



**Springs and Seepages of Wessex
Lyme Regis Invertebrate Survey**

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Summary

This is the report for the second area to be surveyed in the five year, Wessex Water funded project run by Buglife – The Invertebrate Conservation Trust. It covers the coastal section east of Lyme Regis.

A total of 143 aquatic invertebrate species were recorded in May, June and September 2011 by taking timed pond net samples. Twenty-four terrestrial invertebrates accidentally taken in the pond net were also recorded. Timed sweep netting also recorded 221 species over the same period. Nine Red Data Book, two IUCN Near Threatened, one Data Deficient and twenty-eight Nationally Scarce species were recorded. The records appear to include an empid fly *Tachydromia lundstroemi* only once before recorded from Britain, as well as several species normally considered very rare such as the chyromiid fly *Aphaniosoma socium* and the chloropid *Platycephala umbraculata*. The results suggest that the coastal sections east of Charmouth, where 22 species of nature conservation importance were recorded, and the area west of Lower Eype where 24 important species were recorded, are exceptional for their aquatic and wetland associated invertebrate fauna. At St Gabriel's Mouth, although only two sites were sampled, the presence of one RDB1 and one RDB2 species suggests that the site is of high nature conservation value.

No issues with water quality were observed during the survey, in particular, the sites at Charmouth and Lower Eype both showed no signs of pollution or eutrophication. The limited size and frequency of the seepages and springs however may cause problems in periods of drought.

1. Introduction

This is the report for the second year's survey in the five year, Wessex Water funded project run by Buglife – The Invertebrate Conservation Trust. The surveyor was commissioned by Buglife to undertake the work. The Blackdown Hills were surveyed by the author as part of the project in 2010 and 2011 and the second area to be covered in 2011 and 2012 includes the coastal section east of Lyme Regis. Survey methodology was discussed between Buglife and the surveyor and three-minute kick sampling was selected along with preservation of the bulk samples in the field and later processing by washing, sieving and sorting. Sweep netting for terrestrial invertebrates was also undertaken at each site for a period of twenty minutes and insects were selectively removed with a pooter (aspirator).

2. Location

All the sites surveyed in 2011 were located on the coastal section east of Lyme Regis and are within Dorset. Location maps showing the sample sites are included in the report as figures 1 and 2 in section 4. Grid references were obtained using a Garmin eTrex global positioning system and are provided in Appendix 3. Photographs of most of the sample sites are included in the report.

3. Methodology

3.1. Aquatic survey method

The samples were collected with a standard pond net (supplied by EFE Field Equipment, Totnes) and represent 3-minute kick samples taken in the channels. Ideally, the material was processed by washing and sieving in the field but where sufficient water was not available in the field to do this, the samples were preserved and processing was conducted later. Each sample was initially washed using a coarse (1cm) sieve and 500-micron sieve first to remove any twigs, leaves, seeds, large stones, etc. The coarse material retained by the 1cm sieve was retained along with the 500-micron fraction. The samples were preserved using 10% formalin. The preserved samples were later examined in the laboratory by placing small amounts of material into gridded petri-dishes and adding water. These petri-dishes were then examined carefully under a stereomicroscope. Each light fraction typically used 40-50 petri-dishes this way with the smaller elutriated fractions using 10-20 petri-dishes. The coarse fraction (>1cm in size) was examined in a white tray for large invertebrates such as large cased caddis and large aquatic snails. Aquatic invertebrates were removed from the fractions and counted at the same time. For particularly abundant taxa, sub-sampling was used to estimate the total number of specimens (i.e. individuals were counted from 20-25% of the dishes and multiplied up.

Originally, use of a small surber sampler was considered for sampling but the lack of, or low flows, very shallow water and lack of channels at most of the sites made the use of these impractical. Small surber samplers were used, for example, by Kutty (2006) but in watercourses with more channelised flow, more head of water and greater flow. Drift nets and the collection and examination of chironomid exuviae were also considered but given time constraints imposed these were methods were rejected.

3.2. Terrestrial survey method

Sweep netting for terrestrial invertebrates was also undertaken at each site over bare ground, through low vegetation and through fringing scrub or low tree branches for a period of twenty minutes. Insects were selectively removed with a pooter (aspirator). A 40cm diameter net supplied by Marris House Nets, Bournemouth and mounted on a metre long angling pole was used. Material was placed in alcohol in the evening for later examination.

3.3. Recording of environmental variables

Conductivity, pH, total dissolved solids and water temperature were measured using a Hannah HI98130 portable meter whilst turbidity was measured using a turbidity tube. Dissolved oxygen was measured in May 2011 using a Hannah HI9142 Dissolved Oxygen meter. The dissolved oxygen meter is temperamental and readings were not possible from all the sites. Other variables were estimated or measured with a meter rule.

3.4. Identification

All aquatic macroinvertebrates have, in general, been identified to species level. For immature specimens and females not separable to species, identification has been left at the appropriate level. Nematodes, oligochaetes, ostracods and copepods have not been identified further. Water beetle larvae and Diptera larvae have been identified to the most appropriate level. Interestingly, no flatworms were noted during the survey.

Identification concentrated on wetland associated species and consequently invertebrates associated with dry conditions such as bees, wasps and ants have usually not been identified. Other invertebrates with habits not associated with seepages or springs such as those associated with dung, carrion, fungi or decomposing plant matter such as the Diptera families Heleomyzidae, Sphaeroceridae, Scathophagidae and Anthomyiidae were also not prioritised. Some of these groups are taxonomically difficult such as the Chironomidae and Ceratopogonidae and the time taken to identify them could not be justified. All unidentified material will be retained indefinitely by the surveyor.

3.5. Assessment

UK BAP species have been checked against the list on the UK Biodiversity Action Plan website, www.ukbap.org.uk. Rarity statuses such as Red Data Book, Nationally Scarce (previously Notable) and Local have been developed and heavily used by Natural England, the Joint Nature Conservation Committee and associated organisations and are defined in Appendix 3. Since 1995, International Union for Conservation of Nature and Natural Resources (IUCN) categories has been adopted by the Joint Nature Conservation Committee as the new standard for Red Lists in Britain. JNCC aims to work towards assessing the status of all native species against standard criteria based on the internationally accepted guidelines developed by the IUCN (see IUCN, 2001, 2003). Only a few taxonomic groups have been given IUCN codes but these include the water beetles (Foster 2010) and Diptera belonging to the Empidoidea (Falk and Crossley 2005).

4. Selection of survey sites

The selection of the survey sites was largely done by surveying appropriate Ordnance Survey maps and walkovers. Advice was also taken from other entomologists including Dr Martin Drake who lives nearby.

Some sections of cliff were out-of-bounds due to land slipping. These included the large landslip known as Black Ven and the Spittles immediately west of Charmouth. Footpaths across this area were closed indefinitely and the only access is along the beach. Also out-of-bounds was the section of cliffs immediately east of Charmouth known as Evan's Cliff. Footpaths to this area were closed from the National Trust car-park at Stonebarrow Hill.

The coastal section from St Gabriel's Mouth east past Golden Cap to Seatown was walked via the beach. The only suitable seepages were the ones sampled immediately to the east of St Gabriel's Mouth. A couple of seepages on near vertical cliffs were noted high up near Seatown and were clearly inaccessible. The heavily altered spring at Thorncombe Beacon was sampled for aquatic invertebrates but it was considered unsuitable for sweep-netting given the stone structure that now surrounds the spring.

The section of cliff east of Lower Eype was not surveyed but the cliffs get increasingly low in height and indications of springs or seepages are few.

The inland springs around Frogmore Hill and Frogmore Farm east of Chideock were surveyed. The spring arising above the alder bed south of Frogmore Hill (SY435919) did not appear to have a discrete springhead but was a tangle of low woodland vegetation on a shallow saturated slope. The spring below Frogmore Farm (SY435925) emerges on a hillside as a small seepage and *Juncus* marsh and is fenced off below with a pig enclosure on the far side. Consequently, these springs were considered unfavourable and not surveyed further.

5. Previous data

Armitage (1982) recorded 254 aquatic invertebrate taxa including 200 species from fifteen freshwater sites on the landslips between Axmouth to Lyme Regis. He recorded several micro-invertebrates to species such as oligochaetes, ostracods, Cladocera and chironomids which largely explains his long list of taxa. Whilst these records do not overlap geographically with the present survey, they are useful for comparison. Coastal seepages and springs appear to be more extensive west of Lyme Regis on the section covered by Armitage (1982), so this section would be expected to be more species-rich and diverse for aquatic invertebrates compared with the drier and less land-slipped sections to the east. Armitage et al (2003) has also studied the aquatic macro-invertebrate fauna of coastal streams further east and this also provides a useful comparison to the streams studied in this survey. Stubbs (1992a) added *Helius hispanicus* to the British list from the Axmouth-Lyme Regis National Nature Reserve.

The cliffs at Lower Eype, Seaton and Charmouth have been well surveyed by coleopterists, dipterists and aculeate specialists in particular. There appear to be few published reports covering the fauna but individual records of species, particularly of certain rarities associated with the cliffs here are frequent. Bilton et al (2009) provides a detailed account of the UK BAP water beetle *Ochthebius poweri* which occurs on the coastal section here. The very local ground beetle *Drypta dentata* has been recorded by the surveyor from the cliffs at Eype previously. The National Trust, which owns and manages much of the coastline here, may have commissioned invertebrate surveys or hold records but they have not been contacted for these by the author.

6. Results and Assessment

Survey date	Weather conditions
12 th May 2011	Sunny but strong southerly wind and 30% cloud at start of day.
26 th June 2011	Damp, humid and misty initially. Hot later on but still misty and humid. Mist clearing at 1pm with 100% blue sky.
27 th June 2011	Warm but cloudy. Light rain and breezy later.
13 th Sept 2011	Sunny with 5-10% cloud at start of the day. Light rain and overcast later. Blustery wind. Sunny but cloudy (70%) and still windy at 4pm.
14 th Sept 2011	100% cloud at start of day and with a cool wind. Sunny with 60% cloud at 2pm.
15 th Sept 2011	95% blue sky, sunny, ground wet and woodland vegetation wet at start of day

Table 1: Weather conditions on the survey dates

6.1. Species assessment

Weather conditions for the survey dates are shown in Table 1.

A total of 143 aquatic invertebrate species were recorded in May, June and September 2011 along with 24 terrestrial invertebrates accidentally taken in the pond net (Appendix 1). A total of 221 terrestrial species were recorded by sweep netting over the same period (Appendix 2). Physical, chemical and other details including key vegetation of the sample locations are provided in Appendix 3. Nine Red Data Book, two IUCN Near Threatened, one Data Deficient and twenty-eight Nationally Scarce species were recorded. These are listed in Table 2 below.

Red Data Book 1		
<i>Aphaniosoma socium</i>	Chyromyidae	Diptera

Red Data Book 2		
<i>Odontomyia ornata</i>	Stratiomyidae	Diptera
<i>Stratiomys longicornis</i>	Stratiomyidae	Diptera
<i>Platycephala umbraculata</i>	Chloropidae	Diptera

Red Data Book 3		
<i>Libellula fulva</i>	Libellulidae	Orthoptera
<i>Cylindera germanica</i>	Cicindellidae	Coleoptera
<i>Limonia goritiensis</i>	Limoniidae	Diptera
<i>Orimarga virgo</i>	Limoniidae	Diptera

Lower Risk (Near Threatened)(formerly RDB3)		
<i>Eubria palustris</i>	Psephenidae	Coleoptera
<i>Syntormon mikii</i>	Dolichopodidae	Diptera

Data Deficient (formerly Red Data Book K)		
<i>Tachydromia lundstroemi</i>	Empididae	Diptera

Nationally Scarce		
<i>Marpissa nivoyi</i>	Salticidae	Araneae
<i>Forficula lesnei</i>	Forficulidae	Dermaptera
<i>Conocephalus discolor</i>	Tettigoniidae	Orthoptera
<i>Platycleis albopunctata</i>	Gryllidae	Orthoptera
<i>Tetrix ceperoi</i>	Tetrigidae	Orthoptera
<i>Plectrocnemia brevis</i>	Polycentropodidae	Trichoptera
<i>Microvelia pygmaea</i>	Veliidae	Hemiptera
<i>Agabus melanarius</i>	Dytiscidae	Coleoptera
<i>Cercyon depressus</i>	Hydrophilidae	Coleoptera
<i>Ochthebius auriculatus</i>	Hydraenidae	Coleoptera
<i>Ochthebius nanus</i>	Hydraenidae	Coleoptera
<i>Heterocerus flexuosus</i>	Heteroceridae	Coleoptera
<i>Heterocerus fossor</i>	Heteroceridae	Coleoptera
<i>Gonomyia conoviensis</i>	Limoniidae	Diptera
<i>Limonia stigmatica</i>	Limoniidae	Diptera
<i>Thaumastoptera calceata</i>	Limoniidae	Diptera
<i>Odontomyia tigrina</i>	Stratiomyidae	Diptera

Nationally Scarce		
<i>Oxycera pygmaea</i>	Stratiomyidae	Diptera
<i>Vanoyia tenuicornis</i>	Stratiomyidae	Diptera
<i>Hercostomus plagiatus</i>	Dolichopodidae	Diptera
<i>Syntormon spicatus</i>	Dolichopodidae	Diptera
<i>Psacadina verbekei</i>	Sciomyzidae	Diptera
<i>Tetanocera punctifrons</i>	Sciomyzidae	Diptera
<i>Elachiptera pubescens</i>	Chloropidae	Diptera
<i>Lipara rufitarsis</i>	Chloropidae	Diptera
<i>Oscinella angustipennis</i>	Chloropidae	Diptera
<i>Odynerus melanocephalus</i>	Eumenidae	Hymenoptera
<i>Nomada fucata</i>	Anthophoridae	Hymenoptera

Table 2: Rare or local species recorded.

Comments on some of the more significant species are provided here. *Aphaniosoma socium* is a minute fly with old published records for the Essex coast (Walton on the Naze in 1912 and Frinton-on-Sea in 1913) and two more recent ones from Yorkshire (Mickletown Ings in 1976 and Temple Newsham Park near Leeds in 1977). The surveyor has several records of this or the other two equally rare *Aphaniosoma* species from South Yorkshire, Nottinghamshire, Essex and elsewhere. Most of the records of the related *A. melitensis* and *A. propinquans* are coastal. The larvae of this genus may be associated with waterfowl droppings. The specimens will be sent to Dr Martin Ebejer, who is a world expert on this family, for checking. The surveyor suspects that members of this genus are more frequent than the few records suggest; the flies are minute, inconspicuous and belong to a very poorly recorded family.

The Red Data Book soldierfly *Odontomyia ornata* mainly occurs in the Somerset Levels, Gwent Levels and freshwater parts of the coastal levels in East Sussex. It has been recorded more sparsely in similar habitat in West Sussex, Kent, Essex, Suffolk and Norfolk. The adults may sometimes be seen on the flowers of hemlock water-dropwort. However, it is easier to find the larvae which can be relatively frequent in ditches on grazing levels. The larvae are free-floating or more often found among aquatic vegetation near the surface, especially within tangles of ivy-leaved duckweed and frog-bit *Hydrocharis morsus-ranae*.

The *Stratiomys* larvae appear to be *S. longicornis* but identifying the larvae of this species from *S. singularior* is difficult. Stubbs and Drake (2001) suggest that separation of the larvae of these two species is not possible and state that Rozkošný (1982) does not appear to work on British specimens. However, a recent discussion on the Diptera website at http://diptera.info/forum/viewthread.php?thread_id=33074 has resulted in photographs which help separate these species (see Figure 2 on the website). The larvae examined appear to fit the description of *Stratiomys longicornis* which is stated to be strongly associated with saline pools in saltmarshes and brackish pools and ditches on coastal levels.

The chloropid *Platycephala umbraculata* has only been recorded from six localities according to Falk and Ismay (in prep.). These include Seaton, Devon (old undated record), Black Ven and The Spittals (1988), Eype's Mouth (1989) and Charmouth (1937), all in Dorset plus single sites in Gloucestershire (1973) and Yorkshire (1973). Abroad this species has been reared from *Phragmites*. Most of the English localities are estuarine and it is normally associated with coastal marshes. This species appears to be very rare and declining with only a few recent records (Falk and Ismay in prep.).

The scarce chaser *Libellula fulva* breeds in a few scattered river systems in England and nearby still-water sites. It requires unpolluted rivers and dykes whilst the static water sites it uses are normally over 20 years old. The records from this survey consequently vary from the usual habitat. The identification of this species in this survey is based on nymphs and these have a distinctive arrangement of bristles in the 'mask' held underneath the head so misidentification seems unlikely.

The tiger beetle *Cylindera germanica* has only been recorded from Dorset and the Isle of Wight since 1970 (it was recorded from other southern counties before this date). As a consequence it is extremely local and restricted in distribution. It is normally found on damp, sandy or silty areas almost devoid of vegetation such as sandy undercliffs, landslips and seepage sites. The larvae live in burrows in damp sand.

The crane fly *Limonia goritiensis* is widespread on rocky shores in Britain with records predominating in south-west England. It is associated with seepages and less frequently, with small streams on coastal cliffs and rock faces. Falk (1991) stated that this species has been recorded from about fifteen widely scattered sites post 1960.

Another distinctive crane fly *Orimarga virgo*, has been recorded widely in England and Scotland with a number of sites in North Wales. It is associated with seepages, sometimes in association with small streams. There would appear to be a strong affinity with limestone and other base-rich sites. Several of the sites are coastal cliffs.

The water-penny beetle *Eubria palustris* has only been recorded from three English vice-counties since 1970 according to Hyman and Parsons (1992) namely, Dorset, Caernarvonshire and Anglesey. The surveyor has also recorded it from North and South Yorkshire, from Gwent and possibly other sites, and it will be more widespread and frequent than these few records suggest. It is associated with wetlands including fens, marshes and wet flushes on soft-rock cliffs.

Syntormon mikii has been recorded from single sites in five English counties since 1960 as well as Guernsey. The surveyor has previously also recorded this species from Dungeness in recent years. This species has been recorded from various habitats including a marshy hollow near a common, fen and a small stream flowing onto a salt marsh. The Dungeness locality was from coastal shingle.

The only known British record of *Tachydromia lundstroemi* is from the River Ebble at Coombe Bissett, Wiltshire in 1964 (Falk and Crossley 2005). The site was revisited in 1965 but no further examples were found. The recorded habitat is riverside vegetation. This species is clearly the most significant species recorded on the survey and the determination should be confirmed. The single male specimen collected from Charmouth has the appendix on wing vein R2+3 which appears to be a unique character in this species but the male genitalia do not match this species exactly.

Several important Nationally Scarce species were also recorded. Lesne's earwig *Forficula lesnei* was noticed later on during the identification of the samples and may have been more widespread through the sample sites. The crane fly *Limonia stigmatica* is not normally associated with coastal seepages and there appear to be no records for southern England according to the distribution map for this species on the National Biodiversity Network (NBN) Gateway. The specimens belong to this species rather than the very similar *L. nigristigma* but small differences from the published figures of *L. stigmatica* were noted and it may be worth getting the determinations checked.

Hyadina pollinosa (Diptera, Ephydriidae) was also recorded. This species was added to the British list in 2005 and is currently only known from a few localities (Gibbs 2005).

The occurrence of the Red Data Book and Nationally Scarce species throughout the sample sites are summarised in Table 3 below.

Species	Charmouth	Eype	St Gabriel's Mouth
<i>Eubria palustris</i>		++	
<i>Syntormon mikii</i>	+		
<i>Tachypeza lundstroemi</i>	+		
<i>Aphaniosoma socium</i>			++
<i>Odontomyia ornata</i>	++	++	
<i>Stratiomys longicornis</i>	++	++++	
<i>Platycephala umbraculata</i>			+
<i>Libellula fulva</i>		+++	
<i>Cylindera germanica</i>	++	+	
<i>Limonia goritiensis</i>		+	
<i>Orimarga virgo</i>		+	
<i>Marpissa nivoyi</i>		+	
<i>Forficula lesnei</i>	+	++++	+
<i>Conocephalus discolor</i>		+	
<i>Platycleis albopunctata</i>	+		
<i>Tetrix ceperoi</i>	++	++++++	
<i>Plectrocnemia brevis</i>		+	
<i>Microvelia pygmaea</i>		++	
<i>Agabus melanarius</i>	+		
<i>Cercyon depressus</i>	+		
<i>Ochthebius auriculatus</i>	+		
<i>Ochthebius nanus</i>	++		
<i>Heterocerus flexuosus</i>	+		
<i>Heterocerus fossor</i>	+		
<i>Gonomyia conoviensis</i>		+	
<i>Limonia stigmatica</i>	+	+++	
<i>Thaumastoptera calceata</i>	+		
<i>Odontomyia tigrina</i>		+	
<i>Oxycera pygmaea</i>		+	
<i>Vanoyia tenuicornis</i>	++	++	
<i>Hercostomus plagiatus</i>		+	
<i>Syntormon spicatus</i>	++		
<i>Psacadina verbekei</i>	+	+	
<i>Tetanocera punctifrons</i>	++	+	
<i>Elachiptera pubescens</i>	++	+++	++
<i>Lipara rufitarsis</i>		++++	
<i>Oscinella angustipennis</i>			+
<i>Odynerus melanocephalus</i>		++	
<i>Nomada fucata</i>	++		
<i>Hyadina pollinosa</i>			+
Total	22	24	6

Table 3: Occurrence of UK BAP, IUCN, Red Data Book and Nationally Scarce Invertebrates throughout the sample sites in 2011.

6.2. Charmouth

Twenty-two invertebrate species of nature conservation importance were recorded from the sites east of Charmouth. These include the Lower Risk (Near Threatened) dolichopodid *Syntormon mikii*, the RDB2 soldier-flies *Odontomyia ornata* and *Stratiomys longicornis*, the RDB3 tiger beetle *Cylindera germanica* and the empid *Tachydromia lundstroemi*, which is only known from Britain from a single record from Wiltshire in 1964. Seventeen Nationally Scarce invertebrate species were also recorded from the Charmouth sites, many of which were not recorded from the other localities. Bearing in mind that this survey largely ignored the invertebrates associated with dry habitats such as bees and wasps, the coastal section east of Charmouth must be considered of very high value for its aquatic and wetland associated invertebrates. One factor must be the lack of pollution and eutrophication which was evident in the excellent water clarity and lack of visible signs of pollution or nutrient enrichment.

Seepages and springs were generally limited and small in extent whilst few streams cross the coastline between Charmouth and St Gabriel's Mouth. Approximately half this section was out-of-bounds due to recent landslips.



Photograph 1: Charmouth 1 showing small channel in a recent landslip.



Photograph 2: Charmouth 1 is located on the top of the clay cliffs at this point.



Photograph 3: Waterfall at Charmouth 2 (the stream above the waterfall was also sampled).



Photograph 4: Landslipped cliffs above Charmouth 2.



Photograph 5: Charmouth site 3.

6.3. Eype

Twenty-four species of nature conservation importance were recorded from seepages and springs on the coast west of Lower Eype. These include the RDB2 soldierflies *Odontomyia ornata* and *Stratiomys longicornis*, nymphs of the RDB3 scarce chaser *Libellula fulva*, the RDB3 tiger beetle *Cylindera germanica*, the RDB3 craneflies *Limonia goritiensis* and *Orimarga virgo* and the Lower Risk (Near Threatened) water-penny beetle *Eubria palustris*. As with Charmouth, a total of seventeen Nationally Scarce species were recorded from Eype but Table 3 shows that species were recorded more consistently from the latter. No signs of pollution or eutrophication were noted on the survey and generally water quality must be

high. The seepages and springs were however small and limited in extent as they were at Charmouth and this may be a cause concern in periods of drought. The aquatic and wetland invertebrate fauna must be considered of very high nature conservation value.



Photograph 6: Eype 1 with small seepage between recent landslip to right and vegetated landslip to left.



Photograph 7: Wet rocks and seepages near beach at Eype site 2.



Photograph 8: Wet rocks and seepages at Eype 3.



Photograph 9: Wet rocks and seepages at Eype 4.



Photograph 10: Landslipped cliffs looking west from lower Eype with site 5 near beach level below Doghouse Hill in the distance.



Photograph 11: Eype 5 looking back west towards Lower Eype.

6.4. St Gabriel's Mouth

This site only had two sample sites so was sampled less compared with Charmouth and Eype. Seepages and springs were limited which explains the small number of sample sites. The RDB1 chyromyiid *Aphaniosoma socium* and the RDB2 chloropid *Platycephala umbraculata* were the outstanding species recorded and the latter has been taken on this coastline previously. The presence of these species alone suggests St Gabriel's is of high nature conservation value. The former was taken on two occasions at St Gabriel's Mouth and the latter was relatively frequent in June 2011. Four Nationally Scarce species were

also recorded. Further species of interest are probably present in the unidentified material which appears to include the coastal sphaerocerid *Thoracochaeta* and an abundant pimpline ichneumonid swept from *Phragmites* on the tongue of the landslip where it extends onto the beach.



Photograph 12: St Gabriel's mouth site 1.



Photograph 13: St Gabriel's Mouth site 2.

6.5. *Thorncombe Beacon*

This altered site was the only site considered suitable for sampling aquatic invertebrates. The single site comprised of a spring that is now contained within a man-made circular stone structure located in heavily grazed grassland. No species of interest were recorded and the

smaller more natural pond further downstream may have been of more interest. The stream draining these ponds disappears into the ground and then reappears on vertical cliffs where it is inaccessible.



Photograph 14: Contained spring near Thorncombe Beacon, Lower Eype.



Photograph 15: Contained spring near Thorncombe Beacon, Lower Eype.

7. Conclusions

The results of an invertebrate survey of seepages and springs on the coastline east of Lyme Regis show that a total of 143 aquatic invertebrate species were recorded in May, June and September 2011 by taking timed pond net samples. Twenty-four terrestrial invertebrates accidentally taken in the pond net were also recorded. Timed sweep netting also recorded 221 species over the same period. Nine Red Data Book, two IUCN Near Threatened, one Data Deficient and twenty-eight Nationally Scarce species were recorded. The records appear to include an empid fly (*Tachydromia lundstroemi*) only once before recorded from Britain, as well as several species normally considered very rare such as the chyromiid fly *Aphaniosoma socium* and the chloropid *Platycephala umbraculata*. The results suggest that the coastal sections east of Charmouth and towards around St Gabriel's Mouth and also west of Lower Eype are exceptional for their aquatic and wetland associated invertebrate fauna.

No issues with water quality were observed during the survey but the limited size and frequency of the seepages and springs may cause problems in periods of drought.

8. References

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9. Appendices

Appendices can be found in a separate excel spreadsheet; [Lyme Regis S&S Appendices 1-3 May2012](#).

9.1. **Appendix 1:** *Aquatic invertebrates recorded from springs and seepages east of Lyme Regis in 2011.*

IUCN, Red Data Book and Nationally Scarce species have been emboldened in the spreadsheet.

9.2. **Appendix 2:** *Details of the terrestrial invertebrates recorded from springs and seepages east of Lyme Regis in 2011.*

IUCN, Red Data Book and Nationally Scarce species have been emboldened in the spreadsheet.

9.3. **Appendix 3:** *Details of the aquatic invertebrate sample sites east of Lyme Regis in 2011.*