Seasonal 2	Seasonal 3	Seasonal 4	Pool pond	Railway south	Simpsons	West Holme Heath
<i>Gyrinus minutus</i> Fabricius	Nb							●		□	
<i>Graptodytes flavipes</i> (Olivier)	RDB2	●	□	●	●	●	●			□	□
<i>Graptodytes granularis</i> (Linnaeus)	Nb			●	●			●			
<i>Hydrovatus clypealis</i> Sharp	RDB3		□					●	●	□	
<i>Ilybius aenescens</i> Thomson, C.G.	Nb	●			●	●	●				
<i>Ilybius guttiger</i> (Gyllenhal)	Nb									□	
<i>Rhantus grapii</i> (Gyllenhal)	Nb			●							
<i>Berosus signaticollis</i> (Charpentier)	Nb	●					●				
<i>Enochrus affinis</i> (Thunberg)	Nb		□					●			
<i>Enochrus ochropterus</i> (Marshall)	Nb								●	□	
<i>Helochares punctatus</i> Sharp	Nb									□	
<i>Hydraena testacea</i> Curtis	Nb										□
<i>Hydrochus angustatus</i> Germar	Nb					●					□
<i>Stenus kiesenwetteri</i> Rosenhauer	RDB2									□	
<i>Pelenomus olssoni</i> (Israelson)	RDB3							●			

Legend ● 23 May 2009 □ 13 August 2009

Rhantus grapii (Gyllenhal) (Dytiscidae) is widespread in England, Wales and Ireland with an eastern bias. Locally it is recorded from Wareham (SY98), Studland (SZ08), Hurn (SZ19) and the New Forest, usually from pond edges.

Berosus signaticollis (Charpentier) (Hydrophilidae) is primarily English in distribution with a strong easterly bias. Locally it is rather sparsely recorded from west Dorset (SY58 and SY67) and the New Forest and historically from Studland (SZ08) and Holnest (ST60).

Enochrus affinis (Thunberg) (Hydrophilidae) is widespread throughout the British Isles in heathland pools. Locally, it was found in two of the larger ponds and it is recorded from adjacent squares of Wareham Forest (SY89) and SY78, St. Leonards (SU10), Studland (SZ08), Sopley Common (SZ19) and the New Forest.

Enochrus ochropterus (Marsham) (Hydrophilidae) is also widespread throughout the British Isles in weedy ponds, not restricted to heaths. Locally recorded from adjacent squares at Wareham (SY98 and SY89), and from west Dorset (SY39, SY49, SY59 and SY68), Studland (SZ08) and the New Forest.

Helochaeres punctatus Sharp (Hydrophilidae) is local but often abundant in heathland pools across England and Wales. It is recorded locally across the Bournemouth and Poole Heaths (SU10, SZ08, SZ09 and SZ19), Studland (SZ02) and within the current square on Winfrith Heath.

Hydraena testacea Curtis (Hydraenidae) is widespread in England and Wales with an easterly bias and some Irish and Scottish records. It is recorded in the leaf litter at the margins of ponds and also running water. Locally recorded from East Stoke (SY88), Morden Bog (SY98) and the New Forest.

Hydrochus angustatus Germar (Hydrochidae) has a similar national distribution to *Hydraena testacea* although it extends further into Scotland. Locally it is distributed widely across the Poole Heaths (SZ09, SZ19 and SU00), Morden Bog (SY98) and Holton Heath (SY99).

Stenus kiesewetteri Rosenhauer (Staphylinidae) is a rove beetle associated with quaking mires in the south of England. It has been recorded locally from Studland (SZ03) and the New Forest and historically from Morden Bog (SY99).

Pelenomus olssoni (Israelson) (Curculionidae) is a semi-aquatic weevil associated with *Lythrum portula* found in southern counties of England (but not apparently from Dorset before) and Wales

The exceptional quality of the site underlines the good practices of the MOD conservation policy on the site but also hints at contributory factors :- historical continuity of grazing, clean water catchment, disturbance through shelling and grazing, and lack of public access.

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Coleoptera from ponds on Povington Heath, Dorset

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