GUY MALCOLM SPOONER MBE (1907-1989)

"An affectionate remembrance" by Quentin Bone

Photo: A.J Southward

Marine Biological Association
Occasional Publication No. 30

Acknowledgements etc.

Image research and editing:

Heather Joshi CBE, Sarah Nichols, Sally Smale, Eve Southward

Appendix 1:

Heather Joshi CBE

Appendix 2 - Bibliography:

Heather Joshi CBE, Colin Kilvington, Eve Southward

Notes:

David Dixon, Sarah Nichols, Eve Southward

This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License

This publication can be cited as:

Bone, Quentin (2020) Guy Malcolm Spooner MBE (1907-1989) "An affectionate remembrance". *Occasional Publications. Marine Biological Association of the United Kingdom* (30) 41pp.

DOI: https://doi.org/10.17031/852r-sy91

Available at: http://plymsea.ac.uk/id/eprint/9153

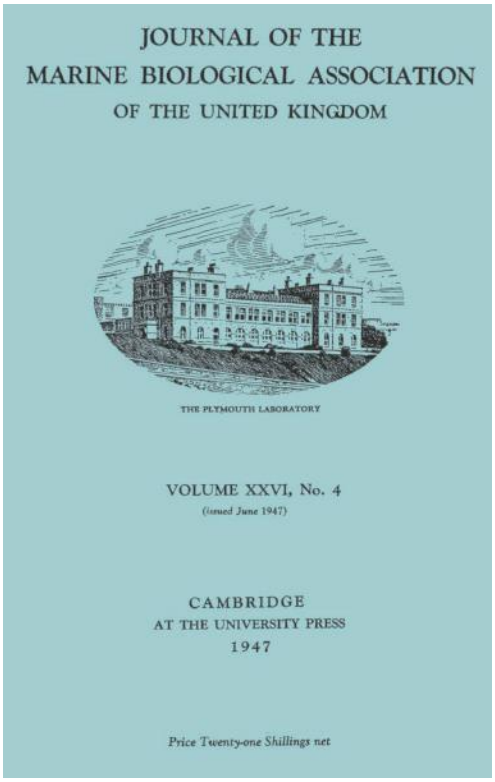
Contents

The Author

Quentin Bone was born in 1931. His research career at the MBA began as a visiting research student from Oxford University in 1957. He studied the early development of the lancelet *Amphioxus*, a small cephalochordate that can be collected alive a few miles offshore from Plymouth Sound. He was appointed to the MBA staff in 1959 and carried out most of his research at the MBA Laboratory at Plymouth. Quentin's work on anatomy and fine structure of juvenile *Amphioxus*, was soon extended to sea squirts and other lower chordates, then to the neuromuscular systems and behaviour of many species of fish and some cephalopods. The installation of the first electron microscope at the MBA in 1965 stimulated many more detailed studies, with numerous co-workers. Quentin published book chapters and edited books on the physiology and evolution of fishes. He was elected to a Fellowship of the Royal Society in 1984. Here is his personal account of the life and work of Malcolm Spooner, a long-term colleague at the MBA.

Introduction

I first met Malcolm Spooner in 1952 when I was a visiting student and he was leading an MBA Easter field class with another MBA naturalist, Peter Corbin. They took us out to sea on the Laboratory launch *Gammarus* and out on the seashore at Salcombe. Malcolm was able to identify all the animals and seaweeds brought back to the Laboratory, where in the evenings I was interested in making microscope slides of *Obelia* and *Bugula* and so forth.


JOURNAL OF THE
MARINE BIOLOGICAL ASSOCIATION
OF THE UNITED KINGDOM

THE PLYMOUTH LABORATORY

VOLUME XXVI, No. 4
(issued June 1947)

CAMBRIDGE
AT THE UNIVERSITY PRESS
1947

Price Twenty-one Shillings net

In 1963, after I joined the staff I published my first paper in the Journal of the *Marine Biological Association* and experienced Malcolm's editing skills.

Malcolm was Executive Editor of the JMBA from 1945 to 1972. He took a great deal of trouble over the papers in it, meticulously checking all references. He much improved the style of mine. I soon realised that he was an exceptional naturalist though I did not then know of his very wide knowledge and unusual mathematical ability. Until I got to know him a bit better, I thought that although approachable, he was a little remote and reserved from others in the lab., rarely coming up for coffee as he was always busy with the journal or with whatever his own research required. He did lunch in the Common Room, competing with his colleague Peter Corbin to see who could produce the longest peel from the apples in their lunch boxes.

As I later came to read through his papers in the laboratory archive, I realised that Malcolm was a much different personality to the one he showed to most others. Rather surprisingly, his daughter Heather regarded him as especially shy. Eric Denton FRS, who succeeded Eric Smith FRS as Director of the MBA, omitted Malcolm from his short memoirs of retired staff members probably because he did not know or understand him well enough.

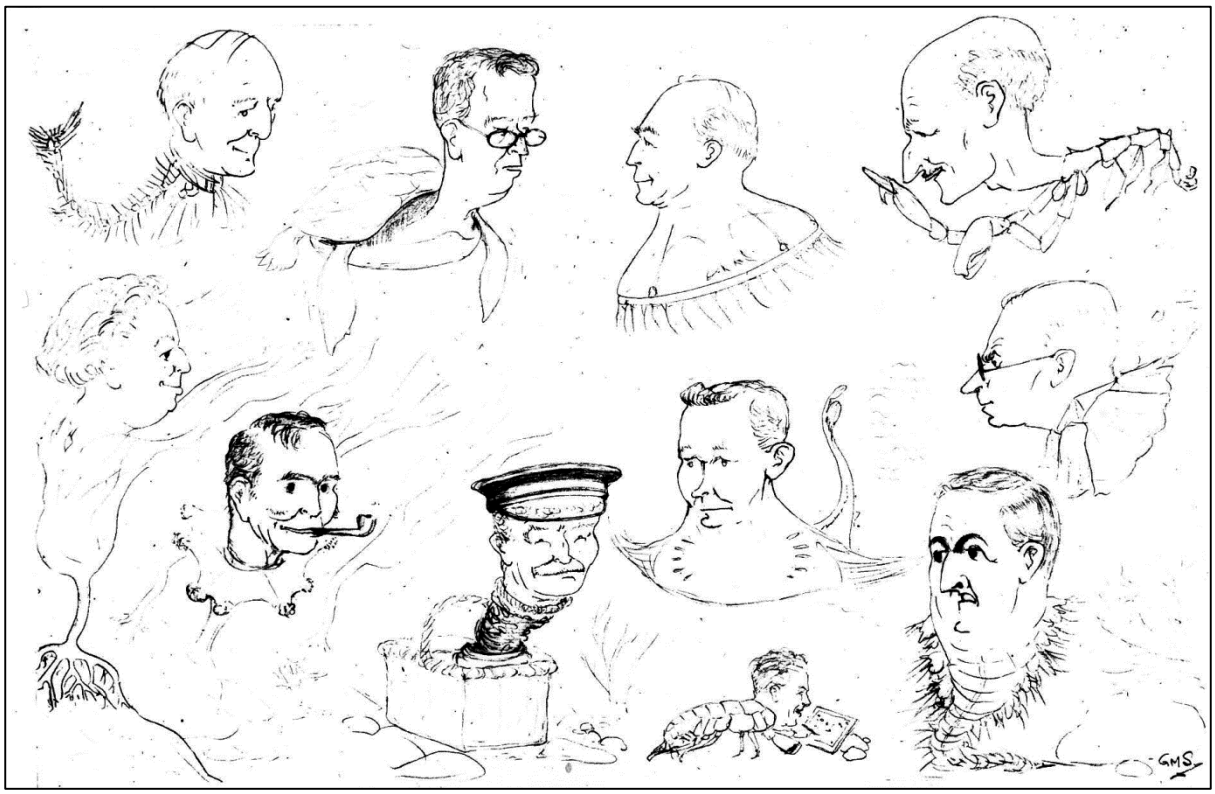


Figure 1. GMS cartoons of fellow staff members as their favourite animals or plants (the framed original is in the present director's Office). Names - Top row (left to right): E.B. Ford, H.W. Harvey, F.S. Russell, G.I. Crawford. Lower row (left to right): Mary Parke, P.G. Corbin, Bill Searle, G.A. Steven above Malcolm Spooner, L.H.N. Cooper above D.P. Wilson.

It came as a quite unexpected surprise to find that Malcolm had long been fond of writing amusing pastiches in the style of Gilbert and Sullivan, caricaturing (in a kindly way, but with excellent likenesses) of staff members and playing practical jokes with cautionary notices (sometimes in rhyme) on the doors of different rooms in the laboratory.

On the door of the darkroom chiefly used by Dr D.P. Wilson, his notice read:

"This room is meant mainly for me,
And nothing inside it is free,
The hypo's not yours,
Nor the dishes, because,
I use them. By Order DP."

Figure 2. GMS cartoon of D.P. Wilson.

In similar vein, he wrote a thank you verse to the class which had provided an excellent tea. "Your really most excellent tea atones in a certain degree, for committing the crime of taking Bill's time when he should be collecting for me". Bill Searle was the then boatman of *Gammarus.* An excellent cartoonist of other members of staff, Malcolm also wrote pithy premature epitaphs, mine was "Here was buried a single Bone. Prone. His destiny unknown". For himself he wrote "Here lies the body of M…S…. He clearly should have gone sooner". Occasionally old friends appeared with Malcolm at coffee or lunch, like the naturalist H.G. Hurrell MBE from the Devonshire Wildlife Trust (of which Malcolm was a founder member and later, President) or Miriam Rothschild FRS from his wartime code-breaking days.

When the wrecked oil tanker *Torrey Canyon* caused the large scale oil pollution incident off Devon and Cornwall in 1967 (and a little later, in Brittany), all the staff including Malcolm gave up their normal work to survey the shores and channel approaches. Malcolm and his wife Molly (a biologist) both made extensive surveys of the fauna and flora of the shore and of the effects of the efforts made to clean shores with detergent chemicals. Not only did Malcolm and Molly edit much of the report, but with their unparalleled knowledge of shore ecology, they travelled many miles around the SW shoreline and contributed seven photos to the final published report, as did their son Frank. After the Torrey Canyon book appeared (Smith, J.E., 1968), several MBA staff members were asked to visit other oil pollution incidents. I went to a spill off Santa Barbara, California, surprising the local officials by describing it as miniscule compared to the *Torrey Canyon*, and Malcolm went with his wife, Molly, to see the oil spilled from the MV '*General Colocotronis*' at Eleuthera in the Bahamas, sent by the West of England Steam Ship Owners' Protection and Indemnity Association Ltd. for whom they wrote a comprehensive report on the problems of oil spills at sea. (Spooner, M.F, and Spooner, G.M., 1968). Molly's work at Eleuthera gave her the authority to become an adviser not only to several oil companies, but also to the UK government, recognised by the award of the MBE in 1978.

Fig. 3A

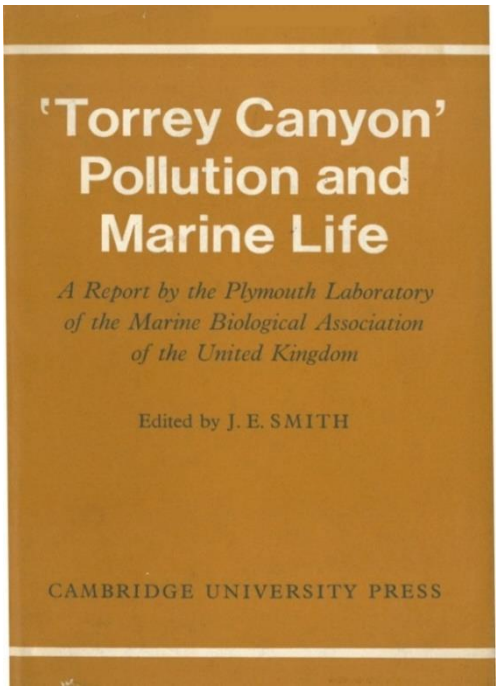
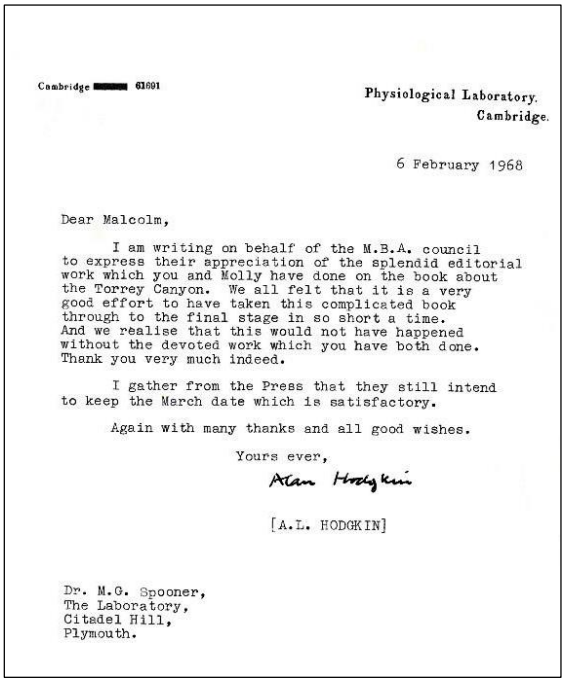


Fig. 3B



Cambridge [redacted] 61691

Physiological Laboratory.
Cambridge.

6 February 1968

Dear Malcolm,

I am writing on behalf of the M.B.A. council to express their appreciation of the splendid editorial work which you and Molly have done on the book about the Torrey Canyon. We all felt that it is a very good effort to have taken this complicated book through to the final stage in so short a time. And we realise that this would not have happened without the devoted work which you have both done. Thank you very much indeed.

I gather from the Press that they still intend to keep the March date which is satisfactory.

Again with many thanks and all good wishes.

Yours ever,

Alan Hodgkin

[A.L. HODGKIN]

Dr. M.G. Spooner,
The Laboratory,
Citadel Hill,
Plymouth.

Fig. 3C

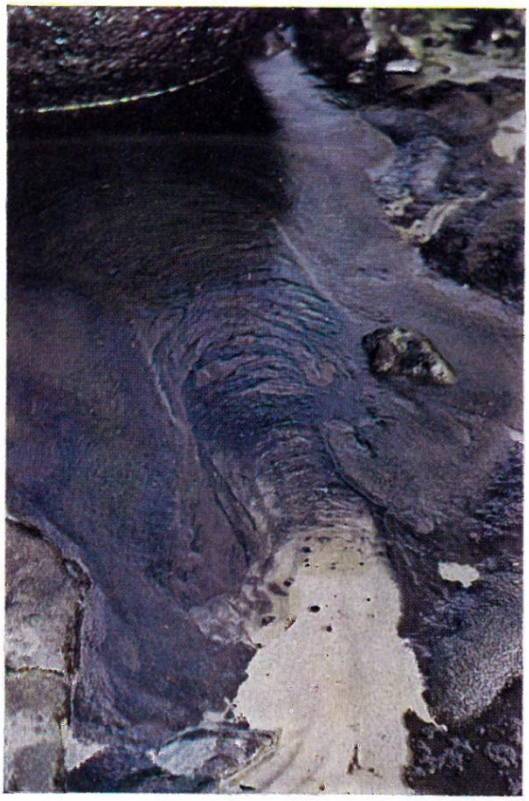


Fig. 3D

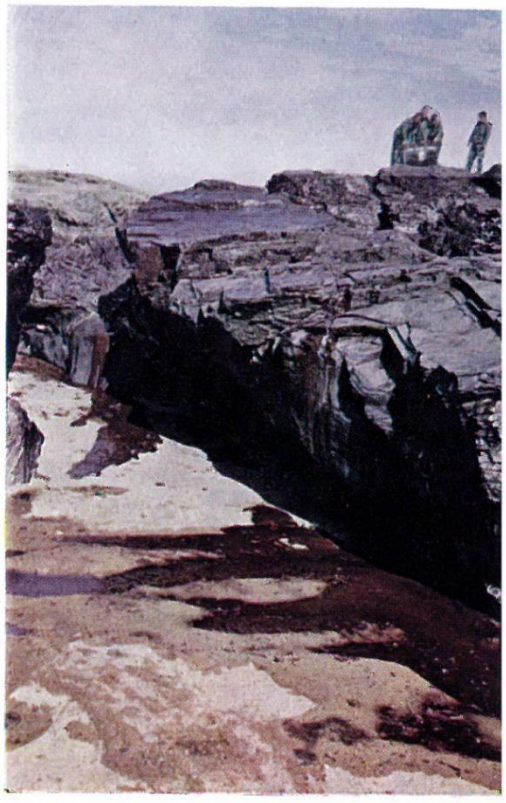


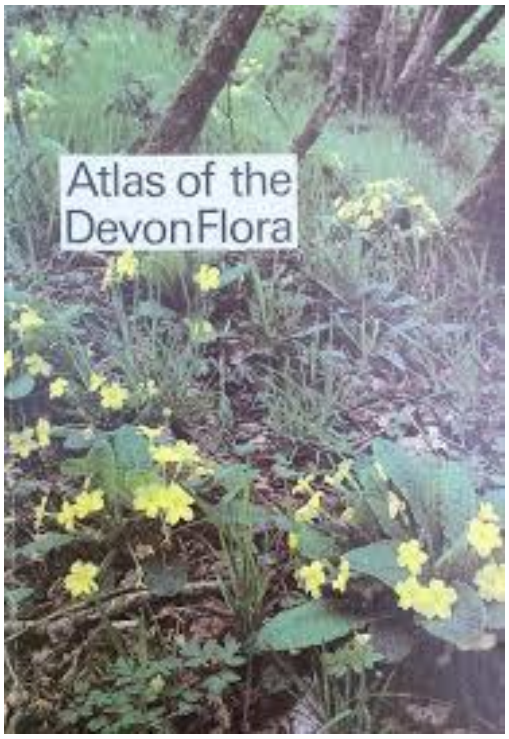
Figure 3A: Cover of "The Torrey Canyon Book". **Figure 3B:** Letter of thanks to Malcolm and Molly Spooner for their editorial work on the book, by the President of the MBA. **Figure 3C:** Plate 14A, Viscous oil between boulders at Sennen Cove. Photo Frank Spooner. **Figure 3D:** Plate 14D, Oil emulsion dripping from rocks at Booby's Bay, Constantine, photo G.M. Spooner.

Earlier, in 1952, Malcolm visited the Monaco laboratory, after Prince Rainier had asked the MBA Director Sir Frederick Russell FRS for someone to visit and advise about the laboratory set-up. Malcolm took the opportunity to swim in the sea: surprisingly warm he found. On his last trip abroad, in 1981, his daughter Heather took him by rail to Avignon, where they rented a car to visit the "Harmas", home of the legendary naturalist J.H. Fabre, at Serignan-du-Comtat, in Provence, not far from Orange.

Apart from these three post-war trips Malcolm did not travel abroad, contenting himself with entomological and botanical work in Devon and Cornwall, which he knew remarkably well. He was a natural choice, with F.S. Russell, to revise and edit a compilation of R. Hansford Worth's classic publications on Dartmoor (Worth, 1953, 1st Ed.)**,** and to organise survey works on the animals and plants of the region.

He and Molly also played a major part in the 2 km square botanical survey that led to the Atlas of the Devon Flora (Ivimey-Cook, R. B. 1984) when Malcolm drove Molly to look at the plants whilst he was partially preoccupied with the insects. This activity was known as "square-bashing".

Wistman's Wood - a high altitude copse in the middle of Dartmoor- was long noted for its stunted oaks (and rich epiphytes). Malcolm was the first to realize, in the 1960s, that the trees were growing taller. He and Molly embarked on a project to gather evidence which led to an appraisal of the effects of climatic and other changes on the ecology (Proctor, M.C.F., Spooner, G.M. and Spooner, M.F., 1980)



DARTMOOR

By the late

R. HANSFORD WORTH
M.Inst.C.E., F.G.S.

Compiled from the author's published works and edited by

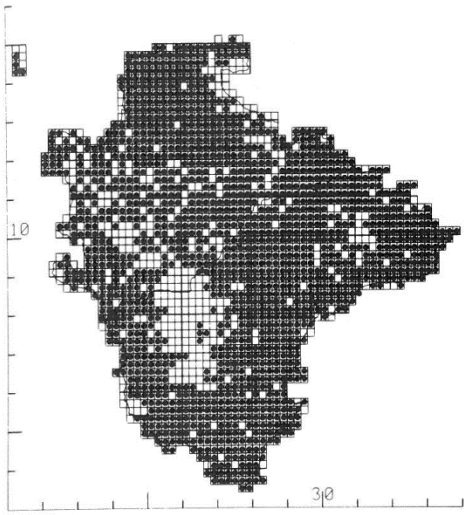
G. M. SPOONER, M.B.E., M.A.
and
F. S. RUSSELL, F.R.S.

PUBLISHED BY THE
Executors of the will of the late Richard Hansford Worth
2 Lisson Grove, Plymouth
1953

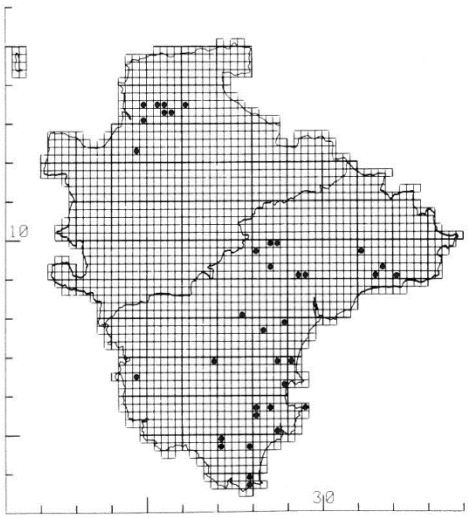
Figure 4 - Top: Front cover of *Atlas of the Devon Flora* and title page of Dartmoor (Worth, R.H., 1953)

Figure 4 - Bottom: Two distribution maps from the Atlas.

Glechoma hederacea L. Ground Ivy
(*Nepeta hederacea* (L.) Trev.)
In hedges, woods and waste places, often in the damper or more clayey soils, but also in well-drained habitats. Common and generally distributed. (1488)



Melissa officinalis L. Balm
Introduced; a native of C. & S. Europe. Widely cultivated as a pot-herb, and sometimes naturalised in the vicinity of habitations. (36)

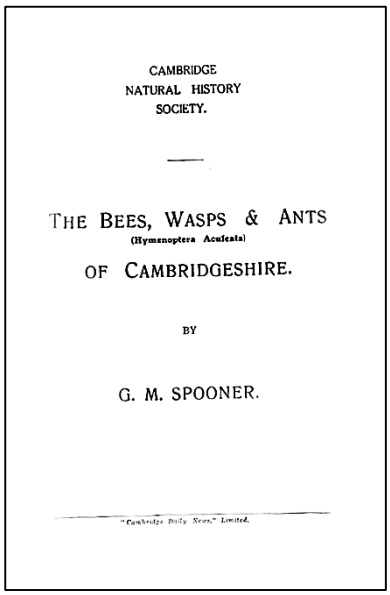


Early Years

Malcolm was born in Yelverton, Devon, 10 miles north of Plymouth, on 26 Jun 1907, and lived at his home "Five Oaks" nearby, on the edge of Crapstone until a week before his death on the 4th of June 1989. His parents were Guy Spooner, solicitor to the family firm, a department store named 'Spooners' (this became 'Debenhams' in rebuilt postwar Plymouth), and Amy (née Passmore) who came from Dorset landed gentry. His mother adored him, her only child and she loved dogs. He was brought up with Irish wolfhounds.

Figure 5. Malcolm as a child with a wolfhound.

Education started at home (1910-1914) with a German governess, who gave him a textbook of Zoology in German, still in the family's possession. He then went to Connaught House preparatory school at Weymouth. He was already a keen entomologist, subscribing to the Entomologist's Magazine and wrote careful letters to his parents from school, and from free time at his aunt's house nearby, where he enjoyed the strawberries and the variety of birds and Lepidoptera. A maths scholarship took him to Charterhouse in 1920 and then as a scholar at Christ's, Cambridge, he gained a first class in Zoology in 1929. With Philip Michelmore, a life-long friend (who later became a trustee of Paignton Zoo, founded by Herbert Whitley), he was joint secretary of the Cambridge Natural History Society. He had already published his first paper, on pine hawk moths in Suffolk (Spooner, G.M., 1919) when he was 12, and whilst at Cambridge had collected material and made observations for a check list of the Hymenoptera Aculeata of Cambridgeshire, published after he had gone down (Spooner, G.M., 1930).


CAMBRIDGE
NATURAL HISTORY
SOCIETY.

THE BEES, WASPS & ANTS
(Hymenoptera Aculeata)
OF CAMBRIDGESHIRE.

BY

G. M. SPOONER.

Figure 6. Title page of The Bees, Wasps & Ants (Hymenoptera Aculeata) of Cambridgeshire (Spooner, G.M., 1930)

He was much interested in marine biology, and his parents supported his scientific and mathematical bent, funding his sojourns at hotels in Yelverton (they had moved house to Eype Manor near Bridport in Dorset).

This enabled him to visit the Plymouth Marine Biological Laboratory (MBA) to attend Easter classes run by J.H. Orton and D.P. Wilson. For the class of 1925, he wrote an alphabetical series of verses:

"At Yelverton, gate to the moor, it is said to do nothing but pour; As zoologists found; To their cost homeward bound; Everyone one of them moist to the core."

Student Probationer

In 1931 Malcolm was appointed as a student probationer, (together with J.S. Colman), later the same year joining the MBA as permanent staff member. Colman became well known for his Wembury transect, where he observed and described the vertical zonation of the fauna and algal flora on a line down the shore which is still known as Colman's transect. He was later Director of the Port Erin Marine Biological Station of Liverpool University in the Isle of Man. Like Malcolm, he was involved in work at Bletchley during the war.

Malcolm was unusual in having an excellent grasp of statistics and experimental design, joining Mrs E.W. Sexton in her work on the genetics of *Gammarus* eye colour (Sexton, E.W., Clark, A.R. and Spooner, G.M., 1930). He had always had a keen interest in the philosophy of biology, and made many notes on philosophy in his papers that survive from this period. He was evidently even at this stage (at the age of 24) unusually thoughtful about larger problems in biological science, and quoted with approval J.H. Fabre's view (Fabre, 1915) "Ah how clearly this confession of ignorance proves that I am behind the times! I am deliberately missing a glorious opportunity of employing big words together and arriving at nothing". He had read widely, J.S. and J.B.S Haldane, Woodger, Wilson (*The Cell*), Bateson, Elliot Smith, Herrick, T.H. Morgan, Garstang, Gordon Childe amongst others.

At this time, Malcolm made a list of *ASPECTS TO FOCUS ON*:

1. The study of animal behaviour.

2. The contribution of field studies and ecology to general biological problems.

3. The contribution of physiological and other biological study to elucidation of problems in the field.

4. The trend of biological ideas and theories -- the development of biology as an organised body of knowledge.

5. The contribution of general scientific principles and methods and insight gained in other forms to the problems that arise in accepted branches e.g. Fisheries, Estuaries, Embryology.

6. The contribution of the scientific outlook and scientific ideas to ethics and its effect on the everyday habits and thought of people living today, aim is to develop up-to-date ethics.

7. The contribution of science to sociological questions: i.e. problems of heredity, eugenics, populations; health and hygiene, psychology and education the trend of civilisation and 'progress'.

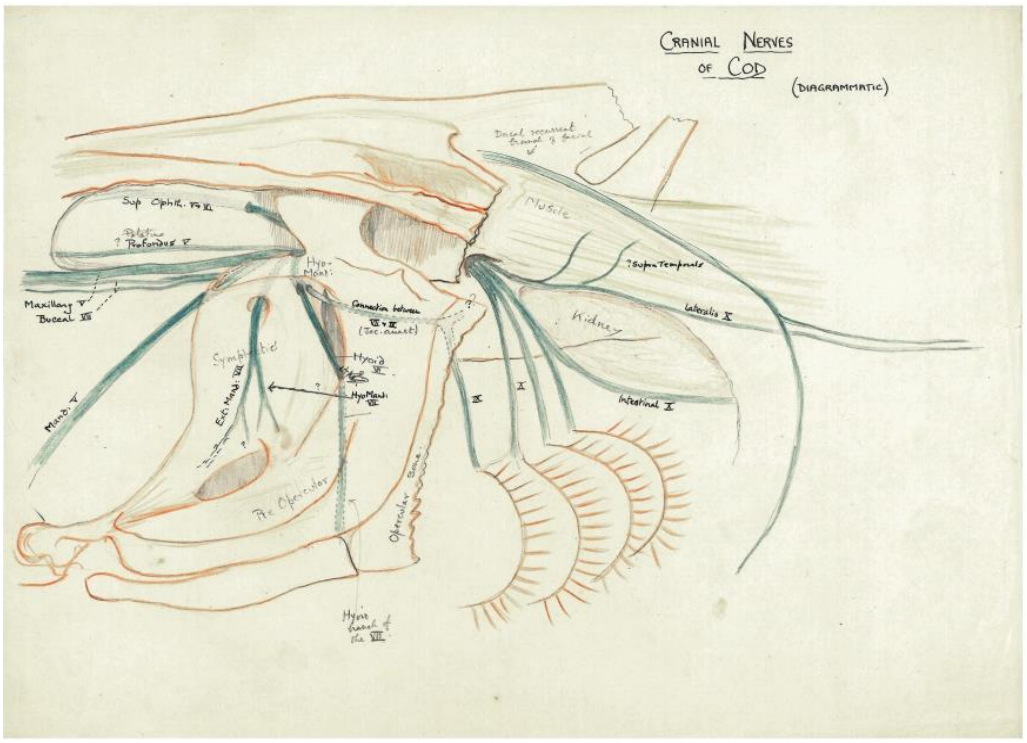


Figure 7. A dissection of the cranial nerves of Cod. Drawing by GMS.

The place given to behaviour when Malcolm joined the staff, was already indicated when he began work at the MBA, whilst still a visitor in 1929, on the nervous systems of fish, aiming to link sensory systems with higher centres, and to experiment on learning in fish. He therefore taught himself paraffin section cutting, staining sections with myelin stains (not

using specific silver impregnation methods for nerve axons). In this he followed C. Judson Herrick, the great founder editor of the *Journal of Comparative Neurology*, who worked out the structure of the brain in fish and amphibians using simple dissection methods, and also wrote philosophical articles. So far as I know, Malcolm never published any of this work, perhaps discouraged by the later work in which Herrick and Ramon y Cajal used silver impregnation methods.

In any case, Malcolm next turned to behavioural experiments in fish learning where he soon published two interesting papers (Spooner, G.M., 1931, 1937). In the first, his experiment subjects were small sea bass *Morone labrax* (L). He showed that these fish if disturbed plainly used vision to approach each other, or "school" in the small aquaria where they were studied. In his second paper, on detour learning, influenced by stickleback work by E.S. Russell (1931), he used wrasse *Ctenolabrus rupestris* (L.), and employed mirrors at the suggestion of E.J. Allen (then Director).

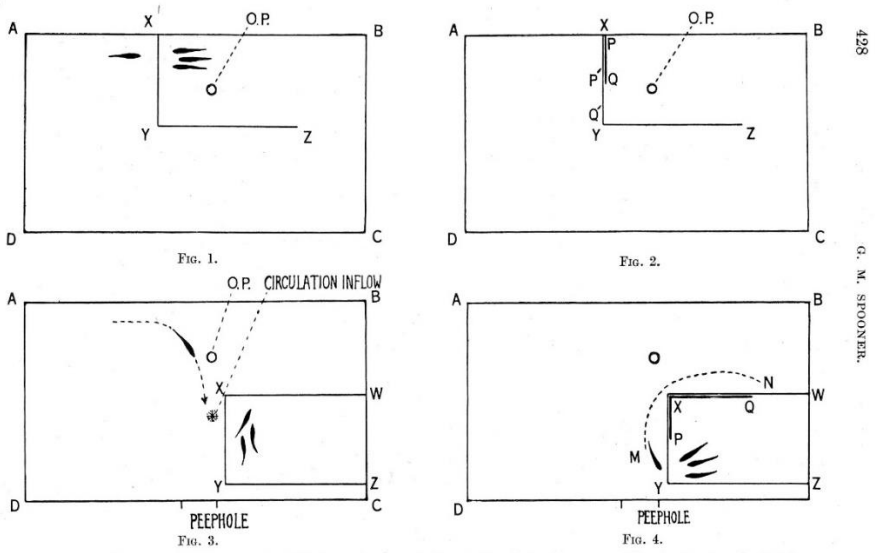


Figure 8. Diagrams of the arrangement within the tanks on particular occasions during the course of the experiments. A, B, C, D outlines of tank. W, X, Y, Z represent glass partitions standing vertically in the water. They were supported at their lower corners by bricks, which are not shown in the figures. OP the overflow pipe standing vertically in the water. From: Spooner, G.M., 1931, Figs I to 4. Original caption.

Some of Malcolm's time was taken up by teaching the MBA Easter classes, held on good low tides in March and April. He first led the classes with Mr P.G. Corbin on 17th March 1949**,** and continued to do so until 1957.

Figure 9. Malcolm with students on the shore. Photographer unknown.

Malcolm's real interest was, as he had written in 1931, working as a naturalist. He took over from Orton and Wilson the Easter class teaching, specialising on the shore fauna, especially amphipods and their relations to different environments. The last of a number of papers on amphipods, including systematic papers appeared in 1940 (Sexton, E.W. and Spooner, G.M., 1940).

Codebreaking and marriage

Early in the following year, he was recruited by the secret intelligence operation at Bletchley Park. In 1938 he had published a short entomological paper with Dr Miriam Rothschild FRS She too had joined the Bletchley group. However, Malcolm was recommended by the MBA

Director, F.S. Russell (together with J.S. Colman), because of his knowledge of German, mathematical ability and sterling character. He was first sent to London, to work on the statistical pattern of bombs dropped on London, but soon, in 1941, transferred to the Leicester outstation of Bletchley at Beaumanor, where he joined Dudley Smith (the mathematics master from Marlborough). A book of memoirs by a Wren stationed at Beaumanor (Nicholls, Joan, 2000, page 89) contains the following reference to G.M. Spooner:

> 'Mr Spooner was the first Intelligence Liaison Officer to be appointed at the Intercept Control and Beaumanor were very fortunate to have him transferred to their station for the rest of the war.'

According to the official historian (Dr Jonathan Byrne, personal communication) at Bletchley Park, Malcolm was possibly the senior GCCS liaison officer at Beaumanor. His duties would have involved keeping Beaumanor informed of Bletchley Park's collection requirements, mainly the radio frequencies to be monitored, and keeping Bletchley Park up to date on any issues at Beaumanor affecting their ability to meet collection requirements, such as personnel issues and difficulties with radio reception. He was awarded the MBE for his services there.

Malcolm had met his future wife, Molly Mare, at a Plymouth Easter class in 1936. Molly was a beautiful and able student, formerly head girl of her school. She gained a scholarship to Newnham, and after taking her degree in 1938 became a research fellow there. She visited Plymouth again to study *Upogebia,* staying in digs in Leigham St. on the Hoe, close to the laboratory, where I also stayed in 1951, probably in the same lodging house (now demolished) with Mr and Mrs Venn. As a Newnham research fellow, Molly returned again to Plymouth before the war, where she was supervised by Dr G.A. Steven and by special dispensation from the Cambridge professor Sir James Gray FRS, largely carried out her thesis "*The food value of marine detritus and its associated microorganisms*". With some further work Molly published a paper from it in the JMBA (Mare, M.F., 1942). She had already published a paper on plankton production off Plymouth and the mouth of the English Channel, where she had taken on the sampling programme begun by H.W. Harvey (Mare, M.F., 1940). During the war she worked on antifouling problems at different ports around the UK. In what Malcolm described as a "lull in codebreaking" in 1941, he dashed up to Scotland to meet Molly again and became engaged. Malcolm and Molly married in 1943 from her parents' home at Chipping Camden.

Figure 10. Malcolm and Molly on honeymoon, 1943.

Post-war radioactive tracer studies

When Malcolm returned to his post at the laboratory after being released from code-breaking, he first began work on radioactive tracers, following a request from the Atomic Energy Research Establishment at Harwell (AERE) to the Director F.S. Russell FRS for a study of possible uptake by seaweeds and marine algae, in view of their importance in the food chain. With what now seems remarkable rapidity and efficiency, Malcolm visited Harwell for a week in December 1947, returning with a Phosphorus^{32} standard solution, and a Geiger counter. He found that this device was somewhat temperamental but once a Variac transformer surmounted the variations in voltage supplied by the Plymouth electricity company it worked well. Curiously enough, I later used the same Variac to cope with voltage changes to my electrode puller caused by the dockyard crane at the Villefranche sur Mer laboratory.

Malcolm's tracer work, very fully and carefully described in the JMBA, (Spooner, G.M., 1949) provided an experimental value for the half-life of Yttrium^{90} of 2.642 days or 63.4 hrs. This estimate was close to the average given to date by various other techniques, a tribute to Malcolm's meticulous approach. It became clear too, that different seaweeds varied in tracer

uptake. Both red and green algae, and the diatom *Nitzschia* took up Y^{90} heavily, whilst Sr^{90} was taken up heavily by *Fucus serratus*, but not by red algae. As Malcolm pointed out, Yttrium had no biological significance (so far as known), but its properties and behaviour were probably typical of other rare elements in the sea, such as Mn, Co and Fe, which were of biological importance. In his tracer work he acknowledged H.W. Harvey's skilled help, and suggestions.

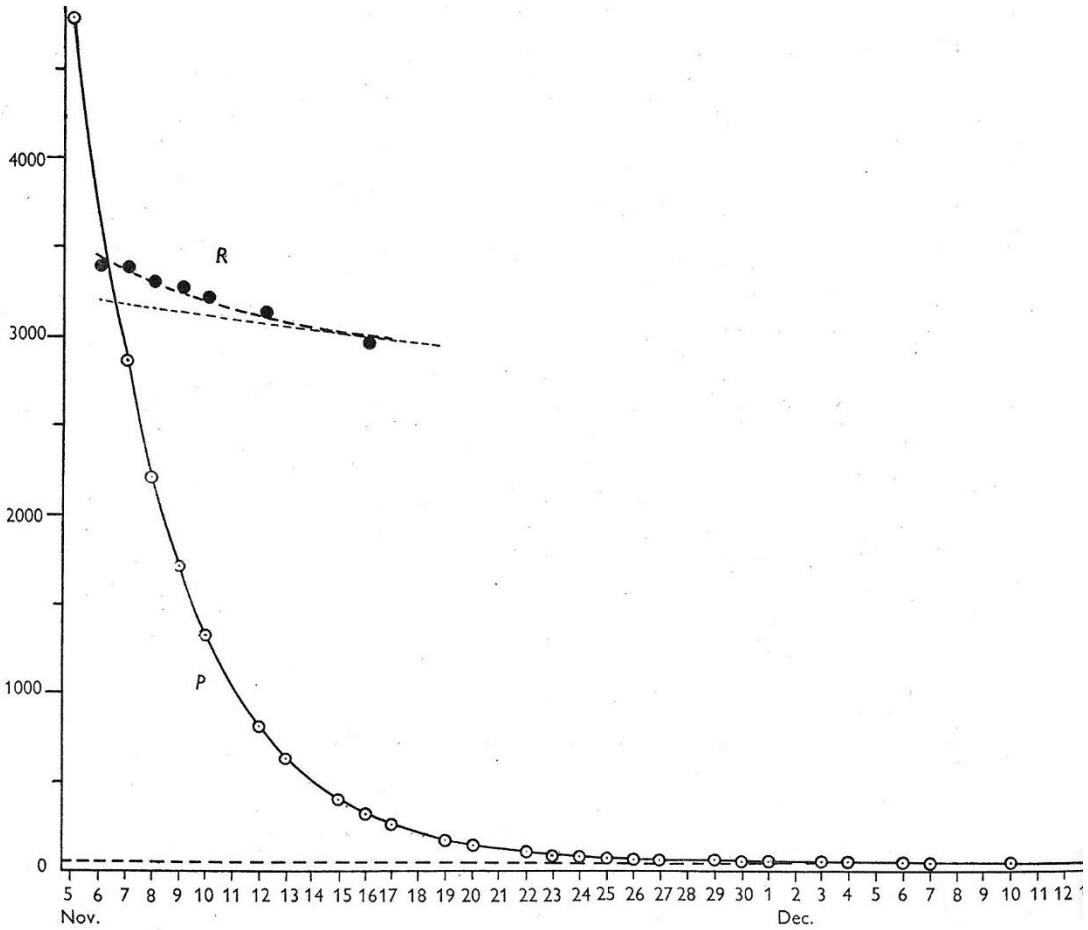


Fig. 3. 'Decay' curves of specimens of alga which had been placed in 'activated' sea water—*P*, *Rhodymenia falcata*; *R*, *Fucus serratus*. These corroborate the conclusions derived from the study of Figs. 1 and 2. *P* is seen to have acquired activity which is due almost entirely to Y^{90}. The activity of *R* is mainly due to 'active' Sr mixture, but it has a little excess Y^{90}. The units of the two curves cannot be directly compared.

Figure 11. Spooner, G.M. (1949) Figure 3, with original caption.

Post-war family life

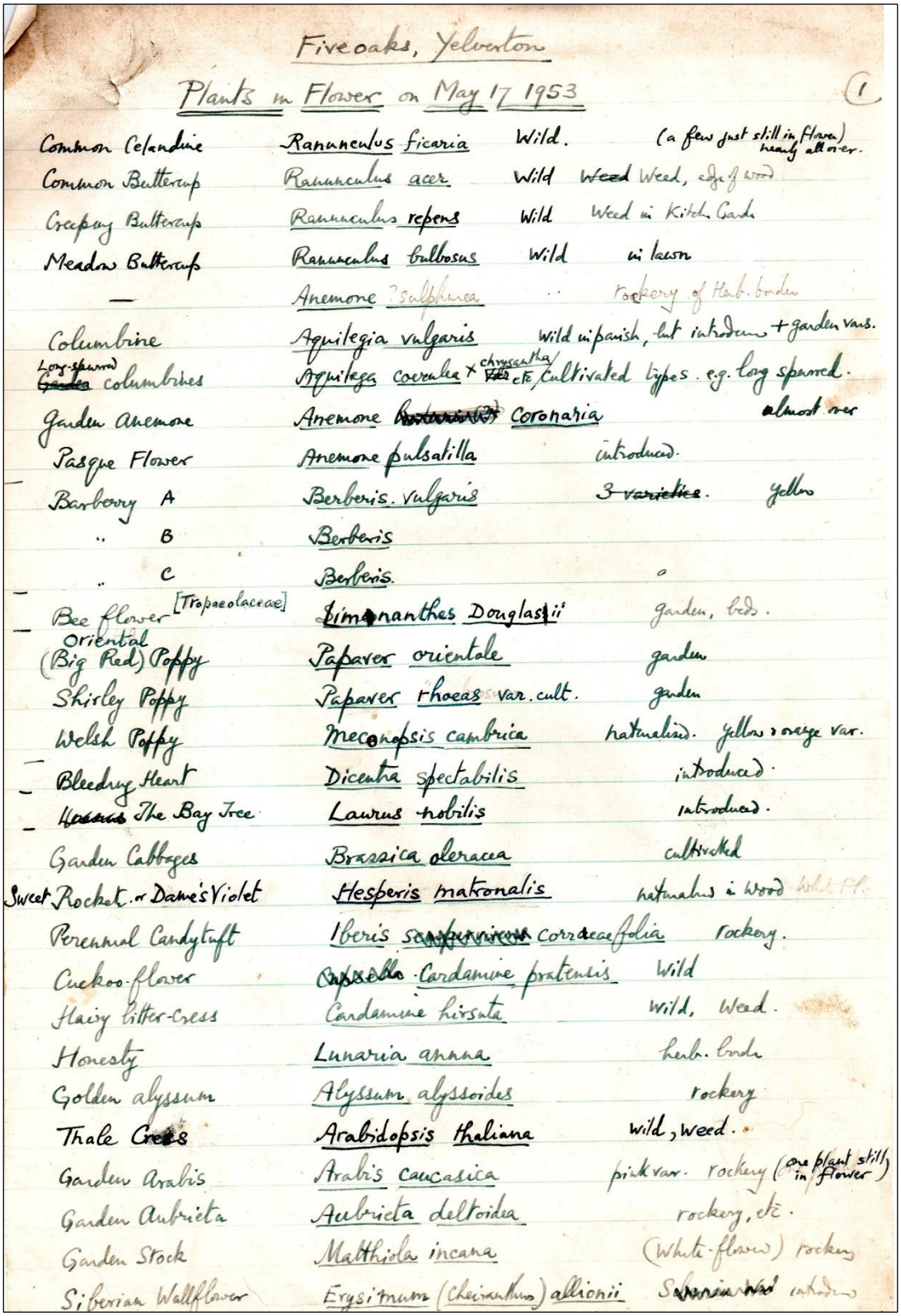
What was truly unusual was Malcolm's neglect of himself and his genuine interest in taking pains to look after others, even to passing on much of his own research findings for others to build on. For example, he had long been interested in the commensals of the marine fauna of the southwest, following Orton's work in the 1920's and 30's, and had made numerous trips to collect and study them, yet he passed on all the information in 2 meticulous notebooks to Dr M.H. Pettibone who used it (with acknowledgement) in her Contribution no. 538 from the Smithsonian Institution (Pettibone, Marian H., 1993).

Malcolm and Molly rented a terraced house in Beechwood Avenue, Yelverton. They had no car until 1951 so he travelled to the MBA by bus. Molly became fully occupied at home with the birth of Heather, 1946, and Frank (1948 -1972). Both the children were highly intelligent and Malcolm was evidently an inspirational father, starting his son Frank in photography, and encouraging independence of mind in both his children. Frank decided to travel to India to take photographs, and it was a very severe blow to his parents when he was tragically killed in a road accident there in 1972.

Figure 12. The Spooner family in 1957 (Photo G.V. Herbert, Weymouth.)

For her part, Heather, who later directed the Centre for Longitudinal Studies, and is now an Emeritus Professor at UCL, wrote an admiring alphabetical appreciation of her parents (Appendix 1). She was elected to the British Academy in 2000 and was awarded an OBE in 2002 for her work for women's studies, and, most recently (2015) a CBE.

Figure 13. Malcolm at Five Oaks (photo Heather Spooner)



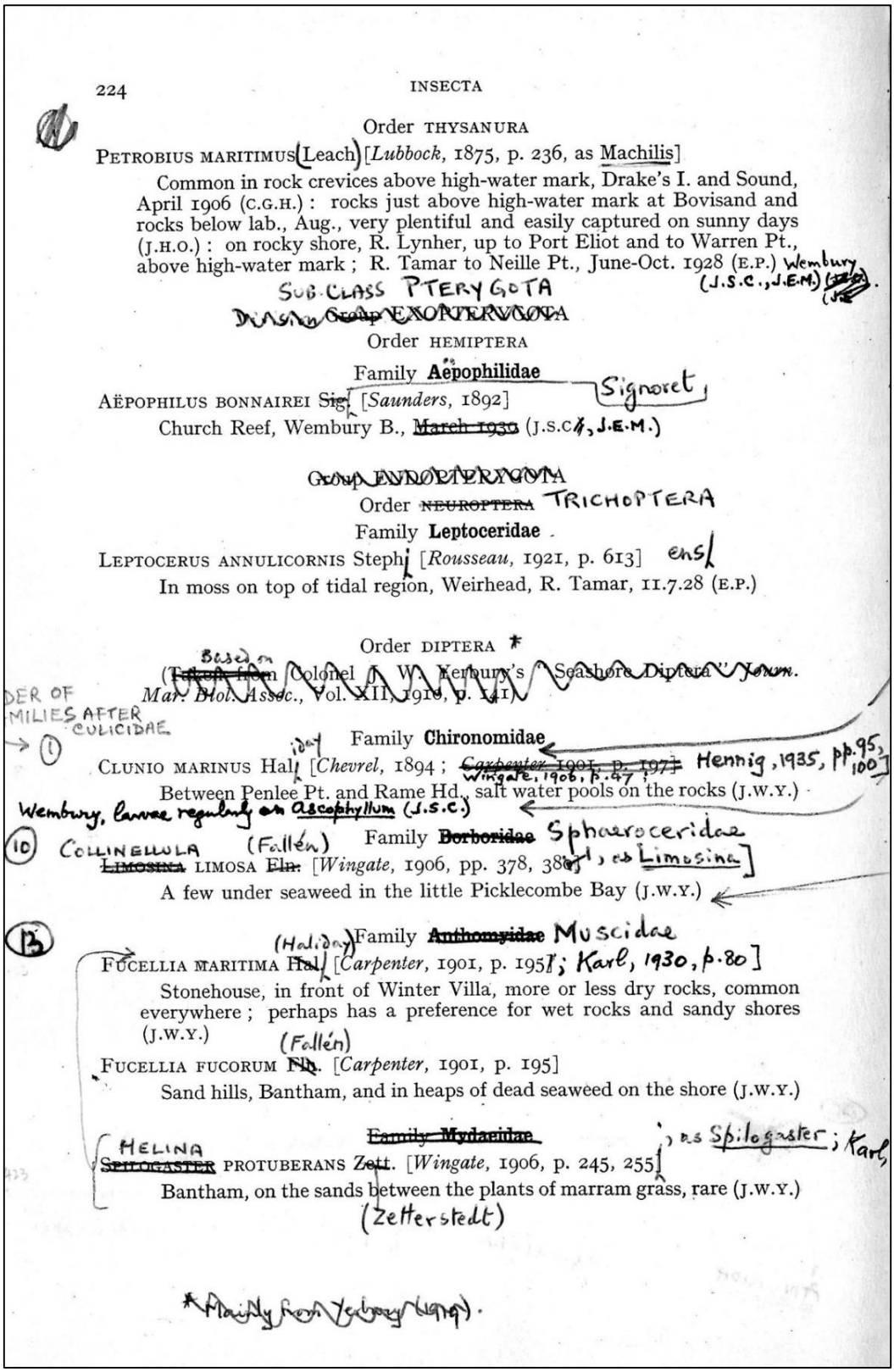
Five oaks, Yelverton

Plants in Flower on May 17 1953 (1)

Common Celandine	Ranunculus ficaria	Wild.	(a few just still in flower) nearly all over.
Common Buttercup	Ranunculus acer	Wild	Weed Weed, edge of wood
Creeping Buttercup	Ranunculus repens	Wild	Weed in Kitch. Garde
Meadow Buttercup	Ranunculus bulbosus	Wild	in lawn
—	Anemone ?sulphurea	..	rockery of Herb. border
Columbine	Aquilegia vulgaris	Wild in parish, but introduced + garden vars.	
Long-spurred columbines	Aquilegia coerulea × chrysantha etc,	cultivated types. e.g. long spurred.	
Garden Anemone	Anemone ~~hortensis~~ (?) Coronaria	almost over	
Pasque Flower	Anemone pulsatilla	introduced.	
Barberry A	Berberis. vulgaris	3 ~~varieties~~.	yellow
.. B	Berberis		
.. C	Berberis.		
Bee flower [Tropaeolaceae]	Limnanthes Douglasii	garden, beds.	
Oriental (Big Red) Poppy	Papaver orientale	garden	
Shirley Poppy	Papaver rhoeas var. cult.	garden	
Welsh Poppy	Meconopsis cambrica	naturalised. yellow + orange var.	
Bleeding Heart	Dicentra spectabilis	introduced.	
~~Hesperis~~ The Bay Tree	Laurus nobilis	introduced.	
Garden Cabbages	Brassica oleracea	cultivated	
Sweet Rocket or Dame's Violet	Hesperis matronalis	naturalised in wood Whit. Fl.	
Perennial Candytuft	Iberis ~~sempervirens~~ corraceafolia	rockery.	
Cuckoo-flower	~~Cardamine~~ Cardamine pratensis	Wild	
Hairy bitter-cress	Cardamine hirsuta	wild, Weed.	
Honesty	Lunaria annua	herb. border	
Golden alyssum	Alyssum alyssoides	rockery	
Thale Cress	Arabidopsis thaliana	wild, weed.	
Garden Arabis	Arabis caucasica	pink var. rockery (one plant still in flower)	
Garden Aubrieta	Aubrieta deltoidea	rockery, etc.	
Garden Stock	Matthiola incana	(White-flower) rockery	
Siberian Wallflower	Erysimum (Cheiranthus) allionii	Siberian var introduced	

Figure 14. A page from Malcolm's garden diary. Throughout his life, he kept a meticulous diary of the first appearance of many flowers, and of insects seen.

"Plymouth Marine Fauna" revision 1957



224 INSECTA

Order THYSANURA

PETROBIUS MARITIMUS (Leach) [*Lubbock*, 1875, p. 236, as Machilis]

Common in rock crevices above high-water mark, Drake's I. and Sound, April 1906 (C.G.H.) : rocks just above high-water mark at Bovisand and rocks below lab., Aug., very plentiful and easily captured on sunny days (J.H.O.) : on rocky shore, R. Lynher, up to Port Eliot and to Warren Pt., above high-water mark ; R. Tamar to Neille Pt., June-Oct. 1928 (E.P.) Wembury (J.S.C., J.E.M.)

SUB-CLASS PTERYGOTA

Division Group EXOPTERYGOTA

Order HEMIPTERA

Family **Aepophilidae**

AËPOPHILUS BONNAIREI Sig. [*Saunders*, 1892] Signoret,

Church Reef, Wembury B., March 1930 (J.S.C., J.E.M.)

Group ENDOPTERYGOTA

Order NEUROPTERA TRICHOPTERA

Family **Leptoceridae**

LEPTOCERUS ANNULICORNIS Steph. [*Rousseau*, 1921, p. 613] ens.

In moss on top of tidal region, Weirhead, R. Tamar, 11.7.28 (E.P.)

Order DIPTERA *

(Based on Taken from Colonel J. W. Yerbury's "Seashore Diptera" Journ. *Mar. Biol. Assoc.*, Vol. XII, 1918, p. 141)

DER OF MILIES AFTER CULICIDAE

(1) Family **Chironomidae**

CLUNIO MARINUS Hal. [*Chevrel*, 1894 ; Carpenter 1901, p. 197; Wingate, 1906, p. 47 ; Hennig, 1935, pp. 95, 100]

Between Penlee Pt. and Rame Hd., salt water pools on the rocks (J.W.Y.)

Wembury, larvae regularly on Ascophyllum (J.S.C.)

(10) COLLINELLULA (Fallén) Family **Borboridae** Sphaeroceridae

LIMOSINA LIMOSA Fln. [*Wingate*, 1906, pp. 378, 380], as Limosina]

A few under seaweed in the little Picklecombe Bay (J.W.Y.)

(13) (Haliday) Family **Anthomyidae** Muscidae

FUCELLIA MARITIMA Hal. [*Carpenter*, 1901, p. 195]; Karl, 1930, p. 80]

Stonehouse, in front of Winter Villa, more or less dry rocks, common everywhere ; perhaps has a preference for wet rocks and sandy shores (J.W.Y.)

(Fallén)

FUCELLIA FUCORUM Fln. [*Carpenter*, 1901, p. 195]

Sand hills, Bantham, and in heaps of dead seaweed on the shore (J.W.Y.)

Family **Mydaeidae**

HELINA SPILOGASTER PROTUBERANS Zett. [*Wingate*, 1906, p. 245, 255] as Spilogaster; Karl,

Bantham, on the sands between the plants of marram grass, rare (J.W.Y.)

(Zetterstedt)

* Mainly from Yerbury (1919).

Figure 15. A page with corrections, from Malcolm's copy of the 1931 Plymouth Marine Fauna.

Together with his colleague, D.P. Wilson, Malcolm spent a great deal of his research time, from 1946 to 1956, updating the 1931 edition of the *Plymouth Marine Fauna* (Marine Biological Association, 1957). Not only was he able with his unrivalled knowledge of the shore fauna and flora to write the invaluable sections on the different collecting grounds around Plymouth, but he completely revised the Amphipoda. His own annotated copy of the list remains as a remarkable example of his knowledge of many groups, and his insect section amounts to another complete revision. Anyone who has used the 1957 edition can only be impressed by the remarkable width of coverage, and the rarity of typos. The decision was made to include all older entries and as the Director, Sir Frederick Russell FRS pointed out, this has made it possible to view some of the changes that have taken place, and continue to do so. I have personally observed that *Torpedo nobiliana* Bonaparte and *Squatina squatina* (L.) two fairly common fish when I joined the laboratory in 1958 were very rarely seen after the mid 1960's.

Several of the striking discoveries reported by GMS were scarcely recognised at the time, partly because they were published without speculative suggestions and were, in at least one case, apparently work in progress to be continued later.

Hypogea and *Ingolfiella*

Malcolm wrote three papers on the fauna living interstitially in groundwater deposits, two in *Nature* and an earlier one in the JMBA. In his earlier *Nature* paper (Spooner, G.M., 1959), he stated that a study is being made of the smaller members of the fauna of marine gravels on the seabed in the Plymouth area, pointing out that with records from elsewhere, this raised an interesting zoogeographical issue. Malcolm concluded his short account by stating that his work would continue in future. He was more expansive about his views in his JMBA paper of 1960, in which he remarked:

> "The problem presented by what is already known of the distribution of the Ingolfiellidae has now become intelligible. The recorded habitats are just some of the many possible outposts, the links between which are not to be found in the seas and surface waters, but in the sub-surface waters that extend beneath both continents and oceans. In this 'hypogean' domain it is suspected that a slow spread and evolution

of species has taken place, particularly of a few specialised groups including the Ingolfiellids. On this hypothesis the best chance of finding extensions of range of known species, and the existence of others yet unknown is to explore hypogean waters. But how to investigate them below the floor of even shallow seas, let alone that of greater depths, poses a formidable oceanographic problem."

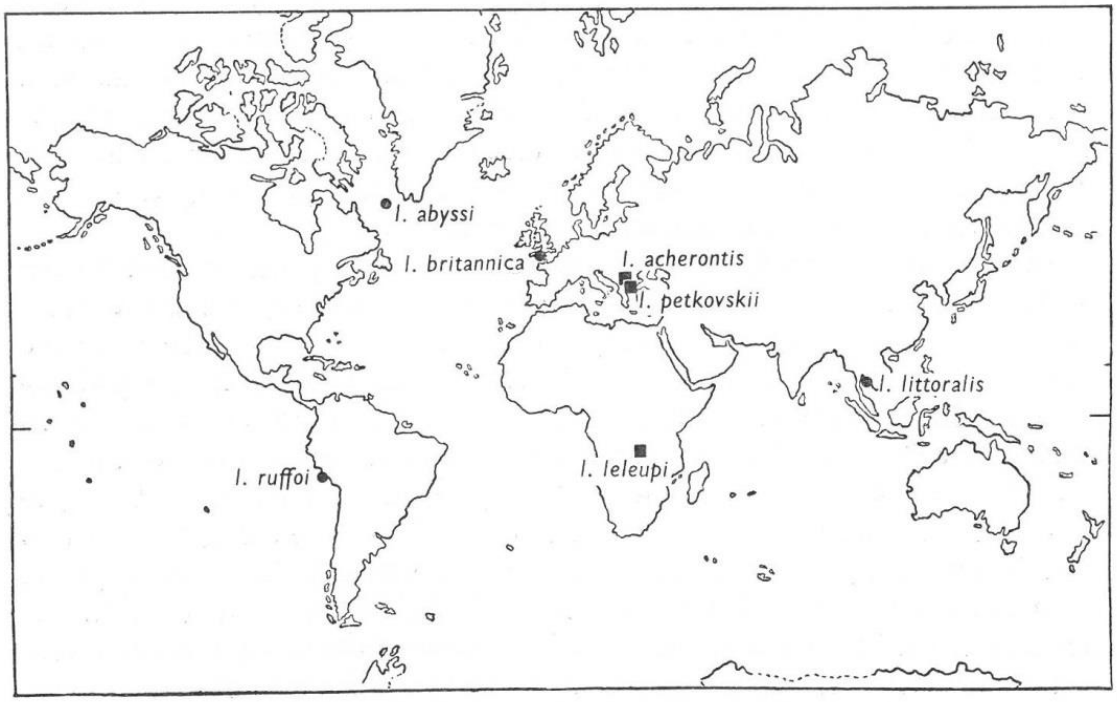
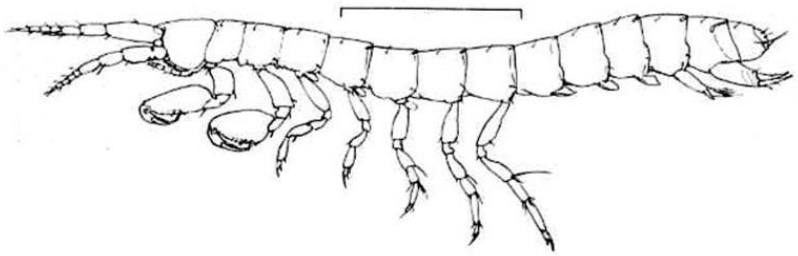


Fig. 5. Distribution of known species of *Ingolfiella* (see Table 1).
●, Marine habitats; ■, freshwater habitats.

Figure 16. Two figures from Spooner, G.M., 1960.

Top: World distribution of *Ingolfiella* spp. Original caption.

Bottom: New species *Ingolfiella britannica* Spooner, G.M., 1960, side view. Scale bar 0.5 mm



J. mar. biol. Ass. U.K. (1960) 39, 319–329
Printed in Great Britain

THE OCCURRENCE OF *INGOLFIELLA* IN THE EDDYSTONE SHELL GRAVEL, WITH DESCRIPTION OF A NEW SPECIES

BY G. M. SPOONER
The Plymouth Laboratory

(With Text-figs. 1–5)

Among the various small Malacostraca that have lately been found living interstitially in the Eddystone shell gravel (see Spooner, 1959*a*, *b*), one of the more remarkable is a new member of the genus *Ingolfiella*. This genus of small colourless blind amphipods occupies a very isolated position, and is customarily given the rank of a separate suborder. The six species hitherto recognized are listed in Table 1, and their geographic relationships shown in Fig. 5 (p. 328).

TABLE 1. OCCURRENCE OF INGOLFIELLIDS

Species	Reference	Geographical area	Habitat: Depth or height	Habitat: Substratum	No. of specimens examined	Size (length, mm)
Ingolfiella abyssi	Hansen (1903)	North Atlantic, Davis Strait	1870 fm (3420 m)	Globigerina clay	1	2·5
I. littoralis	Hansen (1903)	Gulf of Siam	1 fm (2 m)	Coral sand	1	1·5
I. acherontis	Karaman (1933), Hertzog (1935), Karaman (1954)	Jugoslavia, Skoplje	*c.* 250 m†	Subterranean ground-water	1*	2·5
I. leleupi	Ruffo (1950, 1951)	Belgian Congo, south-east	Above 1000 m†	Cave pools	44	12·5–14·5
I. petkovskii	Karaman (1957)	S. Jugoslavia, at foot of Macedonian mountains	*c.* 50 m†	Subterranean ground-water	Several	Up to 2·0
I. ruffoi	Siewing (1958)	Peru, open coast	Intertidal	Interstices of shingle	100+	1·12–1·52

* Karaman (1957) mentions more recent additional material. This has not been reported on yet.
† Above sea-level.

Of the six species, three were found in marine and three in freshwater habitats. The geographical range could scarcely be more diverse, since it includes abyssal ocean floor (and so a site that was presumably never part of a continent) and uplands on a continental shield (that may never have been under the sea), while the substratum includes both Globigerina ooze settled in quiet oceanic depths[1] and shingle of a wave-beaten shore. The temperature range, as Siewing (1958) has pointed out, is also very wide.

[1] A detailed analysis of the bottom on which *Ingolfiella abyssi* occurred is given by Boeggild (1900).

Figure 17. Spooner, G.M., 1960, first page, 319.

The map from his 1960 paper (Figure 16) showed that finds of *Ingolfiella* species ranged across all continents, as was already known for *Bathynella* spec*ies*.

Although Malcolm prefaced his second *Nature* article (Spooner, G.M., 1961) by saying that it had been realized for some time that several small 'hypogean' animals that occur sporadically in well or cave water are really generally spread in interstitial water of strata bathed by a permanent water table, it was partially due to Malcolm that this novel habitat realm became widely recognised. In this second article, Malcolm described how he had taken active steps to examine ground water near Plymouth to look for relatives of the three interstitial genera found in marine gravel there. He tried filtering water from a pipe sucking water from water bearing gravel; washing stones and gravel at the point of issue of hill-slope springs; and looking at gravels where the water table was high. All methods gave encouraging results, and so far as I am aware, were the starting point for later work in the UK on the crustaceans of groundwater, later funded by the Freshwater Biological Association, The Environment Agency, and the Esmee Fairbairn Foundation. At the same time Claude Delamare Deboutteville published "*Biologie des eaux souterraines littorales et continentales*" and sent a copy to Malcolm. It was curious that hypogea had interested two zoologists entirely independently, and that both had used special devices to collect hypogeans, mainly found in underground limestone karst formations. These were named from the wide limestone plateau that extended from Trieste to Slovenia.

The first hypogean crustacean named *Gammarus subterraneus* by Leach (1814) was found as long ago as 1814, from a well sunk in London, but until Malcolm published his work in the 1960's the field had been neglected in the UK. His work was scandalously not cited in a recent review of the history of hypogean Crustacea, nor was he mentioned in the more recent review by the Council of Europe, "Les habitats souterrains et leur protection" ISBN 92-871-2672-0 (1998). The fauna of hypogean environments is still the subject of research (e.g. Cannizzaro, A. G. et al., 2019).

Entomology and final years

Apart from his marine work, Malcolm was a very active entomologist, writing many articles after his first as a schoolboy in the *Entomologist* (Spooner, G.M., 1919). Some of his papers were short notes on occurrence of uncommon species, he added 7 species to the British list, but others, such as his key to the females of the Pompilidae, were substantial articles involving months of study. He was elected to the Royal Entomological Society in 1959. No fewer than 4 species were named after him, A flea *Rectidigitus spooneri* (M. Rothschild), a copepod, *Paramisophria spooneri* (Krishnaswamy), an amphipod, *Ampelisca spooneri* (Dauvin and Bellan-Santini), and a Psenid wasp *Mimumesa spooneri* (Richards).

Malcolm was interested in many topics involving natural history apart from insects and plants. He was a keen and knowledgeable ornithologist, first contributing notes to the Rev. F.L. Blaythwaite's "A phenological report on the first appearance of birds, insects etc. in Dorset during 1927". And later reporting a kite's nest in Devon, receiving the accolade that it must be correct as it was GMS who reported it. His historical interests extended from old place names in Devon and Cornwall to the names of animals and plants in old English. He was much interested in the early history of naturalists in the South west, and in the early vocabularies for the places and fauna and flora they studied. He made long careful lists of Early English and Anglo-Saxon names, during the 1960's on journal proofs, sometimes listing their different possible derivations, or suggesting others, all of which must have taken many hours of study

Another long term interest was archaeology and he tried to use the Dartmoor stone rows, which he walked along and mapped carefully, to determine the Neolithic "cubit". After spending much time surveying rows, he finally concluded that there was too little consistency between his observations for a definite value to be statistically significant. Though the numbers were small, Malcolm also was interested in collecting data on the widely held view amongst MBA staff that Council inspection Fridays always benefited from unusually fine weather. He recorded 11 sunny days, 1 fair and none wet between 1946-57, so confirming the general opinion of all the staff. [N.B. I have not yet added to this since I joined the staff in 1958. QB].

Malcolm kept detailed weather and natural history notebooks, from the extracts below from those from 1986-1988, show something of his detailed knowledge of the Devon flora and fauna, and his astonishing ability to recognise insects flying past his window.

"Weds July 2nd 1986. SX35. Portwrinkle a.m. Foggy! but warm. Fine array of Devonshire flowers especially along the sloping artificial bank. Much Carrot.

Broomrape, evidently associated with *Daucus**. *Hylaeus hyalinatus* pair on Carrot, 4 8' Vesperiid on Carrot. *Bombus terrestris* 2xfemales, *Melophilus trivifactus* ?? 1 seen *Corolla much more glandular than descriptions suggest

SX2870 Caradon slope. *Andrena angustior* female at *Crepis*, 2 females at J*asione*. Wbv35 1 meadow brown"

Last entry March 29th 1989

Sunny a.m., (*Bombus pratorum* ?) female the first' A lot of Marsh Marigolds.

Malcolm fell ill in 1986 with inflammation of the spleen, and was successfully diagnosed and treated at home by his friend Mr Hugh Leather who lived nearby. Many varied friends called to see him, and characteristically, he listed them. He lived on at home, until shortly before his death in hospital on June 4th, 1989. Molly lived on at Fiveoaks, with many friends, always busy painting, and organising plant sales to gain money to give to charities, chiefly the Devon Wildlife Trust. She died in 1997.

Several obituary notices appeared after Malcolm's death, including those in the Times, and in local papers, but apart from commending his role as a naturalist these did not give space to his many discoveries and interests. Perhaps the shrewdest appreciation was given by a botanist, M.C.F. Proctor, in *Watsonia*, **18**, 265, (1990), who remarked that "He was a remarkable and versatile field naturalist, and a formidably knowledgeable but unassuming and immensely likeable man".

References

(Links are given where available, to either the full text or a catalogue record to indicate if a copy is available in the National Marine Biological Library)

Bone, Q. (1963) Some observations upon the peripheral nervous system of the hagfish, *Myxine glutinosa*. *Journal of the Marine Biological Association of the United Kingdom*, **43** (1) 1-47.

Fabre, J. H. (1915) *Bramble-bees and others*. Dodd, Mead.

Cannizzaro, A. G., Balding, D., Lazo-Wasem, E. A., and Sawicki, T. R. (2019) A redescription of Hobbs' cave amphipod, *Crangonyx hobbsi* Shoemaker, 1941 (Amphipoda: Senticaudata: Crangonyctidae), including genetic sequence data for mitochondrial and nuclear genes and notes on its ecology. *Proceedings of the Biological Society of Washington*, **132**(1), 73-95.

Council of Europe (1998) Les habitats souterraines et leur protection. *Nature* and *Environment* no. **72**.

Delamare Deboutteville, C. (1960) *Biologie des eaux souterraines littorales et continentales*. Hermann Press, Paris.

Ivimey-Cook, R. B. (1984) *Atlas of the Devon Flora: flowering plants and ferns*. Devonshire Association for the Advancement of Science Literature and Art.

Leach, W. E. (1814) Crustaceology. *The Edinburgh Encyclopaedia* ***7***, [*Gammarus subterraneus* is on pp. 402-403.]

Mare, M. F. (1940) Plankton production off Plymouth and the mouth of the English Channel in 1939. *Journal of the Marine Biological Association of the United Kingdom*, **24** (2). 461-482.

Mare, M. F. (1942) A study of a marine benthic community with special reference to the micro-organisms. *Journal of the Marine Biological Association of the United Kingdom*, **25** (3). 517-554.

Marine Biological Association (1957) *Plymouth Marine Fauna*, Marine Biological Association of the United Kingdom. 3rd ed.

Nicholls, Joan (2000) *England Needs You: The Story of Beaumanor Y Station, World War Two* ISBN-10: 0953818608]

Pettibone, Marian H. 1993. "Scaled polychaetes (Polynoidae) associated with ophiuroids and other invertebrates and review of species referred to *Malmgrenia* McIntosh and replaced by *Malmgreniella* Hartman, with descriptions of new taxa. *Smithsonian Contributions to Zoology.* ***538,*** *1-92.*

Proctor, M. C. F. (1990) GUY MALCOLM SPOONER (1907-1989). *Watsonia*, **18**, 245.

Proctor, M. C. F., Spooner, G. M. and Spooner, M. F. (1980) Changes in Wistman's Wood, Dartmoor: Photographic and other Evidence. *Transactions of the Devonshire Association for the Advancement of Science*, **112**, 43-79

Russell, E. S. (1931) Detour Experiments with Sticklebacks (*Gasterosteus aculeatus* L.). *Journal of Experimental Biology*, **8**(1), 393-410.

Sexton, E. W., Clark, A. R. and Spooner, G. M. (1930) Some New Eye-Colour Changes in *Gammarus chevreuxi* Sexton. Part I. *Journal of the Marine Biological Association of the United Kingdom*, **17** (1), 189-218.

Sexton, E. W. and Spooner, G. M. (1940) An account of *Marinogammarus* (Schellenberg) gen. nov. (Amphipoda), with a description of a new species, *M.pirloti*. *Journal of the Marine Biological Association of the United Kingdom*, **24**(2), 633-682.

Smith, J. E. (1968) *Torrey Canyon Pollution and Marine Life*. Cambridge University Press.

Spooner, G. M. (1919) *Hyloicus pinastri* in Suffok. *The Entomologist*, 52, 116-117.

Spooner, G. M. (1930) *The Bees, Wasps and Ants of Cambridgeshire*. Cambridge Natural History Society.

Spooner, G. M. (1931) Some observations on schooling in fish. *Journal of the Marine Biological Association of the United Kingdom*, **17**(2), 421-448.

Spooner, G. M. (1937) The learning of detours by wrasse (*Ctenolabrus rupestris* L.). *Journal of the Marine Biological Association of the United Kingdom,* **21** (2). 497-570.

Spooner, G. M. (1948) (Communicated by O.W. Richards) The British species of Psenine wasps (Hymenoptera: Sphecidae). *Transactions of the Royal Entomological Society of London*, *99*(3), 129-172.

Spooner, G. M. (1949) Observations on the absorption of radioactive strontium and yttrium by marine algae. *Journal of the Marine Biological Association of the United Kingdom*, **28** (3). 587-625.

Spooner, G. M. (1959) New members of the British marine bottom fauna. *Nature*, no. 4676, **183**, 1695.

Spooner, G. M. (1960) The occurrence of *Ingolfiella* in the Eddystone shell gravel, with description of a new species. *Journal of the Marine Biological Association of the United Kingdom*, **39** (2). 319-329.

Spooner, G. M. (1961) *Bathynella* and other interstitial crustaceans in southern England. *Nature*, **190**, 104-105.

Spooner, M. F. and Spooner, G. M. (1968) *The problem of oil spills at sea, illustrated by the stranding of the General Colocotronis on Eleuthera, Bahamas, March 7th 1968.* Plymouth. 21pp.

Worth, R. H. (1953) *Dartmoor*. 523p. Plymouth. Executors of the will of the late Richard Hansford Worth. 2nd edition. Eds. F.S. Russell and G.M. Spooner.

Appendix 1: An Alphabet about the Spooners

An Alphabet about the Spooners

	Malcolm	**Both Molly and Malcolm**	**Molly**
A	Archaeologist; Argyle supporter	Authors	Artist; anti-fouler
B	Birdwatcher; benign	Biologists; botanists	Busy; benevolent
C	Code breaker; caricaturist; cricketer	Conservationists	Consultant; carer
D	Draughtsman; Dartmoor planner	Dendrologists	Dress-maker; down-to-earth; daughter
E	Entomologist; editor	Ecologists	Eminent; energetic eccentric
F	Fan of Gilbert and Sullivan; father		Forthright; flower arranger
G	Geologist; golfer; genealogist	Gardeners; grandparents	Generous
H	Hymenopterist; humourist; husband	Handsome; hospitable	Head girl; housewife
I	Interstitialist; intellectual; instructor	Intelligent; informative	Instructive
J	Joker		Jersey designer
K		Knowledgeable; kind-hearted	Knitter
L	Lepidopterist; limerick writer	Liberals	Landscape painter
M	Mathematician;	Marine biologists, MBEs	Mother
N		Naturalists	
O	Ornithologist; only son		Oil pollution expert
P	Polymath; poet; philatelist; patient	Photographers	PhD; practical
Q	Quiet; quick-with-a-quip		Quick-with-a-meal
R	Record keeper; rhymester; ruralist	Researchers	Re-cycler
S	Statistician; shy	Scientists	'Slick expert'; singer
T	Taxonomist		Teacher
U	Unassuming		Unconventional
V		Versatile	Vigorous
W	Wordsmith; wicket keeper; witty;	Wildlife conservationists	Water-colourist, wife, widow
X	Ximenes crossword solver		Xtian
Y	Yelverton native		Yelverton parishioner
Z		Zoologist	

By their daughter Heather 2014

Appendix 2: Malcolm Spooner: Bibliography 1919-1987

1919 - 1929

Spooner, G.M. (1919) *Hyloicus pinastri* in Suffolk. *The Entomologist*, **52**, 116-117.

Spooner, G.M. (1928) Fauna of Weymouth Bay as indicated by jetsam on Weymouth beach. In: *A phenological report on the first appearances of birds, insects, etc. in Dorset during 1927, with other notes on local natural* history. Edited by the Rev. F.L. Blathwayt. The Friary Press, Dorchester 1929.

Spooner, G.M. (1928) Notes on *Mellinus arvensis* Linn*. The Entomologist's Monthly Magazine*, **64**, 64-65.

Spooner, G.M. (1929) *Halictus angusticeps* Perk. in Dorset. *The Entomologist's Monthly Magazine,* **65**, 233-234.

Spooner, G.M. (1929) *Leionotus tomentosus* Thoms. in Dorset. *The Entomologist's Monthly Magazine*, **65**, 262.

Spooner, G.M. (1929) *Lipara similis* Schn. at Wicken Fen. *The Entomologist's Monthly Magazine,* **65**, 42-43.

1930 - 1939

Sexton, E.W., Clark, A.R. and Spooner, G.M. (1930) Some new eye-colour changes in *Gammarus chevreuxi* Sexton. Part 1. *Journal of the Marine Biological Association of the United Kingdom*, **17**, 189-218.

Spooner, G.M. (1930) The bees, wasps and ants (Hymenoptera Aculeata) of Cambridgeshire. *Cambridge Natural History Society.* pp. 1-19.

Spooner, G.M. (1931) Some observations on schooling in fish. *Journal of the Marine Biological Association of the United Kingdom*, **17**, 421- 448.

Sexton, E.W., Clark, A.R. and Spooner, G.M. (1932) Some new eye-colour changes in *Gammarus chevreuxi* Sexton. Part 2. *Journal of the Marine Biological Association of the United Kingdom*, **18**, 307-336.

Spooner, G.M. (1932) An experiment on breeding wild pairs of *Gammarus chevreuxi* at a high temperature, with an account of two new recessive types of red eye. *Journal of the Marine Biological Association of the United Kingdom*, **18**, 337-353.

Spooner, G.M. (1932) Notes on *Sapyga clavicornis* L. *The Entomologist's Monthly Magazine,* **68**, 115-116.

Spooner, G.M. (1932) Notes on British Species of *Priocnemis* related to *P. pusillus* Schdt. *The Entomologist's Monthly Magazine,* **68,** 121-127

Spooner, G.M. (1933) Hymenoptera Aculeata from Bedfordshire. *The Entomologist's Monthly Magazine,* **69**, 203.

Spooner, G.M. (1933) Observations on the reactions of marine plankton to light. *Journal of the Marine Biological Association of the United Kingdom the United Kingdom*, **19**, 385-438.

Spooner, G.M. (1934) A new locality for *Sapyga clavicornis. The Entomologist's Monthly Magazine,* **70**, 263-264.

Spooner, G.M. (1934) Hymenoptera Aculeata from Braunton Burrows. *The Entomologist's Monthly Magazine ,* **70**, 277-279.

Spooner, G.M. (1934) Ejected dipterous prey of *Metacrabro quadricinctus* F. (Hymenoptera Crabronidae). *Journal of the Society for British Entomology*, **1**, 48-53.

Spooner, G.M. (1934) Observations on *Odynerus (Lionotus) herrichi* Sauss. in Dorset. *The Entomologist's Monthly Magazine,* **70**, 46-54.

Hurrell, H.G. and Spooner, G.M. (1934) Starling roosts in the west. *Western Morning News and Daily Gazette,* Feb 27th 1934, 1 page.

Sexton, E.W., Clark, A.R. and Spooner, G.M. (1935) First appearance of red-eye in the wild *Gammarus chevreuxi* Sexton. *Nature*, *London,* **136**, 836.

Spooner, G.M. (1935) Aculeate Hymenoptera from Northants and Wood Walton Fen, Hunts. *The Entomologist's Monthly Magazine,* **71**, 138-140.

Spooner, G.M. (1937) The learning of detours by wrasse (*Ctenolabrus rupestris* L.). *Journal of the Marine Biological Association of the United Kingdom,* **21**, 497-570.

Spooner, G.M. (1937) *Psammochares rufus* Haupt. A wasp new to Britain. *The Entomologist's Monthly Magazine,* **73**, 220-224.

Spooner, G.M. (1937) Hymenoptera Aculeata from the Northwest Highlands. *Scottish Naturalist*, **223**, 15-23.

Spooner, G.M. (1938) A new species of the sphecid genus *Diodontus* occurring in Britain. *The Entomologist's Monthly Magazine ,* **74**, 249-255.

Spooner, G.M. (1938) Hymenoptera Aculeata, in *Victoria County History of Cambridgeshire and the Isle of Ely*. 1, 178-179.

Hartley, P.H.T. and Spooner, G.M. (1938) The ecology of the Tamar Estuary I. Introduction. *Journal of the Marine Biological Association of the United Kingdom, **22**, 501-508.*

Rothschild, M. and Spooner, G.M. (1938) Note on *Polygonia c-album* (L.) 1758, at Ashton Wold, Northamptonshire and the record of a notable aberration. *Novitates Zoologicae*, **41**, 125.

1940 - 1949

Sexton, E.W. and Spooner, G.M. (1940) An account of *Marinogammarus* (Schellenberg) gen. nov. (Amphipoda), with a description of a new species, *M. pirloti*. *Journal of the Marine Biological Association of the United Kingdom*, **24**, 633-682.

Spooner, G.M. and Moore, H.B. (1940) The ecology of the Tamar estuary VI. An account of the macrofauna of the intertidal muds. *Journal of the Marine Biological Association of the United Kingdom*, **24**, 283-330.

Spooner, G.M. (1941) The characters of the female and distribution in Britain of *Pompilus trivialis* Dahlb., *unguicularis* Thoms. and *wesmaeli* Thoms. (Hymenoptera: Pompilidae). *Transactions of the Society for British Entomology*, **7**, pt 4, 85-122.

Spooner, G.M. (1942) The Hymenoptera Aculeata in the Dale collection. 1. Introduction and notes on the families Mutillidae to Pompilidae. *The Entomologist's Monthly Magazine ,* **78**, 5-12, 63-70.

Spooner, G.M. (1942) *Priocnemis cordivalvatus* Haupt (Hymenoptera Pompilidae) in Bedfordshire. *The Entomologist's Monthly Magazine ,* **78**, 91-94.

Spooner, G.M. (1943) The Hymenoptera Aculeata in the Dale collection. 2. Notes on the Bethylidae, Chrysididae, Vespidae and Sphecidae. *The Entomologist's Monthly Magazine,* **79**, 64-77.

Spooner, G.M. (1946) *Nomada errans* Lep. A bee new to Britain. *The Entomologist's Monthly Magazine,* **82**, 105-106.

Spooner, G.M. (1946) Hymenoptera Aculeata from Charnwood forest, Leicestershire. *The Entomologist's Monthly Magazine,* **82**, 25-29.

Spooner, G.M. (1947) Two additions to the Hymenoptera Aculeata of South Devon. *The Entomologist's Monthly Magazine,* **83**, 151.

Spooner, G.M. (1947) New records of ants (Hymenoptera, Formicidae) from South Devon. *The Entomologist's Monthly Magazine,* **83**, 136.

Spooner, G.M. (1947) The distribution of *Gammarus* species in estuaries. Part1. *Journal of the Marine Biological Association of the United Kingdom*, **27**, 1-52.

Spooner, G.M. (1947) Further extension of the range of *Crepidula fornicata* (L.). *Journal of Conchology,* **22**, 243.

Spooner, G.M. (1948) The British species of Psenine wasps (Hymenoptera: Sphecidae). *Transactions of the Royal Entomological Society of London*, **99**, 129-172.

Spooner, G.M. (1949) Observations on the absorption of radioactive strontium and yttrium by marine algae. *Journal of the Marine Biological Association of the United Kingdom,* **28**, 587-625.

1950 - 1959

Spooner, G.M. (1950) Notes on the Plymouth Marine Fauna. Amphipoda. *Journal of the Marine Biological Association of the United Kingdom,* **29**, 247-253.

Spooner, G.M. (1950) Notes on the Plymouth Marine Fauna. Additional records of *Laminaria ochroleuca* De la Pylaie. *Journal of the Marine Biological Association of the United Kingdom*, **29**, 261-262.

Spooner, G.M. (1951) Distribution of British freshwater Amphipoda. *Nature*, *London,* **167**, 530.

Spooner, G.M. (1951) On *Gammarus zaddachi oceanicus* Segerstrale. *Journal of the Marine Biological Association of the United Kingdom*, **30**, 129-147.

Spooner, G.M. (1952) A new subterranean gammarid (Crustacea) from Britain. *Proceedings of the Zoological Society of London,* **121**, 851-859.

Spooner, G.M. and Russell, F.S., editors. (1953) "Dartmoor" by R. Hansford Worth, compiled from Worth's published works (1888-1950). Re-issued 1967, by David & Charles, Newton Abbot, as "Worth's Dartmoor", with new introduction by G.M. Spooner, xlviii + 522 pp.

Spooner, G.M. (1954) Notes on species of *Omalus* (Hym., Chrysididae) including one new to the British list. *The Entomologist's Monthly Magazine,* **90**, 135-138.

Spooner, G.M. and Birkett Dixon, C.E. (1955) *Note on the Antiquities situated in the Forestry Commission ground at Fernworthy and Bellever. Appendix 1* (Report - non-specific). SDV351955.

Marine Biological Association of the U.K. (1957) Plymouth Marine Fauna, 3rd edition. Edited by Wilson, D.P. and Spooner, G.M., with sections by G.M. Spooner.

Spooner, G.M. (1959) New Members of the British Marine Bottom Fauna. *Nature, London,* **183**, 1695-1696.

Spooner, G.M. (1959) The occurrence of *Microcharon* in the Plymouth offshore bottom fauna, with description of a new species. *Journal of the Marine Biological Association of the United Kingdom*, **38**, 57-63.

1960 - 1969

Spooner, G.M. (1960) Obituary of Mrs E.W. Sexton, F.L.S. (1868 - 1959). *Journal of the Marine Biological Association of the United Kingdom*, **39**,1-4.

Spooner, G.M. (1960) The occurrence of *Ingolfiella* in the Eddystone shell gravel, with description of a new species. *Journal of the Marine Biological Association of the United Kingdom*, **39**, 319-329.

Spooner, G.M. (1961) *Bathynella* and other interstitial Crustacea in southern England. *Nature*, London, **190**, 104-105.

Naylor, E., Slinn, D.J. and Spooner, G.M. (1961) Observations on the British species of *Jaera* (Isopoda, Asellota). *Journal of the Marine Biological Association of the United Kingdom,* **41**, 817- 828.

Holme, N.A, and Spooner, G.M. (1961) Bottom fauna off the Dorset coast. *Proceedings of the Dorset Natural History and Archaeological Society,* **82**, 77-82.

Spooner, G.M. (1962) Further records of Cambridgeshire bees and wasps. *The Entomologist's Monthly Magazine,* **98**, 17.

Spooner, G.M. (1963) On the causes of the decline of *Maculinea arion* L. (Lep. Lycaenidae) in Britain. *The Entomologist*, **96**, 199-210.

Holme N.A. and Spooner, G.M. (1968) Oil pollution at Bovisand , an interim report. *Journal of the Devon Trust for Nature Conservation*, no**. 16**, 665-667.

Spooner, M.F. and Spooner, G.M. (1968) The problem of oil spills at sea, illustrated by the stranding of the *General Colocotronis* on Eleuthera, Bahamas March 7th, 1968. *Report for The West of England Steam Shipowners' Protection and Indemnity Association Ltd*. pp.16.

Spooner, G.M. (1968) Records of the genus *Myopa* (Dipt., Conopidae). *The Entomologist's Monthly Magazine,* **104**, 129.

Spooner, G.M. (1968) Records of three uncommon *Formica* species (Hym., Formicidae). *The Entomologist's Monthly Magazine,* **104**, 130-131.

Spooner, G.M. (1968) *Strongylognathus testaceus* Schenck. (Hym., Formicidae) in South Devon. *The Entomologist's Monthly Magazine*, **104**, 251.

1970 - 1979

Spooner, G.M. (1972) *Strongylognathus, Solenopsis* and *Anergates* (Hym., Formicidae) in South Devon. *The Entomologist's Monthly Magazine*, **108**, 11.

Spooner, G.M. (1972) An overlooked British mason-wasp *Ancistrocerus claripennis* (Thomson) (Hym.,Vespidae). *The Entomologist's Monthly Magazine*, **108**, 181-185.

Spooner, G.M. (1974) *Labigastera forcipata* (MG) (Dipt., Tachinidae) new to Britain. *The Entomologist's Monthly Magazine*, **110**, 85.

Spooner, G.M. (1974) *Ocyptera brassicaria* (F.) (Dipt., Tachinidae) in West Cornwall. *The Entomologist's Monthly Magazine*, **110**, 181.

Spooner, G.M. (1979) Presidential Address. A Glimpse of the Devon Environment. *Report and Transactions of the Devonshire Association*, **111**, 1-11.

1980 - 1987

Proctor, M.C.F., Spooner, G.M. and Spooner, M.F. (1980) Changes in Wistman's Wood, Dartmoor: photographic and other evidence. *Report and Transactions of the Devonshire Association*, **112**, 43-79.

Spooner, G.M. and Spooner, M.F. (1981) Obituary of H.G.Hurrell, M.A., MBE, J.P. *Report and Transactions of the Devonshire Association,* **113**, 211-216.

Spooner, G.M. and Holme, N.A. (1986) Studies on the marine life of the Helford River, 2. Results of a survey in September 1949. *Cornish Biological Records*, **10**, 1-29.

Spooner, G.M., Howarth, J.V., Southward, A.J. and Roberts, E.K. (1987) Centenary of the Journal. *Journal of the Marine Biological Association of the United Kingdom*, **67**, 463-464.

Else, G.R. and Spooner, G.M. (1987) Hymenoptera Aculeata. In: Shirt, D.B. (ed.) *British Red Data Books: 2 Insects*. Nature Conservancy Council, Peterborough.

Notes

The Spooner Papers, donated by the Spooner family, are located in the National Marine Biological Library Archive collection. Please contact the Library staff for details: nmbl@mba.ac.uk

Molly Spooner's (nee Mare) thesis, 1939, is available in the National Marine Biological Library:

> The Significance of Micro-Organisms and Organic Detritus in the Food Chains of a Marine Benthic Community

To search for other Spooner publications please click on this link to the NMBL Library catalogue:

> NMBL Search

Or click on these links to lists of Malcom Spooner's and Molly Spooner's publications held in the NMBL:

> Guy Malcolm Spooner List
>
> Molly Spooner's (nee Mare) List

Re: Appendix II - G.M. Spooner Bibliography:

David Dixon comments: "His birding activities were prodigious and in the early (pre-war) years of the Devon Bird Watchers and Preservation Society, now Devon Birds, he was one of the main contributors, along with O. D. Hunt and H.G. Hurrell, of shore bird records from the then Wembury Point to Wembury Village shore reserve belonging to the DBWPS, starting 1928."