Water beetles at Glenwhan Gardens in 2020

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A day's work in September 2020 yielded 31 species of water beetles in four of the ponds in the Gardens. This was part of our Lockdown Survey of the old county of Wigtownshire, which most biological recorders refer to as Watsonian vice-county 34. We have over 4,000 records, mostly acquired this summer.

The four ponds differed mainly in size, the amount of shading, the extent of vegetation rafts formed by bogbean and flag iris, and the presence/absence of carp. The first pond sampled had also had parts of the emergent vegetation burnt off by a herbicide, resulting in much organic matter and algae in suspension. This probably explained why it had the lowest number of species (and one should remember that, no matter how much you try – or do not try, the first site usually gets surveyed more enthusiastically and efficiently than the rest!). The third pond, the smaller one in the Arena Garden, was almost completely overgrown with a vegetation raft, with a few patches of flooded moss. Herbicide treatment did not appear to have had any effect on the raft. This site supported eight species of *Hydroporus*, little diving beetles (2.5-4 mm long) that prefer to live in dense vegetation, particularly with moss. The main pond in the Arena Garden had the greatest number of species (17) but only thee that were not found elsewhere. In contrast the small pond in the Arena Garden had only 11 species, but six of them were not found in other ponds. It is these complexes of ponds, each pond offering a small variation in habitats, that are so important for our beetle biodiversity.

None of the species found is particularly rare in Britain. The least common in Ayrshire was *Haliplus confinis* (right) a small striped beetle that lives on stoneworts but presumably can make do with other algae.

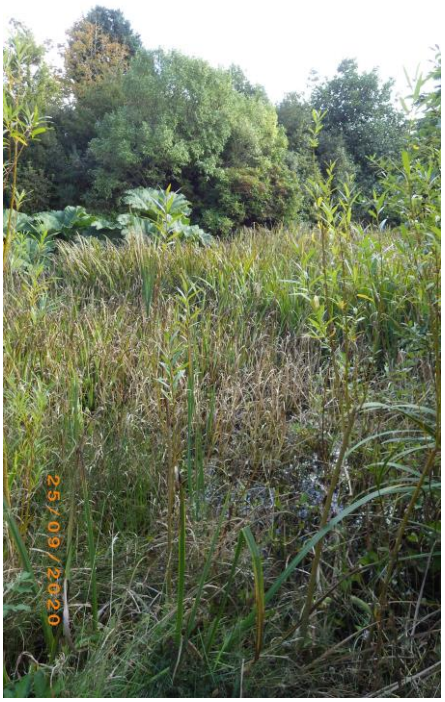
The rest of this report simply reproduces the day's journal notes. Many thanks to the staff of Glenwhan Gardens for their cooperation and, of course, to Tessa Knott, for permission to carry out the survey.

25 September 2020 Wigtownshire NX15205866 Glenwhan Gardens pH 6.0 conductivity 150 mS/cm 11° C shallow pond with plant cover (mainly *Carex*, *Iris* and *Menyanthes*) burnt off by herbicide – algal slime and much organic matter in suspension, and late growth of *Potentilla* and non-Sphagnaceous mosses

Noterus clavicornis
Agabus bipustulatus
Agabus sturmii
Ilybius guttiger
Hydroporus angustatus
Hydroporus incognitus
Helophorus grandis
Hydrobius fuscipes
Enochrus coarctatus

25 September 2020 Wigtownshire NX15095881 Glenwhan Gardens pH 5.5 conductivity 97 mS/cm 10° C richly vegetated pond
Haliplus confinis 1
Haliplus fulvus 1
Haliplus ruficollis
Noterus clavicornis
Colymbetes fuscus
Hydroporus palustris
Hygrotus inaequalis
Helophorus aequalis
Enochrus coarctatus
Anacaena globulus
Anacaena lutescens
Limnebius truncatellus
Dryops luridus

25 September 2020 Wigtownshire NX15115864 Glenwhan Gardens pH 5.6 conductivity 174 mS/cm 11° C pond in Arena Garden, almost dried-out by rhizome growth of *Iris* and *Menyanthes*, partly burnt off by herbicide, with patch of flooded moss in centre



Agabus affinis
Agabus bipustulatus
Hydroporus angustatus
Hydroporus erythrocephalus
Hydroporus gyllenhalii
Hydroporus memnonius type ♀
Hydroporus nigrita
Hydroporus palustris
Hydroporus striola
Hydroporus umbrosus abundant
Aphthona caerulea Iris flea beetle

25 September 2020 Wigtownshire NX15135868 Glenwhan Gardens pH 5.6 conductivity 180 mS/cm 12° C main pond in Arena Garden, mosses including *Sphagnum* on some edges, *Typha*, *Callitriche*, *Polygonum amphibium*, *Potentilla*, cultivated *Nymphaea*

Haliplus ruficollis
Noterus clavicornis
Agabus sturmii
Ilybius guttiger
Colymbetes fuscus
Dytiscus marginalis 1♂
Hydroporus erythrocephalus
Hydroporus gyllenhalii
Hydroporus tristis
Hydroporus umbrosus
Hygrotus inaequalis
Helophorus aequalis
Hydrobius fuscipes
Anacaena globulus
Enochrus coarctatus
Coelostoma orbiculare
Dryops luridus

28 September 2020