

# Porcupine Newsletter

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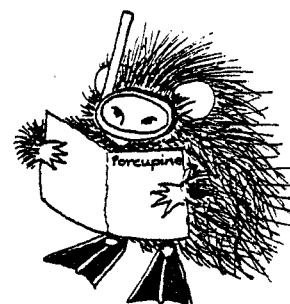
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EDITOR : With this Newsletter, the mantle of Editor has fallen on my shoulders/word processor/credibility, and my first task must surely be to thank Frank Evans for the excellent job he has done since PN2 No.1. His polite offers to bow out of the post over the last few years have until now been refused, to choruses of "For he's a jolly good fellow", out of respect for the significant contribution that the Newsletter makes to the functioning of PORCUPINE, due in large part to Frank's efforts. I can do no better than try to follow his example. Our gratitude also continues to Sue Arnott for her artistic endeavours.

FUTURE MEETINGS: Owing to organisational difficulties, there will be no Autumn meeting this year. It is therefore the more imperative that Members contribute copy for the Newsletter, as there will be no meeting reports for the next issue. To repeat the appeals of my predecessor, notes and news, letters and reviews, and full articles are all welcome: where are the results of Members' summer holiday field studies?

The A.G.M. will be at Portsmouth Polytechnic next March, as a joint conference on lagoons. Full details - next issue.

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THE OCCURRENCE OF Meiosquilla desmaresti (RISSO, 1816)  
(CRUSTACEA: STOMATOPODA) IN THE NORTH-EAST ATLANTIC

by Paul F. Clark

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The distribution of Meiosquilla desmaresti (Risso, 1816), a Mantis shrimp (Figure 1), extends from North-West Africa and the western Mediterranean to the English Channel, occurring as far north as the southern North Sea (see Baan & Holthuis, 1966, p.3). The species was first reported from British waters by Yarrell (1833, p.230). A further 39 north-east Atlantic records have been extracted from BM(NH) material and from the literature (see below), which establish the northern limit of this species at 53°42'N 3°53'E (Figure 2). The purpose of this note is to report the recent capture by Terry Langford (CERL Marine Biology Laboratory, Fawley) of 3 Meiosquilla desmaresti from Stanswood Bay, Solent, on the 20th October 1984, the only record for the English Channel since 1974.

Although sparse, some habitat data are available. For example, Bell (1844-52, p.356) stated that a Bembridge, Isle-of-Wight specimen was taken from "muddy bottom grown over with grass (Zostera)". An association with sea grass was also noted on the label of a female specimen in the BM(NH) collection from Felpham, Sussex (reg. no. 1910.7.29.53) and was mentioned by Bourdon (1965, p.38), who further commented that M. desmaresti occurs intertidally, extending from the Laminaria zone to only 30 m. However, Kentish Knock material in the BM(NH) (reg. no. 1901.6.14.1) was trawled as deep as 24 fathoms (ca 42 m) (see Bell, 1902, p.388). Bell (1844-52) remarked that this species is "wholly nocturnal, as it hides itself away during the day".

The population status of Meiosquilla desmaresti in the north-east Atlantic is unknown. Baan & Holthuis (1966) reported larvae from the southern North Sea, and the recent capture of different age classes in Stanswood Bay indicates that M. desmaresti is established in the English Channel. Furthermore, specimens have been collected at all times of the year, suggesting that it is a permanent rather than a temporary resident. There appears to be an association between M. desmaresti and eel grass, which may explain the more frequent records during the 50 years prior to the early 1930's (26 against 13), when Zostera became almost completely eliminated from southern England. On the other hand, the paucity of recent citations may be attributed to inadequate sampling of the preferred habitat (a relatively stable muddy sand) rather than the decline of Zostera.

Any further information or records would be most welcome.

Acknowledgement

I wish to thank Dr. Roger Bamber of the Central Electricity Research Laboratory, Fawley, for details of the M. desmaresti from Southampton Waters.

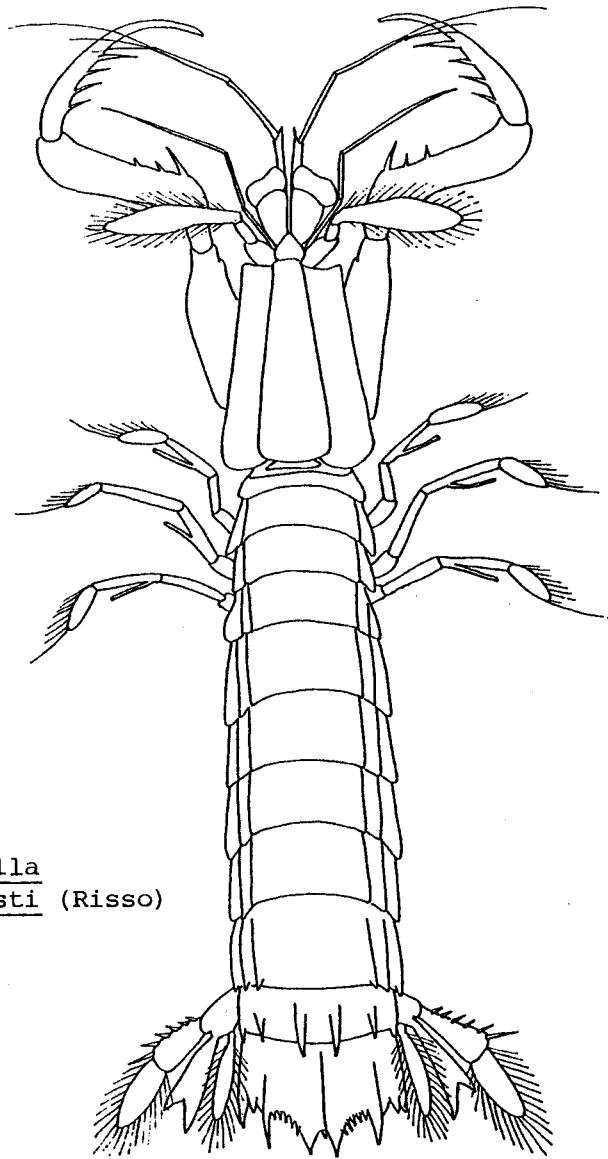


FIG. 1.  
Meiosquilla  
desmaresti (Risso)

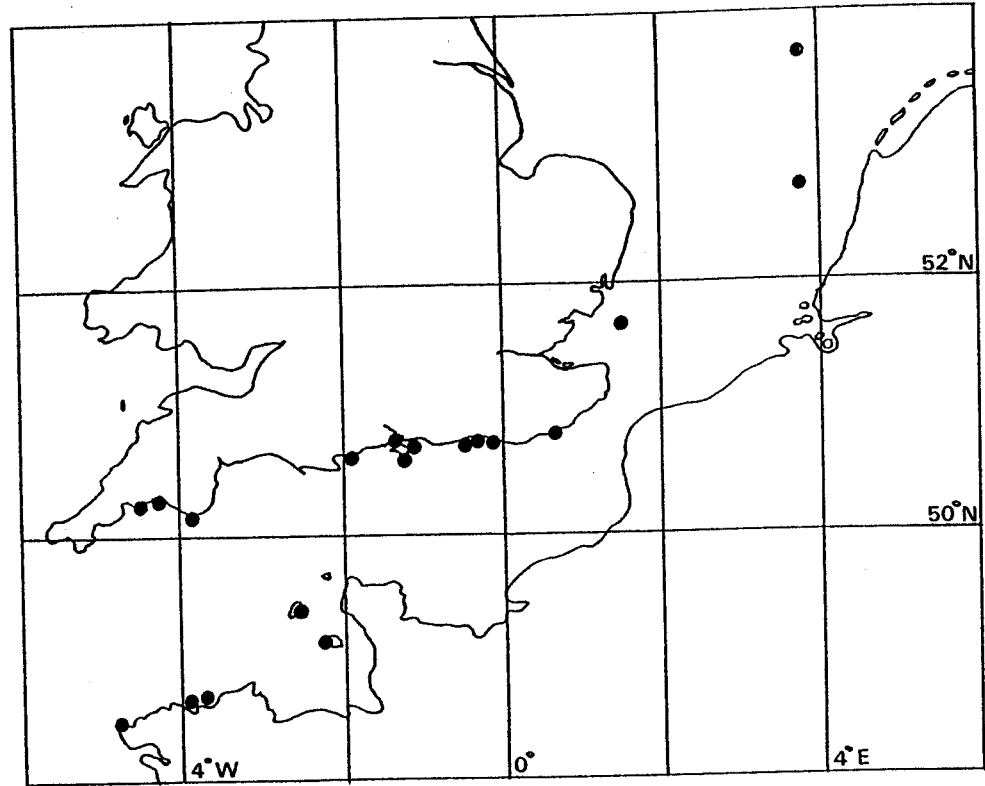


FIG. 2. Known distribution of Meiosquilla desmaresti in the English channel and southern North Sea.

-16-

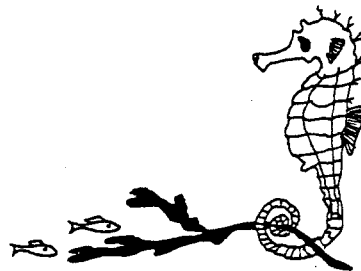
List of Meiosquilla desmaresti Records Arranged in  
Approximate Chronological Order

- 1833 Polperro, Cornwall, 2 specimens, coll. Mr Laughrin, Couch Material, see Yarrell, 1833: 230, BM(NH) not registered.
- 1835 Guernsey, see Lukis, 1835: 463.
- 1836 Broughton, 1 male, Dr Mantell's collection (No.8317), see White, 1857: 155, previously BM(NH) reg. 632a, now 1841.1.12.8
- 1844-52 Bembridge, Isle-of-Wight, 1 female, coll. A.G.Moore, see Bell, 1844-52: 356, BM(NH) not registered.
- 1856 Herm and Jethon, see White, 1857: 155.
- 1888 Guernsey, 1 female, coll. R.L.Spencer, det. H.J.Hansen 1891; BM(NH) reg. 1888:35.
- 1893 Shanklin, Isle-Of-Wight, 1 male, pres. J.W.Jeans, BM(NH) reg. 1893.11.4.1.
- 1898 Jersey, 1 male, 1 female, Norman Collection, BM(NH) reg. 1898.5.7.849-850; Bembridge, Isle-of-Wight, 2 females, Norman Collection, BM(NH) reg. 1898.5.7.851-852.
- 1900 New Ground Buoy, December 1900, MBA 1957:188
- 1901 Kentish Knock, 1 male, coll. Lt.Comm. G.S.Carr, 43m, 29th April 1901, see Bell, 1902: 387. BM(NH) reg. 1901.6.14.1
- 1902 Off Selsey Bill, 1 male, pres. W.W.Dunlop, BM(NH) reg. 1902.1.28.1; Hastings, coll. Miss Davis, see Bloomfield, 1902:16
- 1904 Brown Bank, September 1904, see Van Breeman 1905:74.
- 1905 Bembridge, Isle-of-Wight, 2 females, pres. J.B.Denison, BM(NH) reg. 1905.8.24.2; Brighton, 1 female, pres. Prof. Minchen, BM(NH) reg. 1905.8.24.3; Hastings, April 1905, coll. Mr. Connold, see Bloomfield, 1905: 33; Eddystone bearing  $S\frac{1}{2}$ ,  $2\frac{1}{2}$  miles, 20th September 1905, see MBA 1957:188.
- 1908 Marine Hotel, Salcombe, 3rd April 1908 & Eddystone  $S\frac{3}{4}W$  about  $3\frac{1}{2}$  miles, 9th April 1908, see MBA 1957: 188.
- 1909 Rame-Eddystone ground, 1st April 1909, see MBA 1957: 188
- 1910 Felpham, Sussex, 1 female, pres. P. Stammivity, BM(NH) reg. 1910.7.29.53; Rame-Eddystone, 14th June 1910, see MBA 1957:189.
- 1914 Eddystone, 17th February 1914, SW by W about 2 miles, see MBA 1957: 189; Tenerez et l'Ile Callot, see De Beauchamp, 1914: 213.
- 1927 4 miles south of Mewstone, 17th & 19th March 1927, see MBA 1957: 189.
- 1933 Plymouth offshore, 11th October 1933, see MBA 1957: 189.
- 1937 Swanage, 1 female, 1937, BM(NH) reg. 1985:164.
- 1952 Outside Eddystone, 12th May 1952, see MBA 1957: 189.
- 1954 Off Corner Ground, 1st December 1954, see MBA 1957: 189.
- 1955 Villefranche, 2 females, coll. & pres. Capt. A.K.Totton, 10-15 m, BM(NH) reg. 1955.11.28.4-5.
- 1963 20 miles east of ST2 buoy,  $53^{\circ}42'N$   $3^{\circ}53'E$ , 13th April 1963, see Baan & Holthuis, 1966:3.

- 1965 L'Ile Verte, Penpoul, Chateau du Taureau, Vieilles Saint Barbe, see Bourdon, 1965: 38.
- 1974 Fawley Power Station, Southampton Water, 1 male, 12th September 1974, pres. Roger Bamber, BM(NH) reg. 1985:163.
- 1984 Stanswood Bay, Solent, 2 males & 1 juvenile, coll. T.E.Langford, 20th October 1984, pres. Roger Bamber; 2 males alive in BM(NH).

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FISH CATCHES AT SIZEWELL 'A' POWER STATION, SUFFOLK

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The cooling water intake screens of coastal power stations offer unrivalled opportunities for collecting fish and other inshore marine organisms without the need for more costly sampling methods. The C.E.G.B.'s interest in surveying fish screen-catches relates to the potential commercial, ecological and operational consequences of fish impingement (see Turnpenny, 1983), but records of species caught and their seasonality are also of more general interest to biologists outside the industry. Fish species lists have been published for several U.K. coastal power stations (e.g. Holmes, 1978; Davis & Dunn, 1982), and these supplement existing knowledge of fish zoogeography.

There is no doubt that power stations, like any other sampling device, are selective. Indeed, cooling water intakes are purposely designed to be as inefficient as possible at catching fish. Nevertheless, this poor efficiency is offset by sampling effort, a typical directly-cooled base-load station screening some  $10^9$  gallons of water per day. Given this consistent high effort, and a long enough period of sampling, rarer species seldom detected by more conventional sampling programs tend to be recorded. Figure 1 shows the rates of species acquisition for 3 U.K. coastal power stations as a function of seasonal sampling.

FIG.1 SEASONAL FISH SPECIES ACQUISITION CURVES FOR VARIOUS POWER STATIONS

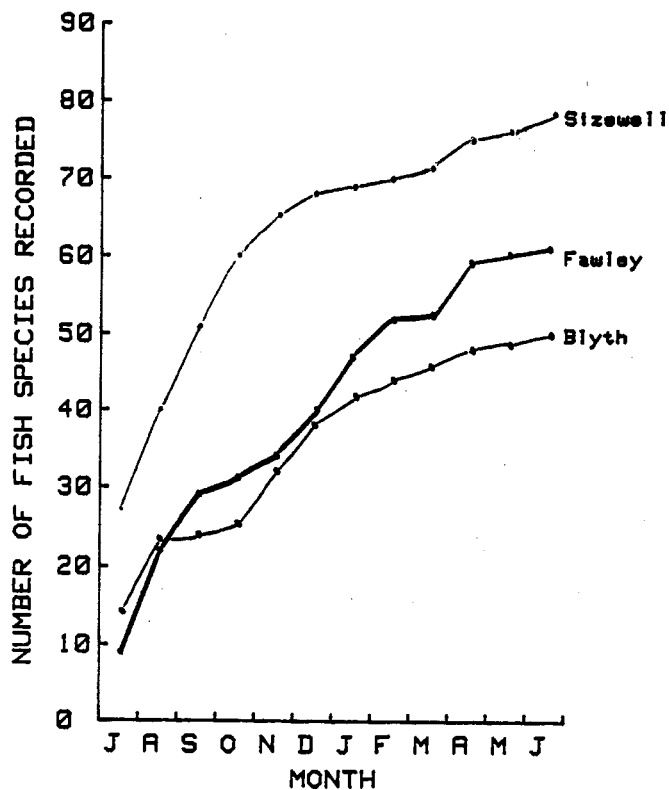


TABLE 1 Fish Species Abundance in decreasing ranked order, estimated annual abundance and % Occurrence

RANK	COMMON NAME	SPECIES NAME	RECORDED		ESTIMATED ANNUAL		% Occurrence
			No.	Wt. (kg)	No.	Wt. (kg)	
1	Sprat	<i>Sprattus sprattus</i> (L.)	344,629	3709	3,068,000	33,000	100
2	Whiting	<i>Merlangius merlangus</i> L.	19,847	403	176,638	3,586	97.6
3	Sand goby	<i>Pomatoschistus minutus</i> (Pallas)	12,491	16.71	111,170	149	97.6
4	Herring	<i>Clupea harengus</i> L.	11,099	60.00	104,121	534	97.6
5	Great Pipefish	<i>Syngnathus acus</i> L.	7,424	4.757	66,074	42	73.0
6	Nilsson's pipefish	<i>Syngnathus rostellatus</i> Nilsson	5,005	3.148	44,545	28	75.6
7	Dover sole	<i>Solea vulgaris</i> Quensel	2,690	77.97	23,941	694	85.4
8	Flounder	<i>Platichthys flesus</i> (L.)	2,568	107	22,855	952	92.7
9	Dab	<i>Limanda limanda</i> (L.)	2,368	34.4	21,075	306	90.2
10	Bib	<i>Trisopterus luscus</i> (L.)	1,811	48.8	16,118	434	95.1
11	Hooknose	<i>Agonus cataphractus</i> (L.)	1,123	7.65	9,995	68	82.9
12	Plaice	<i>Pleuronectes platessa</i> L.	902	12.62	8,028	112	82.9
13	Three spined stickleback	<i>Gasterosteus aculeatus</i> L.	786	1.60	6,995	14	58.5
14	Smelt	<i>Osmerus eperlanus</i> (L.)	760	26.24	6,764	234	87.8
15	Sea snail	<i>Liparis liparis</i> (L.)	626	4.68	5,571	42	61.0
16	Cod	<i>Gadus morhua</i> L.	574	85.97	5,109	765	55.9
17	Transparent goby	<i>Aphia minuta</i> (Risso)	546	0.665	4,859	6	43.9
18	Common Eel	<i>Anguilla anguilla</i> (L.)	458	57.36	4,076	511	80.5
19	Five bearded rockling	<i>Ciliata mustela</i> (L.)	447	9.31	3,978	83	87.8
20	Lesser weever	<i>Trachinus vipera</i> Cuvier	387	6.725	3,444	60	78.0
21	Thornback ray	<i>Raja clavata</i> L.	234	4.064	2,083	36	53.6
22	Poor Cod	<i>Trisopterus minutus</i> (L.)	233	3.61	2,074	32	51.2
23	Dragonet	<i>Callionymus lyra</i> (L.)	206	1.63	1,833	15	46.3
24	Thin-lipped grey mullet	<i>Liza ramada</i> (Risso)	138	11.26	1,228	100	39.0
25	Montagu's sea snail	<i>Liparis montagui</i> (Donovan)	236	0.062	1,210	1	21.9
26	Gunnel	<i>Pholis gunnellus</i> (L.)	121	1.37	1,077	12	46.3
27	Smooth sand eel	<i>Ammodytes tobianus</i> L.	105	0.46	935	4	51.2
28	Sea bass	<i>Dicentrarchus labrax</i> (L.)	77	17.89	685	159	17.6
29	Grey gurnard	<i>Eutrigla gurnardus</i> (L.)	68	1.00	605	9	36.6
30	Thick-lipped grey mullet	<i>Chelon labrosus</i> (Risso)	67	9.00	596	80	26.8
31	Yellow gurnard	<i>Trigla lucerna</i> (L.)	60	1.46	534	13	41.5
32	Small-spotted dogfish	<i>Scyliorhinus canicula</i> (L.)	59	2.10	525	19	21.9
33	Fifteen spined stickleback	<i>Spinachia spinachia</i> (L.)	44	0.088	392	1	2.4
34	Deep snouted pipefish	<i>Syngnathus typhle</i> L.	40	0.013	356	0.12	26.8
35	Greater sand eel	<i>Hyperoplus lanceolatus</i> (Le Sauvage)	39	0.162	347	1	41.5
36	Long-spined sea-scorpion	<i>Taurulus bubalis</i> (Euphrasen)	29	0.460	258	4	24.4
37	Anchovy	<i>Engraulis encrasicolus</i> (L.)	27	0.539	240	5	14.6

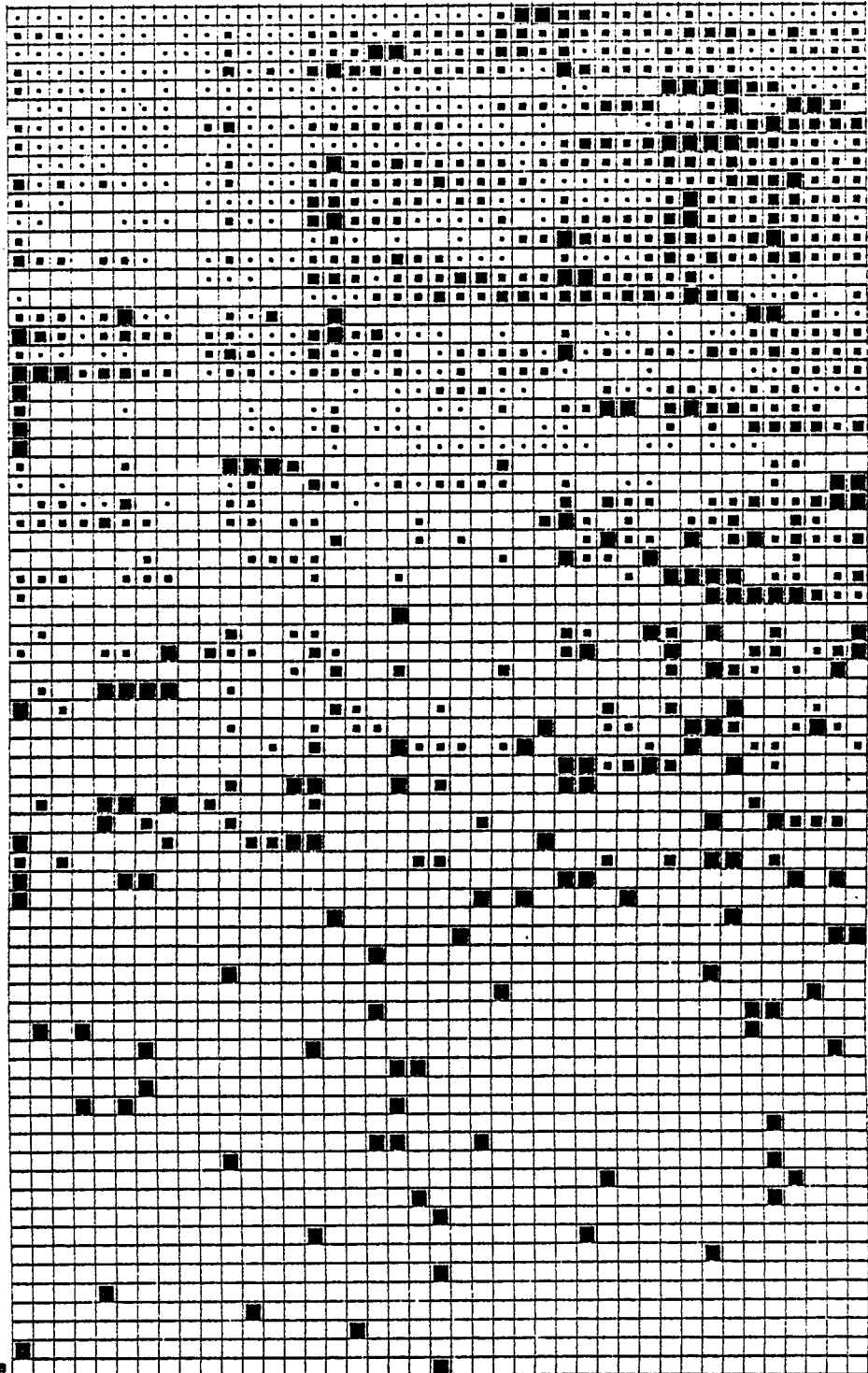
TABLE 1 Fish Species Abundance in decreasing ranked order, estimated annual abundance and % Occurrence (Continued)

RANK	COMMON NAME	SPECIES NAME	RECORDED		ESTIMATED ANNUAL		% Occurrence
			No.	Wt. (kg)	No.	Wt. (kg)	
38	Sand smelt	<i>Atherina presbyter</i> Cuvier	25	0.212	223	2	21.9
39	Short-spined sea-scorpion	<i>Myoxocephalus scorpius</i> (L.)	25	1.379	223	12	31.7
40	Lemon sole	<i>Microstomus kitt</i> (Walbaum)	25	1.072	223	10	31.7
41	Lumpsucker	<i>Cyclopterus lumpus</i> L.	23	1.06	205	9	19.5
42	Turbot	<i>Psetta maxima</i> (L.)	17	0.457	151	4	17.1
43	Tope	<i>Galeorhinus galeus</i> (L.)	14	2.726	125	24	17.1
44	Spurdog	<i>Squalus acanthias</i> L.	14	1.059	125	9	21.9
45	Horse mackerel	<i>Trachurus trachurus</i> (L.)	14	4.775	125	43	17.1
46	Twaite shad	<i>Alosa fallax</i> (Lacapede)	11	14.28	98	127	21.9
47	Red gurnard	<i>Aspitrigla cuculus</i> (L.)	10	0.259	89	2.31	17.1
48	Allis shad	<i>Alosa alosa</i> (L.)	6	3.541	53	32	9.8
49	Tadpole fish	<i>Raniceps raninus</i> (L.)	6	0.032	53	0.28	4.9
50	Worm pipefish	<i>Nerophis lumbriciformis</i> (Jenyns)	5	0.066	15	0.59	7.3
51	Painted ray	<i>Raja undulata</i> Lacepede	4	0.067	36	0.60	2.4
52	Conger eel	<i>Conger conger</i> (Artali)	4	0.758	36	6.75	4.9
53	Saithe	<i>Pollachius virens</i> (L.)	4	0.672	36	5.98	4.9
54	Scaldfish	<i>Arnoglossus laterna</i> (Walbaum)	4	0.034	36	0.30	7.3
55	Sea lamprey	<i>Petromyzon marinus</i> L.	3	0.033	27	0.29	7.3
56	Smooth hound	<i>Mustelus asterias</i> Cloquet	3	0.378	27	3.36	7.3
57	Cuckoo ray	<i>Raja naevus</i> Muller & Henle	3	0.046	27	0.41	4.9
58	Pilchard	<i>Sardina pilchardus</i> (Walbaum)	3	0.045	27	0.40	2.4
59	Pollack	<i>Pollachius pollachius</i> (L.)	3	2.114	27	19	7.3
60	Ballan wrasse	<i>Labrus bergylta</i> Ascanius	3	0.055	27	0.49	2.4
61	Viviparous blenny	<i>Zoarces viviparus</i> (L.)	3	0.036	27	0.32	7.3
62	Golden grey-mullet	<i>Liza aurata</i> (Risso)	3	0.305	27	2.71	2.4
63	Pearlside	<i>Maurolicus muelleri</i> (Gmelin)	2	0.023	18	0.20	7.3
64	Snake pipefish	<i>Entelurus aequoreus</i> (L.)	2	0.008	18	0.07	4.9
65	Three bearded rockling	<i>Gaidropsarus vulgaris</i> (Cloquet)	2	0.132	18	1.17	4.9
66	Brill	<i>Scophthalmus rhombus</i> L.	2	0.043	18	0.38	4.9
67	Witch	<i>Glyptocephalus cynoglossus</i> (L.)	2	0.004	18	0.04	2.4
68	Salmon	<i>Salmo salar</i> L.	1	0.001	9	0.01	4.9
69	Garfish	<i>Belone belone</i> (L.)	1	0.128	9	1.14	2.4
70	Redband fish	<i>Cepola macrophthalma</i>	1	0.037	9	0.33	2.4
71	Black goby	<i>Gobius niger</i> L.	1	0.005	9	0.04	2.4
72	Shanny	<i>Blennius pholis</i> L.	1	0.007	9	0.06	2.4
73	Long rough dab	<i>Hippoglossoides platessoides</i> (Bloch)	1	0.242	9	2.15	2.4

# FIG.2 Proportional Seasonal Occurrence of Fish by Species and Sampling Date: Sizewell 'A', 1981-2

Proportion of Annual Total: ZERO- blank : 0-0.01 = : 0.01-0.05 : ■ : 0.05-0.2 ■  
0.2-1.0 ■

- Sprattus sprattus
- Merlangius merlangus
- Pomatoschistus minutus
- Clupea harengus
- Syngnathus acus
- Syngnathus rostellatus
- Solea vulgaris
- Platichthys flesus
- Limanda limanda
- Trisopterus luscus
- Agonus cataphractus
- Pleuronectes platessa
- Gasterosteus aculeatus
- Gamurus asperianus
- Liparis liparis
- Gadus morhua
- Aphis minuta
- Anguilla anguilla
- Ciliata mustela
- Trachinus vipera
- Raja clavata
- Trisopterus minutus
- Callionymus lyra
- Liza ramada
- Liparis montagui
- Pholis gunnellus
- Ammodytes tobianus
- Dicentrarchus labrax
- Eutrigla gurnardus
- Chelon labrosus
- Trigla lucerna
- Scyllorhinus canicula
- Spinichia spinosia
- Syngnathus typhle
- Hyperoplus lanceolatus
- Teurulus bubalis
- Engraulis ancrastiscus
- Atherina presbyter
- Myoxocephalus scorpius
- Microrostomus kitt
- Cyclopterus lumpus
- Pagrus major
- Galeorhinus galeus
- Squalus acanthias
- Trachurus trachurus
- Alopias ferox
- Aspitrigla oculeus
- Alopias superus
- Raniceps raninus
- Nerophis lumbriciformis
- Raja undulata
- Conger conger
- Pollachius virens
- Arnoglossus laterna
- Petromyzon marinus
- Mustelus asterias
- Raja nasus
- Sardina pilchardus
- Pollachius pollachius
- Lebrun bergylla
- Zoarces viviparus
- Liza aurata
- Maurolicus muelleri
- Entelurus sequoicus
- Gaidropsarus vulgaris
- Scophthalmus rhombus
- Glyptocephalus cynoglossus
- Salmo salar
- Belone belone
- Capla macrorhynchus
- Gobius niger
- Blennius pholis
- Hippoglossoides platessoides



- MAY 12-13
- JUNE 2-3
- JUNE 3-4
- JUNE 10-11
- JUNE 18-17
- JUNE 25-28
- JULY 7-8
- JULY 8-10
- JULY 21-22
- AUGUST 13-14
- AUGUST 16-18
- AUGUST 25-28
- SEPTEMBER 8-8
- SEPTEMBER 8-10
- SEPTEMBER 22-23
- SEPTEMBER 24-25
- OCTOBER 6-7
- OCTOBER 7-8
- OCTOBER 20-21
- NOVEMBER 10-11
- NOVEMBER 11-12
- NOVEMBER 18-18
- NOVEMBER 18-20
- DECEMBER 3-4
- DECEMBER 8-10
- DECEMBER 10-11
- JANUARY 7-8
- JANUARY 26-27
- FEBRUARY 8-10
- FEBRUARY 11-12
- FEBRUARY 23-24
- MARCH 8-10
- MARCH 11-12
- MARCH 23-24
- MARCH 24-25
- APRIL 8-7
- APRIL 7-8
- APRIL 14-15
- APRIL 20-21
- APRIL 21-22
- APRIL 22-23

That none of the curves is monotonic is due primarily to seasonal incursions of fish into inshore waters, a fact which emphasises the need for sampling over at least one year at frequent intervals if a representative species list is to be compiled.

The species list in Table 1 is for Sizewell 'A' Power Station, Suffolk, for the period May 1981-2, collected as part of a collaborative C.E.G.B./M.A.F.F. sampling exercise carried out in connection with the Sizewell 'B' Public Inquiry. Seventy-three species of fish were recorded, with their abundance shown in Table 1. Seasonality is shown in Figure 2. The top forty or fifty species generally offer no surprises, but occasional records of a fish such as the Pearlsides (Maurollicus muelleri (Gmelin)), normally associated with deeper waters, give some indication of the power of the method for recording rarer species.

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Holmes R.H.A., 1978. Fish species observed at Fawley Power Station. Porcup. Newsl., 1 (7), 119-122.  
Turnpenny A.W.H., 1983. Power stations - the ultimate filter feeders? Porcup. Newsl., 2 (9), 238-242.

## Letters to the Editor

Not strictly a 'letter to the editor', but to Geoff Moore at Millport, kindly copied to us for publication.



13 May 1985

Dear Dr. Moore,

Frank Evans is so kind to every now and then send me an issue of the marvellous "Porcupine Newsletter". The latest (Vol.3, No.3, March 1985) I received mentions the "Riddle of the Whips". The riddle has been solved. If you want to hear the solution write to Dr. Stephan, Zoologisches Institut, Universitat Kiel, Biologiezentrum, Olshausenstr. 40/60, D-2300 Kiel, W. Germany.

Dr. Stephan has completed some time ago a fascinating Ph.D. on the biology of several Dulichia-species which build whips and raise families on them. Dr. Stephan has also produced a film which is in the final stages of completion and due to be released for teaching purposes this year or in 1986. I have seen the beasts, they are a marvellous performance.

Sincerely yours,  
H.K. Schminke  
Fachbereich 7, Biologie

It is difficult to say which we appreciate most - someone helpful enough to solve our riddles and take the trouble to let us know, or someone who so generously extols the virtues of PN. -Ed.  
P.S. See also J.exp.mar.Biol.Ecol, 90, p.165.

## Porcupine Reviews



The Seafarer's Guide to Marine Life.  
Paul V. Horsman. Croom Helm,  
London & Sydney. xiv + 257pp., 64 colour  
plates, 14 b&w plates, 160 maps. £12.95.

Reviewer: Frank Evans, Dove Marine Laboratory, Cullercoats.

Since 1980 Member Paul Horsman has been sailing aboard merchant ships as a representative of the Marine Society, the world's oldest maritime charity. His purpose has been to teach, and forward an interest in, marine biology. The Marine Society has also launched similar ventures involving artists, musicians and others, who offer leisure-time occupation and skills to those lonely and isolated people, sailors. Before recently coming ashore, Paul has served in ten ships, in some, like the 'Uganda' of school-ship and Falklands fame, more than once.

Most merchant seamen have, in my experience, no more than a dormant interest in marine life, but it can be aroused, most easily by whales or sharks, or by swarming, or by spectacular bioluminescence. Lacking specialist knowledge, the main need of seamen confronted by these phenomena is easily accessible information. Some of this comes to them through the pages of the quarterly 'Marine Observer', a journal published by the meteorological office, targeted at deck officers. As well as articles, the 'Marine Observer' publishes seamen's reports together with comments by experts, mostly on meteorology but with a leavening of marine biology. Through the reading of its pages some men have become familiar with the most commonly sighted animals: Physalia and Velella, myctophids, the white-tipped shark Carcharinus longimanus, killer whales, etc.

But there has been until now a total lack of usable identification literature in book form. Consider what would be needed for general guidance in the area of 'Porcupine' seas alone: Hardy's 'World of Plankton', Wheeler's 'Fishes of Northern Europe', Fraser's 'British Whales, Dolphins and Porpoises' to begin with, and four or five more to top up. Multiply this by at least half a dozen to cover those parts of the world where British merchant ships trade and the size of the desirable library becomes apparent. Moreover, some of the most useful volumes, Hardy's 'Plankton' and Norman & Fraser's 'Giant Fishes,

Whales and Dolphins', for instance, are hard to come by.

Paul Horsman's book has been written to fulfil this need. It differs from more familiar faunas and floras in being worldwide, in covering only forms seen at the surface or taken in surface plankton, and in being composed for lay readers.

The book's greatest asset is its attractiveness. Opening it, we find margins with annotations in bold type occupying a quarter of the pages' width so that the text looks quite undaunting. Bold type occurs freely in the text itself, promising easy reading. Line drawings are everywhere. There is a huge number of colour plates and maps. A seaman would take a copy of the book into his hand with pleasure and interest.

Now to the written content. The main portion is a systematic journey through the marine branches of the animal kingdom. I fancy our seaman will find it a little difficult to absorb. Perhaps it is simply impossible to give instruction both lightly and adequately but I found the progress through the groups a shade plodding. Humour, anecdotes, indications of marvel or amazement were called for as well as all those tough, rubbery facts. The systematic portion of the book, while surely the hardest part to write, is perhaps the least satisfactory.

Outside the systematic section the book reads much more easily. There is a useful chapter on Sargassum fauna and a short but very helpful chapter on bioluminescence, describing a phenomenon with which seamen are much more familiar than most marine biologists (how many of us have seen milky seas, luminescent wheels and bands, or erupting luminescence, for instance, all spectacular displays, sometimes extending from horizon to horizon). The chapter 'The Future of the Marine World' is a good tight essay in itself. The chapter on plankton is authoritative on such matters as collecting methods to be used aboard large ships at full speed, as befits one who has done it frequently.

'The Seafarer's Guide' is probably not a book that many Porcupines would want to own; it is geographically too widespread and insufficiently specialised for us. But it is one that we may wish to consult from time to time about surface life from other seas and it would be nice to see it on the shelf of the local public library. Why not ask them to get it?



RE STOMATOPODS: Further to the article by Paul Clark on Meiosquilla desmaresti (p.90), we are but the third in a line of distinguished periodicals to be excited at the most recent appearance of this beast. The first article, with colour photograph, appeared in the C.E.G.B.'s 'Power News', March 1985, headed "Mantis shrimp find puzzles the experts"; this was followed by a suspiciously similar article (without illustration) in the Southampton Evening Echo in May - "Rare shrimp sets a poser". We feel the present article sets a higher standard, even without the colour photo or sensational title.

The following article, inspired from the Menai Bridge Porcupine meeting, valuably fulfils the need, expressed by many members, for at least a list of the marine recording schemes currently in operation. Communication of these details to BRC produced a slight difference of opinion, so in the Porcupine tradition of impartiality and completeness, part of Paul Harding's reply letter and his resume of BRC schemes as of Spring this year follow the article by Bob Earll. These also give the opportunity for anyone else running a recording scheme which is not mentioned below to write to PN: we shall certainly publish details of any schemes currently operating, and simultaneously get our Records Coordinator busy but happy. Meanwhile, send also any notable records to the Newsletter, where it is hoped to publish a regular listing (see p.108), particularly as a service for those groups not already covered by a recording scheme. But - on with the main course -



#### MARINE RECORDING SCHEMES - CURRENT SCHEMES AND THEIR STATUS

by Dr.R.Earll

Marine Conservation Society, 4, Gloucester Road, Ross-on-Wye,  
Herefordshire HR9 5BU

A suggestion following on from the 1983 Menai Bridge Porcupine meeting was for a list of current 'Biological Recording Centre' marine recording schemes to be published in the Porcupine Newsletter. This is an appealing idea, but, as the list of recording projects below reveals, there are now a strikingly wide diversity of marine recording projects. Only 3 out of 25+ of these projects currently have any link with BRC. In any event, BRC has now passed its responsibilities for marine recording schemes on to the NCC (Chief Scientist Directorate, Peterborough) because they have no remit for marine recording being a branch of the Institute of Terrestrial Ecology, nor do they have any marine biologists. NCC have no money to spend on developing their interest in marine recording.

The current recording projects cover a wide range of animals and plants, habitat and pollution recording.

To list the current marine recording schemes it is important to understand the historical background to the current situation.

As early as the first Porcupine annual meeting the disquiet about how BRC were coping with marine recording had lead to a variety of alternative approaches. These alternative solutions, many of which are still in operation, were at pains to separate themselves from BRC for a variety of reasons. The original BRC concept of cards which could be filled in by volunteer recorders and circulated widely had been tried but was meeting with only

mixed success and it was clear that if marine recording projects were to be brought to completion alternative strategies for the collection and publishing of information would have to be used. Many of these are covered in detail in the Porcupine Newsletters following the 1982 annual meeting.

1. Schemes initially conceived and introduced through BRC

MARINE DINOFLAGELLATES. Professor J.D.Dodge, Dept. of Botany, Royal Holloway College, Huntersdale, Callow Hill, Virginia Waters, Surrey.

Status: BRC published an atlas in 1982, however Professor Dodge is still very interested in collecting records, although only his laboratory is contributing at present.

MARINE ALGAE. Prof. T.Norton, Marine Biology Station, University of Liverpool, Port Erin, Isle of Man.

Status: Phyc. Soc. are also closely involved. An outline atlas was published in 1978, and a 100 species version will be published during 1985 (?). Cards are available, and records still required.

ECHINODERMS. Dr. E.Southward, Marine Biological Association, Citadel Hill, Plymouth.

Status: Records still wanted, however there are no immediate plans for publication.

MARINE ISOPODS. - this scheme has now been "abandoned".

2. Specialist or specimen records only in national schemes.

CRABS. Mr. P.Clark & Dr. R.Ingle, British Museum (Natural History), Cromwell Road, South Kensington, London SW7 5BD.

Status: Records have been virtually completed with maps etc., but publication is being undertaken independent of BRC.

POLYCHAETES. Linda Warren, Polytechnic of Central London, 115 New Cavendish St., London, W1.

Status: Still underway. A record scheme based on the identification of curated specimens.

3. Other national recording schemes.

MOLLUSC RECORDING. Mr. D.Seaward, 3 Summerlands, Yeovil, Somerset. Conchological Society and the Nature Conservancy Council.

Status: still underway. Having published the sea area (1982) atlas further records are being accumulated for more up to date assessments and being published in J. Conch.. Records are still required and cards are available.

BIRDS. The British Trust for Ornithology run projects on coastal birds, for example in 1984 a survey of coastal (rocky shore) waders. They can be contacted at BTO, Beech Grove, Tring, Herts.

The Royal Society for the Protection of Birds also run seabird surveys, such as Operation Seafarer or more regularly the beached bird survey. They can be contacted at the Lodge, Sandy, Beds SG19 2DL.

The NCC have developed expertise in recording seabirds at sea recently and information on techniques etc. can be obtained from Mr. M.Tasker, NCC, Wynne Edwards House, 17 Rubislaw Terrace, Aberdeen, AB1 1XE.

**CETACEANS AND SEALS.** Cetacean recording is covered by a number of groups, who co-operate.

**Sea Mammal Research Unit:** No recording projects as such, their current interests are mainly dominated by work on seal populations. They can provide advice on methods. C.Lockyer & S.Brown, SMU, Antarctic Survey, Madingley Road, Cambridge; 0223 311354.

**Dr. P.Evans,** Secretary of the Cetacean Group of the Mammal Society, c/o The Edward Grey Institute of Field Ornithology, Zoology Department, Oxford University, South Parks Rd, Oxford OX1 3PS. Widely regarded as the repository for whale sightings and strandings.

**DOLPHIN SURVEY PROJECT:** Mr. D.McBrearty, Dept. of Anatomy, University of Cambridge, CB2 3DY; 0223 67665/0223 68398.

Covers the distribution of all cetaceans worldwide. Recording materials are available.

**STRANDED WHALE SCHEME:** Dr. M.C.Sheldrick, Marine Mammals, British Museum (Natural History), Cromwell Road, London SW7 5BD.

The museum have a statutory authority to record whale strandings, and there are a wide variety of publications stemming from their records.

#### 4. Marine Conservation Society Projects.

The Marine Conservation Society (MCS) organise a wide variety of projects for people who are interested in doing project work on the seashore or whilst diving. A yearly project programme is produced and is available from the MCS Office, 4 Gloucester Rd., Ross-on-Wye, Herefordshire HR9 5BU.

**PHOTOGRAPHIC PROJECT:** Details from MCS Office.

**Status:** An unstructured recording scheme designed 1. to assist with identification of species from photographs, 2. to collect information on habitat and species distributions. Photographs required; record cards available.

**OBSERVATION SCHEME:** J.Moore, Dove Marine Laboratory, Cullercoats, Tyne & Wear NE30 4PZ.

**Status:** An unstructured record card designed to collect information on marine natural history. 1800 records have been collected so far. Records published quarterly in the MCS newsletter SEA.

**SPECIES RECORDING SCHEME:** Mr. D.Erwin, Keeper of Botany and Zoology, Ulster Museum, Botanic Gardens, Belfast BT9 5AB. Tel:

0232 668251. & R.Earll.

Status: The SRS project has now stopped but access to the 1450 records via a computer data base facilitates their use. Published maps available. Cover 70 common sublittoral species.

SEAWATCH: MCS Office.

Status: A national recording scheme covering exploited intertidal and subtidal species, with both general species recording cards, and autecological projects. Suitable for individual or group participation: starting 1984.

SPONGE PROJECT: G.Ackers, 11 heathrow, Gomshall, Guildford, Surrey, & Dr. D.Moss, Maths Dept., University of Manchester, Oxford Road, Manchester M13 9PL.

Status: A project designed to collect data on the British marine sponge fauna; a recording form is available and records and specimens are required.

Publication: annual in the form of the colour mini-print illustrated "Sponge Guide". This now covers some 50 species, and Sponge IV is shortly to be published.

Marine Conservation Society and Marine Nature Reserve projects.

Each year some 4-5 projects are organised on regional or site basis which involve either habitat or species recording, on the shore and by diving. Usually the cards cover locally common species from a range of phyla. In the recent past a good deal of this work has been concentrated in the voluntary marine reserves. Habitat and species checklists are available from the MCS Office.

REEFWATCH: Ms. M.Stafford-Smith & Dr. L.Barratt, Tropical Marine Research Institute, Biology Dept., York University, Heslington, Nr. York YO1 5DD.

Status: this is a recording project designed for use on coral reefs, and there are habitat and species sheets which cover specific world regions.

##### 5. Regional & Site Recording Schemes

MARINE MOLLUSCA OF WEST SCOTLAND: D.McKay & S.Smith. (SS: 17 Sydney Terrace, Edinburgh EH7 6SR.)

Status: a mapping project based on the personal recording efforts of DM and SS, but also utilising published records. Records required.

MARINE MOLLUSCA OF EAST SCOTLAND: S.Smith & D.McKay (as above).

The authors are updating their 1979 atlas with a view to a second edition. Need information from diving studies in the Moray Firth.

MARINE FISHES IN NORTH EAST ENGLAND: P.S.Davis, The Hancock Museum, Barras Bridge, Newcastle-upon-Tyne.

Identification, from collected material and photographs. More records required, to extend 1983 publication on Cullercoats fishes.

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CORNISH MARINE RECORDS: S.Turk, Shangri-la, Reskadinnick, Camborne, Cornwall.

The Cornish Marine Records Centre has an extensive and well catalogued collection of marine records from Cornwall. Anyone contemplating work in the county would be well advised to contact Mrs Turk at the outset of their studies.

FLEET STUDY GROUP: Co-ordinator, Mrs J.Fitzpatrick, 24 Oakbury Drive North, Preston, Weymouth.

A group who are interested in the flora and fauna of the Fleet.

6. INDIVIDUALS who are ACTIVELY seeking records and specimens and who are willing to identify specimens.

The MCS has a list of 30 subjects covered by 25 experts. Members are encouraged to write direct to these experts with queries.

I would like to see an extended list of people who are prepared to be robust enough to handle this. The fear of being flooded with specimens to identify might put people off, but in practice, certainly from MCS experience enquiry levels are generally low (about 5 per year for most subject specialists). An example of one such expert -

PYCNUGONIDS: Dr. Roger Bamber, C.E.G.B., Marine Biology Lab., Fawley, Southampton SO4 1TW.



Extract from letter to Bob Earll from Paul Harding:

Dear Bob,

....I have a small quibble with your first paragraph because the handing over of responsibilities, from BRC to NCC, is not as settled as you have suggested. Certainly that is what was proposed in October 1983, but, 18 months later, NCC seems not yet to have made a firm commitment on the topic. I enclose a resume of the BRC schemes from a contract report to NCC. You will see that a scheme for Bryozoa is included.....

Paul T. Harding  
Biological Records Centre  
(ITE, Monks Wood)

MARINE INVERTEBRATE RECORDING SCHEMES IN OPERATION ON 1.3.1985

BRC Coordinator: H.R.Arnold

PROTOZOA - Marine Dinoflagellates  
Dr J.D.Dodge [see above]  
Provisional atlas published in 1981 using UTM grid. 27000

detailed records on computer file. Additional records are available for processing.

POLYZOA - Bryozoa

Dr. P.Hayward, Dept. of Zoology, University College of Wales, Swansea SA2 8PP

1500 record cards available for processing.

CRUSTACEA

REPTANTIA - Marine Crabs

Dr. R.Ingle [see above]

Maps of the distribution of species in the north-west Atlantic, using latitude and longitude, have been prepared, together with text, for publication. The compiler P.Clark originally submitted the maps and text to ITE for publication but later withdrew them. It is believed that they are to be published by the Marine Conservation Society. More than 10000 detailed records are available for processing.

ISOPUDA - Marine Isopods

Dr. R.J.Lincoln, Dept. of Zoology, British Museum (Natural History), Cromwell Road, London SW7 5BD.

Records were hand-mapped several years ago, using national grids. The scheme has not been operative for several years and the scheme organiser is unable to devote time to update maps or to make the original records available.

ECHINODERMATA - Echinoderms

Dr. A.J.Southward [see above, Dr. E.Southward]

Scheme operating at a low level. Size of data set unknown.

MOLLUSCA - Marine Molluscs

Mr. D.R.Seaward [see above]

Distribution Atlas, using Sea Areas, published by NCC in 1982. Future of scheme unknown.

## NOTICES

BRITISH MARINE WORKSHOP/STUDY DAY, Saturday November 23rd 1985

The Conchological Society of Great Britain and Ireland is hoping to run a Workshop/Study Day on British Marine Molluscs - Small Species on Saturday November 23rd 1985 at the Humfrey Rooms of the Northamptonshire Natural History Society and Field Club in Northampton. The purpose is to assist British marine workers and collectors with difficulties that can arise in identification of small species and also in distinguishing juveniles of larger species, both gastropod and bivalve. This would be an ideal opportunity for British marine enthusiasts to meet kindred

spirits and Dr. Shelagh Smith, Celia Pain and Phil Palmer have all agreed to help on this day.

A charge of £5 will be made to cover costs; juniors may pay half price. Participants should bring a packed lunch but hot and cold drinks will be provided throughout the day.

The Council of the Conchological Society would like to extend an invitation to the members of Porcupine. An initial expression of interest should be made as soon as possible to the Secretary, Dr. J.D.Nunn, Flat 24, Park Hill Court, Addiscombe Road, Croydon, Surrey CR0 5PG. As plans are formalised, applicants will then receive further details of booking, programme etc. It would be useful to indicate how participants intend to travel to Northampton as it may be possible for people coming from the same direction to join forces and share expenses.

FISHERIES SOCIETY OF THE BRITISH ISLES International Symposium on "The Behaviour of Fishes" to be held jointly with the International Association of Fish Ethologists, July 15th - 18th, at University College, Bangor.

Call For Papers:

Send title of 20 minute paper or poster to any member of the organising committee. Papers on any aspect of fish behaviour are invited: provisional session topics include reproductive and social behaviour; genetics and development of behaviour; physiology of behaviour. Selected papers may be published, after review, in a special issue of Journal of Fish Biology.

Deadlines: Firm offers of papers 1st december 1985. Bookings, abstract & deposit 31st March 1986. Payment of Conference dues 1st July 1986.

Write to: Fish Behaviour Conference, School of Animal Biology, University College of North Wales, Bangor, Gwynedd LL57 2UW.

## Porcupine Ads.

BIOLOGY OF OPISTHOBRANCH MOLLUSCS VOL. 2  
by T.E.Thompson & G.H.Brown (Dept. Zoology,  
University of Bristol). Ray Society RS156.  
October 1984, 228pp, 41 full page plates,  
35 in colour. Hardback 0 903874 18 0.  
£39.00.

This is the second of two authoritative volumes on the Opisthobranchia, and gives a systematic account of the British Nudibranchia. It thus completes the systematic description of the British Opisthobranchia begun in Volume 1 (which also gave a general account of the sea-slugs and bubble shells of the world's seas). [Thompson T.E. 1976; Ray Society RS151].



Contents: Foreword, Characters of the order Nudibranchia. List of the British species of the order Nudibranchia. Suborder I Dendronotacea, with key to the British species. Suborder II Doridacea, and key. Suborder III Arminacea, and key. Suborder IV Aeolidacea and key. Epiulogue: Survey of the Literature on Opisthobranchia since the publication of Vol.1 in 1976, Maps, References, Systematic Index, Pictorial Synopsis of the British naked opisthobranchs.  
 Available from Publications Sales, British Museum (Natural History), etc.

\* \* \* \*

NEW RECORDS

As mentioned above, it is proposed to encourage the publication of notable new records in PN, as a feature of PORCUPINE's zoogeographic function, and further in relation to the new role of Records Coordinator. Bias will be given to records supported by authoritative confirmation, lodging of specimens at a reputable museum, etc., in order to retain credibility. This section of PN is not intended to replace fuller articles where discussion of the "find" and its significance are included, or of lists from survey work, etc., which articles will be warmly welcomed as usual.



\* \* \* \*

MOLLUSCA - CEPHALOPODA

Allorossia glaucopis Loven. Single specimen, captured in coarse plankton net, Hinkley Point, Bridgewater Bay, Somerset (Bristol Channel), 8th July 1985. First record for the Bristol Channel, etc. Muus (1963 - Fiches d'Identification...) records this species from Scandinavia, northern North Sea, south & west Ireland and the Atlantic. Specimen lodged at National Museum of Wales, Cardiff.

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A marine record of a different type was reported in the Daily Telegraph of 2 July, viz. a 163lb (no metric equivalent given!) Porbeagle shark (Lamna nasus) caught in the Solent by one Kevin Wilson of Weymouth. They also give an identification guide, viz. "The sharks have a pointed snout and are up to 10 ft in length." Not yet recorded on Fawley power station screens!