

NOTES ON MOUNTAIN SPIDERS FROM WALES

I. Spiders caught in pitfall traps on the Snowdon

National Nature Reserve.

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Introduction: Although it has long been known that the fauna of the Snowdonian mountains is of considerable interest, little systematic study of the composition of any substantial part of this fauna has been undertaken.

In order to make a preliminary assessment of the surface active invertebrate fauna, I undertook pitfall trapping of invertebrates over a range of altitudes in the mountain National Nature Reserves of Snowdon and Cwm Idwal in Caernarvonshire, and the Rhinog in Merioneth. In the first instance, pitfall traps were set out on the southern slope of Lliwedd, an outlying peak of the Snowdon massif, in July 1965.

Because of the very high rainfall of the area, and because it was only possible to empty the traps weekly, the use of jam-jars was judged unsatisfactory. Instead, small steep-sided plastic containers (8 cm. deep and 6 cm. diameter) were used. These were pierced with four pin holes about 3 cm. from the brim so that the water above this level would drain out and thus prevent the traps from flooding. Sets of twenty traps were placed at each of five stations at 1,010 ft. (308 m.), 1,493 ft. (452 m.), 1,929 ft. (588 m.), 2,400 ft. (732 m.) and 2,870 ft. (875 m.) above Ordnance Datum. The traps were placed in three to four rows about 1 metre apart, or as near this as the terrain allowed. To avoid contamination of the local environment no preservative was used in the traps, though a small amount of water was placed in the bottom. Little trouble due to decomposition of the catch was experienced, though the absence of a poison in the trap and the lack of the "overhang" found in jam-jars probably resulted in a lower trapping efficiency.

Trapping was commenced at the beginning of July 1965, and concluded at the end of June 1966. I am indebted to Mr. I. Jones, the Reserve Warden, for help in collecting the trapped material and to Dr. M. Cherrett and Dr. J. A. L. Cooke for help in identifying the spiders caught.

Topography of the Study Area: The southern slope of Lliwedd forms the northern side of Cwm Llan, rising from the Afon Cwm Llan at about 800 ft. (244 m.) above sea level to the summit at 2,947 ft. (898 m.). Except for the large intrusion of Craig-ddu, the character of the slope is fairly uniform, rising at a mean angle of approximately 27° with few large rocky outcrops. Numerous small outcrops of rhyolite occur and the slope is boulder-strewn. The transect on which the trapping stations were sited was chosen to avoid most irregularities such as major drainage lines, outcrops, intrusions, etc., and to provide an easily followed route to the summit. The lower slopes are largely vegetated (not more than about 25% bare rock), but the upper slopes are unstable boulder fields with as little as 10-15% plant cover.

Vegetation of the trapping sites: The vegetation of the slope, which is sheep-grazed, changes uniformly with altitude, there being little complication due to flushed areas.

Thus, between the bottom station (No.1) at 1,010 ft. (308 m.) and Station No.3 at 1,929 ft. (588 m.), the vegetation is, broadly speaking, a Festuca-Agrostis-Nardus grassland complex. A short distance above Station No.3, at about 2,198 ft. (670 m.), there is a marked increase in the amount of Vaccinium myrtillus in the vegetation and the percentage of plant cover as a whole drops markedly. The Vaccinium community merges, at about 2,560 ft. (780 m.), into an unstable rock detritus slope with total plant cover between about 5% and 15%.

The vegetation cover at the five trapping stations expressed as a percentage cover, of species having a cover value at any station greater than 1%, are shown in Table 1.

% Vegetation Cover	Station				
	I	II	III	IV	V
Bare Rock	25	35	41	63	86
Bare Soil					3
Vegetation Cover	75	65	59	37	11
<i>Festuca ovina</i> (*incl. <i>F.vivipara</i>)	34	32	23*	4*	2*
<i>Agrostis tenuis</i>	6	9	3	1	1
<i>Galium hercynicum</i>	4	2	1	1	
<i>Seiglingia decumbens</i>	17	5	1	1	
<i>Nardus stricta</i>	10	9	12	6	
<i>Vaccinium myrtillus</i>	1		6	17	4
<i>Calluna vulgaris</i>	1	1	5	1	
<i>Potentilla erecta</i>		1			
<i>Deschampsia flexuosa</i>			1		
<i>Ulex gallii</i>	1				
<i>Juniperus</i>			2		
<i>Carex pilulifera</i>		1	1		
<i>Rhacomitrium lanuginosum</i>	1	3	3	1	2
Other Species		2	2	5	2

Table 1. Plant cover at the five trapping stations.

The Catch: A large number of species of invertebrates were caught in the traps but the majority belonged to the Arachnida and Coleoptera. The catch of spiders, harvestmen and false scorpions for the five stations are shown in Table 2, grouped in four-week periods from July 1965 to June 1966.

A discussion on the distribution and phenology of the individual species will appear in a future paper, following presentation of the results of trapping on the Rhinog Mountains and in Cwm Idwal.

CATCH AT ALL STATIONS GROUPED IN FOUR- WEEK PERIODS	FOUR WEEK PERIOD ENDING													TOTAL CATCH AT EACH STATION					TOTAL CATCH AT ALL STATIONS
	29. 7.65	26. 8.65	23. 9.65	24.10.65	18.11.65	16.12.65	13. 1.66	3. 2.66	12. 3.66	7. 4.66	7. 5.66	6. 6.66	30. 6.66	I	II	III	IV	V	
	1	2	3	4	5	6	7	8	9	10	11	12	13	Total					
ARANEIDA																			
Segestria senoculata (Linn.)	2		1	1		1		1		1	16	19	4	16	16	6			42
Drassodes lapidosus (Walck.)	1	1	1	1							2	5	1	9	1				11
D.pubescens (Thor.)				1									1						1
D.signifer (C.L.Koch)											3	3	2		1	3			6
Zelotes apricorum (L.Koch)	9	16	9	6					2	10	28	7	20	27	16	12	12		87
Micaria alpina L.Koch												1	1					1	1
Xysticus cristatus (Clerck)	1	1	3	5					2	2	3	1	6	1	9				16
X.erraticus (Blk.)											6	2	8						8
Oxyptila atomaria (Panzer)			1	2					2	2		1	4	4					8
Euophrys frontalis (Walck.)												1	1						1
Lycosa tarsalis Thor.										2		1	2						3
L.pullata (Clerck)	61	45	6	4	3	3	4	1	6	9	25	194	88	289	87	41	32		449
L.prativaga L.Koch		1											1						1
L.nigriceps Thor.											11	8	6	10	1	1	1		19
Tarentula pulverulenta (Clerck)	15	24	12	15		1			3	11	656	357	569	169	350	91	15		1194
Trochosa terricola Thor.	43	29	13	10					8	36	59	66	32	175	81	36	4		296
Textrix denticulata (Olivier)		1	1								1	2	4	4	1				5
Amaurobius atropos (Walck.)	2	30	81	82	4			2	1	4	9	6	32	19	49	56	62		218
Cryphoea silvicola (C.L.Koch)										1	1	2	1			2	3		5
Hahnia montana (Blk.)		1	1	1	1	1	1	1	1	1			6	2	1				10
Asagena phalerata (Panzer)		1	3								9	8	21						21
Robertus lividus (Blk.)				1				1				1	1		2				3
Pachygnatha degeeri Sund.	1												1						1
Walckenaera acuminata Blk.				2	4	18	11	3	4	4	2	1	25	12	8	4			49
Wideria antica (Wider)									1	1	1		2						2
Trachynella nudipalpis (Westr.)							1	4	3	4	2			5				9	14
Cornicularia cuspidata (Blk.)							1			1	2		1			1	3		4
Peponocranium ludicrum (O.P.-C.)										1	1	8	4	3	2				9
Lophocarenum parallelum (Wider)										3	1		2	2					4
L.nemorale (Blk.)								1	2	3	3		1	5	1	2			9
Tiso vagans (Blk.)	16	16		7	3	1	4		1	3	15	26	18	88	1	20	2		110
Monocephalus fuscipes (Blk.)										1			1						2
M.castaneipes (Simon)	1									1	2	2	2			6			6
Gongyliidiellum vivum (O.P.-C.)			1										1						1
Diplocephalus cristatus (Blk.)										1									1
Typhocrestus digitatus (O.P.-C.)						1				1			2						2
T.simoni Lessert									1	1				1	1				2
Hilaira frigida (Thor.)										1									1
Agyneta subtilis (O.P.-C.)	1																		1
Meioneta gulosa (L.Koch)	2										3	3	3						8
Centromerus prudens (O.P.-C.)			3		1	3	2		1	3	1			5	3	9			17
C.arcanus (O.P.-C.)										1									1
C.dilutus (O.P.-C.)										1									3
Centromerita spp.	1		3	31	134	246	42	56	37	21	11		149	137	182	100	15		582
Oreonetides abnormis (Blk.)			1	1									2		3	1	1		5
Bathyphantes gracilis (Blk.)							6	2		1			3	2	1	6			12
Bolyphantes luteolus (Blk.)			3																1
Lepthyphantes whymperi (F.O.P.-C.)											1		3	2	1	6			12
L.zimmermanni Bertkau	13	12	1	18	4		1	1		1	5	14	1	11	2	47	10		70
L.ericaeus (Blk.)								2						2					2
L.alacris (Blk.)			1																1
L.pallidus (O.P.-C.)				1															1
Linyphia pusilla Sund.											1		1						1
PHALANGIDA																			
Nemastoma bimaculatum (Fab.)	3	4	12	10	18	4	9	2	1	2	5	19	8			55	42		97
N.chrysomelas (Hermann)	2	27	40	3					1				2			16	57		75
Mitopus morio (Fab.)	73	54	60	49	9	1			3	7	28	34	77	19	40	54	134	148	395
Megabunus diadema (Fab.)		2												1		1			2
PSEUDOSCORPIONIDA																			
Neobisium muscorum (Leach)			1	2			1	4	1	4	2	1		3	1	1	5	6	16

Table 2. Total catch at all stations, grouped in four-week periods.