

2010

# Nine Years On: Revisiting the Pond Communities of the Lizard Peninsula, UK

Rowan, B.

Rowan, D. (2010) 'Nine Years On: Revisiting the Pond Communities of the Lizard Peninsula, UK', *The Plymouth Student Scientist*, p. 40-59.

<http://hdl.handle.net/10026.1/13912>

---

The Plymouth Student Scientist  
University of Plymouth

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*

Appendix 1: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2000 (cont.)

Macroinvertebrate Species

**Coleoptera**

	<b>1</b>	<b>6</b>
<i>Agabus bipustulatus</i>	5	1
<i>Ilybius montanus</i>	2	0
<i>Anacaena globulus</i>	0	0
<i>Anacaena lutescens</i>	0	3
<i>Berosus signaticollis</i>	0	11
<i>Colymbetes fuscus</i>	1	1
<i>Copelatus haemorrhoidalis</i>	0	0
<i>Dryops auriculatus</i>	0	0
<i>Dryops luridus</i>	0	1
<i>Enochrus coarctatus</i>	0	0
<i>Enochrus affinis</i>	0	1
<i>Enochrus fuscipennis</i>	0	0
<i>Enochrus melanocephalus</i>	0	0
<i>Graptodytes flavipes</i>	2	1
<i>Gyrinus substriatus</i>	0	3
<i>Haliplus confinis</i>	0	2
<i>Haliplus fulvus</i>	0	3
<i>Haliplus lineatocollis</i>	1	0
<i>Haliplus ruficollis</i>	0	5
<i>Haliplus variegatus</i>	0	12
<i>Helochaeres punctatus</i>	0	7
<i>Helophorus brevipalpis</i>	0	0
<i>Helophorus grandis</i>	15	0
<i>Helophorus minutus</i>	8	19
<i>Helophorus obscurus</i>	27	1
<i>Hydrobius fuscipes</i>	3	9
<i>Hydrochus angustatus</i>	0	1
<i>Hydroporus erythrocephalus</i>	0	2
<i>Hydroporus gyllenhalii</i>	0	0
<i>Hydroporus palustris</i>	0	0
<i>Hydroporus planus</i>	2	0
<i>Hydroporus pubescens</i>	10	1
<i>Hydroporus tessellatus</i>	2	1
<i>Hygrotus inaequalis</i>	0	20
<i>Hyphydrus ovatus</i>	0	1
<i>Laccobius bipunctatus</i>	0	0
<i>Laccophilus minutus</i>	0	10
<i>Limnebius truncatellus</i>	0	1
<i>Noterus clavicornis</i>	0	135
<i>Octhebius dilatatus</i>	0	6
<i>Ochthebius minimus</i>	0	18
<i>Paracymus scutellaris</i>	0	0
<i>Plateumaris sericea</i>	0	1

**Chironomidae**

Chironomidae	4	3
--------------	---	---

## Appendix 1: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2000 (cont.)

	<b>1</b>	<b>6</b>
<b>Trichoptera</b>		
<i>Limnephilus spp.</i>	480	3461
<i>Holocentropis picicomis</i>	0	0
<i>Agrypnia varia</i>	0	0
<b>Hemiptera</b>		
<i>Plea leachii</i>	0	1154
<i>Notonecta glauca</i>	0	11
<i>Corixa punctata</i>	0	1
<i>Sigara nigrolineata</i>	0	1
<i>Hesperocorixa castanea</i>	0	0
<i>Nepa cinerea</i>	0	0
<i>Notonecta obliqua</i>	0	0
<i>Arctocorisa germari</i>	0	0
<b>Odonata</b>		
<i>Anax imperator</i>	0	0
<i>Libellula quadrimaculata</i>	0	2
<i>Sympetrum spp</i>	0	0
<i>Pyrrhosoma nymphula</i>	0	0
<i>Ishmura elegans</i>	0	4
<i>Enallagma cyathigerum</i>	0	0
<i>Coenagrion puella/pulchellum</i>	0	7
<b>Mollusca</b>		
<i>Lymnaea peregra</i>	1	1
<i>Potamopyrgus antipodarum</i>	0	0
<i>Lymnaea truncatula</i>	2	0
<i>Physa fontinalis</i>	0	0
<i>Anisus leucostoma</i>	4	22
<i>Pisidium spp</i>	1	30
<b>Crustacea</b>		
<i>Asellus aquaticus</i>	0	29
<i>Crangonyx pseudogracilis</i>	0	0
<b>Ephemeroptera</b>		
<i>Cloeon dipterum</i>	0	76
<b>Plecoptera</b>		
<i>Nemoura cinerea</i>	0	0



<i>Ranunculus repens</i>	0	0	0	0	0	0	1	0	0	0	0	0
<i>Ranunculus tripartitus</i>	1	0	1	0	0	0	0	0	0	0	0	0
<i>Rumex sp</i>	0	0	0	0	0	0	0	0	0	0	0	1
<i>Sagina procumbens</i>	0	0	0	0	0	0	0	0	0	0	0	1
<i>Appendix 1: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2000 (cont.)</i>												
<i>Salix repens</i>	1	0	0	0	0	1	0	0	0	0	0	0
<i>Schoenus nigricans</i>	0	0	0	0	0	1	0	0	0	0	1	0
<i>Trifolium dubium</i>	0	0	0	0	0	0	0	0	0	1	0	1
<i>Trifolium pratensis</i>	0	0	0	0	0	0	0	0	0	1	0	0
<i>Trifolium repens</i>	0	0	0	0	0	0	0	0	0	0	0	1

Appendix 1: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2000 (cont.)

POND	area m <sup>2</sup>	pH	Cond mS	TON mg/L	SRP mg/L	Cu mg/L	Zn mg/L	Fe mg/L	Mg mg/L	Ca mg/L	No of plant sp
<b>1</b>	37.9	5.44	445	0.009	0.016	0.000	0.014	0.190	6.125	3.371	9
<b>6</b>	3480	6.38	454.7	0.0055	0.0035	0.00145	0.0065	1.05	9.38	4.0805	8
<b>18</b>	7	5.89	530.4	0.161	0.002	0.0021	0.0175	0.0565	10.685	3.694	11
<b>29</b>	81	6.74	694.1	0.2275	0.001	0	0.0105	0.127	16.725	3.8805	11
<b>31</b>	106	6.76	731.7	0.542	0.0185	0.00415	0.0685	0.0915	16.465	3.6765	4
<b>32</b>	1311	6.61	273.2	0.138	0.0115	0.0064	0.0255	0.5885	7.445	2.5465	20
<b>33</b>	759	6.63	266.7	0.081	0.002	0.00265	0.0215	0.2965	7.565	2.321	14
<b>34</b>	4377	6.63	293.7	0.0515	0.002	0.00265	0.016	0.483	8.165	3.5135	16
<b>35</b>	15005	6.6	325	0.235	0.003	0.0042	0.0095	0.5585	11.675	3.8495	19
<b>41</b>	8827	6.75	162.3	0.1545	0.0265	0.0009	0.0175	0.391	6.365	0.842	23
<b>44</b>	18.5	6.74	351.8	0.1935	0.0195	0.00035	0.01	0.0765	33.04	2.0765	6
<b>45</b>	97	6.75	341.4	0.312	0.011	0.00065	0.0045	0.1385	24.78	4.526	16

## Appendix 2: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2009

Macroinvertebrate Species	1	6	18	29	31	32	33	34	35	41	44	45
<b>Coleoptera</b>												
<i>Bagous collignensis</i>	0	0	0	0	0	2	0	0	0	0	0	0
<i>Dytiscus semisulcatus</i>	0	0	0	0	0	0	0	0	1	0	0	0
<i>Gyrinus caspius</i>	0	0	0	0	0	0	0	0	0	3	0	11
<i>Ilybius guttiger</i>	0	0	0	0	0	0	4	0	1	0	0	0
<i>Dysticus marginalis</i>	0	0	0	0	1	0	0	0	1	0	0	0
<i>Stictotarsus duodecimpustulatus</i>	0	0	0	0	0	0	0	0	0	0	0	1
<i>Hygrobia hermanni</i>	0	0	0	0	0	0	0	0	0	0	0	1
<i>Gyrinus urinator</i>	0	0	0	0	0	0	0	0	0	0	0	3
<i>Litodactylus leucogaster</i>	0	0	0	0	0	2	0	0	5	1	0	0
<i>Agabus Bipustulatus</i>	17	0	0	0	0	3	2	0	4	0	1	0
<i>Ilybius montanus</i>	1	0	0	0	0	1	3	2	0	0	0	0
<i>Anacaena lutescens</i>	3	62	0	34	5	2	1	0	2	6	2	2
<i>Bagous limosus</i>	0	0	0	0	0	0	1	0	0	0	0	0
<i>Colymbetes fuscus</i>	0	0	0	1	0	0	0	0	0	0	0	0
<i>Copelatus haemorrhoidalis</i>	4	0	0	0	1	1	4	10	0	0	0	0
<i>Dryops auriculatus</i>	0	0	0	0	0	9	7	43	8	0	0	0
<i>Dryops luridis</i>	0	0	0	8	0	0	0	0	0	0	0	0
<i>Dryops striatellus</i>	0	0	0	0	0	0	0	0	0	0	1	0
<i>Enochrus fuscipennis</i>	3	10	0	11	0	6	0	0	1	0	0	0
<i>Graptodytes flavipes</i>	3	1	0	0	0	0	0	0	0	1	1	0
<i>Gyrinus substriatus</i>	0	0	0	0	0	0	0	0	0	3	0	0
<i>Haliplus lineatocolis</i>	1	0	0	0	0	0	0	0	0	0	0	0
<i>Haliplus ruficollis</i>	0	1	0	0	0	53	1	0	7	0	0	1
<i>Helochaes lividus</i>	1	2	0	0	0	0	0	0	0	0	0	0
<i>Helochaes punctatus</i>	0	2	0	0	0	0	0	0	0	0	0	0
<i>Helophorus aequalis</i>	18	1	2	1	0	9	0	0	0	2	4	0
<i>Helophorus brevipalis</i>	214	36	18	12	7	4	1	0	8	14	61	0
<i>Helophorus grandis</i>	6	4	0	3	0	0	1	0	0	0	0	0
<i>Helophorus minutus</i>	86	4	8	6	6	3	0	0	0	8	31	1
<i>Helophorus obscurus</i>	16	3	7	0	0	0	0	0	0	0	0	0
<i>Hydrobius fuscipes</i>	11	30	1	8	3	1	0	0	3	2	0	0
<i>Hydroporus gyllenhalii</i>	0	0	0	0	0	0	1	16	0	0	0	0
<i>Hydroporus palustris</i>	0	1	0	14	1	0	23	3	0	0	0	0
<i>Hydroporus pubescens</i>	1	0	1	1	3	3	1	1	0	0	2	0
<i>Hygrotus inaequalis</i>	0	6	0	1	0	0	6	0	2	5	0	2
<i>Hyphydrus ovatus</i>	0	1	0	0	0	0	0	0	0	0	0	4
<i>Limnebius truncatellus</i>	3	1	0	0	12	3	0	0	1	5	2	1
<i>Noterus clavicornis</i>	0	3	0	0	0	0	0	0	2	4	0	0
<i>Octhebius dilatatus</i>	0	3	0	1	3	3	0	0	2	0	0	0
<i>Rhantus grapii</i>	0	0	0	0	0	5	0	0	1	0	0	0
<i>Donacia versicolorea</i>	0	0	0	1	0	0	0	0	0	0	0	0
<i>Hydraena riparia</i>	0	0	0	0	0	0	0	0	0	0	1	0
<i>Prasocuris phellandrii</i>	0	0	0	0	0	0	1	0	0	2	0	0

<i>Coelostoma orbiculare</i>	0	0	0	0	0	0	1	0	0	0	0	0
<i>Cyphon sp.</i>	0	0	0	0	0	0	1	0	0	0	0	0
<i>Octhebius minimus</i>	8	11	0	4	4	1	0	0	1	1	1	0

Appendix 2: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2009 (cont.)

**Coleoptera**

<i>Paracymus scutellaris</i>	3	1	0	11	1	3	1	0	5	20	3	0
------------------------------	---	---	---	----	---	---	---	---	---	----	---	---

**Chironomidae**

Chironomidae	0	17	0	1	0	0	0	3	3	3	0	10
--------------	---	----	---	---	---	---	---	---	---	---	---	----

**Trichoptera**

<i>Limnephilus spp</i>	2	7	2	1	0	7	2	0	4	3	8	24
------------------------	---	---	---	---	---	---	---	---	---	---	---	----

<i>Phryganeidae</i>	0	0	0	0	0	0	1	0	0	0	0	0
---------------------	---	---	---	---	---	---	---	---	---	---	---	---

**Hemiptera**

<i>Ilycoris cimcoides</i>	0	1	0	0	0	0	0	0	14	40	0	0
---------------------------	---	---	---	---	---	---	---	---	----	----	---	---

<i>Hydrometra stagnorum</i>	0	0	0	0	1	0	0	0	0	0	0	0
-----------------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Gerris laclustris</i>	0	0	0	0	2	0	0	0	0	0	0	0
--------------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Notonecta mormorea viridis</i>	0	0	0	0	0	0	0	0	0	0	0	4
-----------------------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Gerris thoracicus</i>	0	0	0	1	0	0	0	0	0	0	0	0
--------------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Notonecta glauca</i>	0	0	0	0	0	0	0	0	3	0	0	4
-------------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Hesperocorixa moesta</i>	0	0	0	0	0	0	0	0	0	751	0	0
-----------------------------	---	---	---	---	---	---	---	---	---	-----	---	---

<i>Sigara scotti</i>	0	0	0	0	0	0	0	0	19	0	0	2
----------------------	---	---	---	---	---	---	---	---	----	---	---	---

<i>Hesperocorixa castanea</i>	0	73	0	0	0	190	0	0	16	0	1	5
-------------------------------	---	----	---	---	---	-----	---	---	----	---	---	---

<i>Nepa cinerea</i>	0	0	0	0	0	0	1	0	1	0	0	0
---------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Notonecta obliqua</i>	0	0	0	0	0	4	0	0	24	10	0	0
--------------------------	---	---	---	---	---	---	---	---	----	----	---	---

**Odonata**

<i>Lestes sponsa</i>	0	0	0	0	0	6	0	0	3	5	0	2
----------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Anax imperator</i>	0	0	0	8	4	0	0	0	1	3	0	0
-----------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Libellula quadrimaculata</i>	0	0	0	0	0	4	0	0	11	2	0	4
---------------------------------	---	---	---	---	---	---	---	---	----	---	---	---

<i>Sympetrum spp.</i>	0	11	0	0	0	5	0	0	8	9	0	10
-----------------------	---	----	---	---	---	---	---	---	---	---	---	----

<i>Pyrrhosoma nymphula</i>	0	1	0	0	0	0	0	0	0	3	0	68
----------------------------	---	---	---	---	---	---	---	---	---	---	---	----

<i>Ischnura elegans</i>	0	8	0	4	0	3	3	0	1	0	0	27
-------------------------	---	---	---	---	---	---	---	---	---	---	---	----

<i>Enallagma cyathigerum</i>	0	0	0	0	0	0	0	0	3	0	0	4
------------------------------	---	---	---	---	---	---	---	---	---	---	---	---

<i>Coenagrion puella/puchellum</i>	0	0	0	0	0	0	0	0	0	0	0	3
------------------------------------	---	---	---	---	---	---	---	---	---	---	---	---

**Mollusca**

<i>Lymnea peregra</i>	0	0	0	0	0	13	12	0	19	0	5	10
-----------------------	---	---	---	---	---	----	----	---	----	---	---	----

<i>Physa acuta</i>	2	0	0	38	0	0	0	0	4	0	0	0
--------------------	---	---	---	----	---	---	---	---	---	---	---	---

<i>Anisus leucostoma</i>	0	0	0	0	0	40	44	12	0	0	0	0
--------------------------	---	---	---	---	---	----	----	----	---	---	---	---

**Crustacea**

<i>Asellus aquaticus</i>	0	8	0	333	2	17	212	136	42	43	0	0
--------------------------	---	---	---	-----	---	----	-----	-----	----	----	---	---

**Ephemeroptera**

<i>Caenis luctuosa</i>	0	7	2	2	0	0	0	0	0	2	0	195
------------------------	---	---	---	---	---	---	---	---	---	---	---	-----

Appendix 2: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2009 (cont.)

POND	temp	pH	Cond mS	TON mg/L	SRP mg/L	Ca ug/ml	Mg ug/ml	Zn ug/ml	Fe ug/ml	Cu ug/ml	No of plant sp
1	18.8	6.64	400.2	0.0341	0.13	5.466	6.878	0.047	0.576	0.029	2
6	20.1	8.27	789	0.0159	0.01	15.197	21.355	0.023	0.003	0.000	9
18	19.6	6.03	406.3	0.0925	0.35	5.232	11.403	0.056	0.426	0.000	4
29	17.1	6.53	712	0.0235	0.03	6.397	15.764	0.043	0.073	0.016	8
31	18.6	9.94	919	0.025	0.09	9.340	22.668	0.011	0.226	0.006	4
32	19.6	5.62	223.1	0.0168	0.01	4.496	6.602	0.407	0.149	0.007	8
33	16.3	5.99	331.6	0.036	0.02	4.856	14.451	0.078	0.258	0.033	7
34	17.6	6.13	1.2	0.0404	0.07	6.982	17.014	0.084	0.214	0.003	9
35	20.4	7.21	371.4	0.0149	0.01	5.386	18.008	0.014	0.037	0.000	14
41	17.3	6.3	215	0.0154	0.01	4.080	10.048	0.032	0.041	0.008	7
44	19.2	7.9	534	0.0151	0.01	7.073	39.926	0.020	0.005	0.000	4
45	23.3	6.96	363.1	0.0289	0.03	9.772	21.856	0.048	0.140	0.000	1

Appendix 2: Macroinvertebrates, Physiochemistry and Plants of the Lizard ponds in 2009 (cont.)

Plant Species	1	6	18	29	31	32	33	34	35	41	44	45
<i>Bryophyte</i>	0	0	0	0	0	0	1	1	0	0	0	0
<i>Carex sp.</i>	0	0	0	0	0	0	0	1	1	0	0	0
<i>Chara fragifera</i>	0	1	0	0	0	1	0	0	1	1	1	0
<i>Cirsium sp.</i>	0	0	0	0	0	0	0	1	0	0	0	0
<i>Eleocharis</i>	0	1	0	1	1	1	0	1	1	0	0	0
<i>Eleogiton fluitans</i>	0	0	0	1	0	0	0	0	1	1	0	0
<i>Elodea canadensis</i>	0	0	0	1	1	0	0	0	0	0	0	0
<i>Galium palustre</i>	0	0	0	0	0	1	1	1	1	0	0	0
<i>Glyceria fluitans</i>	1	0	1	1	0	1	0	1	0	1	0	0
<i>Hydrocotyle vulgaris</i>	0	0	0	1	1	1	1	1	1	0	0	0
<i>Hypericum elodes</i>	0	0	0	0	0	0	1	0	1	0	0	0
<i>Juncus articulatus</i>	1	1	1	0	0	0	0	0	1	0	0	0
<i>Juncus bulbosus</i>	0	1	1	0	0	1	0	0	1	1	0	0
<i>Juncus effusus</i>	0	0	0	0	0	1	1	0	1	1	0	1
<i>Littorella uniflora</i>	0	1	0	0	0	0	0	0	0	1	0	0
<i>Mentha sp</i>	0	0	0	0	0	0	1	0	0	0	0	0
<i>Myriophyllum sp.</i>	0	0	0	0	0	0	0	0	1	0	0	0
<i>Nymphaea alba</i>	0	0	0	1	0	0	0	0	0	0	0	0
<i>Oenanthe sp.</i>	0	1	0	0	0	0	0	0	0	0	0	0
<i>Pedicularis sp.</i>	0	0	0	0	0	0	0	1	0	0	0	0
<i>Pilularia globulifera</i>	0	1	0	0	0	0	0	0	0	0	0	0
<i>Phragmites sp.</i>	0	0	0	0	0	0	0	0	0	0	1	0
<i>Polygonum amphibium</i>	0	0	0	0	0	0	0	0	1	0	0	0
<i>Potamogeton natans</i>	0	1	0	0	0	0	0	0	0	1	0	0
<i>Ranunculus sp.</i>	0	1	1	1	1	1	1	1	1	0	1	0
<i>Schoenus nigricans</i>	0	0	0	1	0	0	0	0	0	0	1	0
<i>Senecio sp.</i>	0	0	0	0	0	0	0	0	1	0	0	0