

Catalogue of the papers and correspondence of

CHARLES SUTHERLAND ELTON FRS

(1900 - 1991)

Compiled by Peter Harper and Timothy E. Powell

Deposited in the Department of Western Manuscripts,
Bodleian Library, Oxford

NCUACS 39/1/93

All rights reserved
University of Bath
1993

ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on the correspondence and papers

of

CHARLES SUTHERLAND ELTON

(1900-1991)

animal ecologist

in the Department of Western Manuscripts,

Bodleian Library, Oxford

Reproduced for the National Cataloguing Unit for

the Archives of Contemporary Scientists

(NCUACS 39/1/93)

by

The Royal Commission on Historical Manuscripts

Quality House, Quality Court, Chancery Lane,

London WC2A 1HP

1993

All rights reserved

**No 3/93
NRA 35910**

The work of the National Cataloguing Unit for the Archives of Contemporary Scientists, and the production of this catalogue, are made possible by the support of the following societies and organisations:

The Biochemical Society

The British Library

British Petroleum plc

The Geological Society

The Institute of Physics

The Royal Society

The Royal Society of Chemistry

The Society of Chemical Industry

The Wellcome Trust

LIST OF CONTENTS

	Items	Page
GENERAL INTRODUCTION		3
SECTION A	BIOGRAPHICAL AND AUTOBIOGRAPHICAL	A.1-A.85
		6
SECTION B	NOTEBOOKS	B.1-B.38
		15
SECTION C	EXPEDITIONS	C.1-C.57
		18
SECTION D	FIELDWORK AND SURVEYS	D.1-D.18
		24
SECTION E	CORRESPONDENCE	E.1-E.78
		26
INDEX OF CORRESPONDENTS		34

GENERAL INTRODUCTION

PROVENANCE

The papers were received from C.S. Elton's widow, Mrs E.J. Elton, in March 1992.

OUTLINE OF THE CAREER OF C.S. ELTON

Charles Sutherland Elton, the father of English animal ecology, was born in Manchester and educated at Liverpool College and New College, Oxford graduating with first class honours in zoology in 1922. Elton's interest in natural history was inspired by his elder brother Geoffrey and he devoted his career at Oxford University to turning natural history into the science of ecology, applying the scientific method to studying the lives of animals in their natural habitats and interrelationships with their surroundings. In 1921, while still an undergraduate, he acted as assistant to Julian Huxley on an Oxford University expedition to Spitsbergen, making an ecological survey of local animal life, a project he continued on three subsequent Arctic expeditions in 1923, 1924 and 1930. In 1927 he published his classic work *Animal Ecology*, outlining important principles of ecological studies such as food chains and the food cycle, the size of food, niches and the 'pyramid of numbers'. His Arctic experience led to a biological consultancy with the Hudson's Bay Company, 1926-1931 which enabled him to study fluctuations in the populations of furbearing animals, and this in turn led to research on the fluctuations in Britain's mouse and vole populations. In 1932 Elton established his Bureau of Animal Population at Oxford which became a centre for the collection of data on variations in animal numbers and a research institute in terrestrial ecology. In the same year he became the founding editor of the *Journal of Animal Ecology*. In 1936 Oxford University appointed him Reader in Animal Ecology and Corpus Christi College elected him a Senior Research Fellow.

During the Second World War the Bureau was assigned to protect Britain's vital foodstuffs by finding effective methods of controlling rats, mice and rabbits, under the Agricultural Research Council. After the war Elton embarked on a comprehensive survey of animals and their interrelationships on Oxford University's Wytham estate, 1945-1967. On retirement he studied species diversity in tropical rainforest during several trips to tropical America. His interests in conservation and problems in the management of nature reserves led to much advisory work for the Nature Conservancy which was established in 1949. Among his later books were *The Ecology of Invasions by Animals and Plants* (1958) and *The Pattern of Animal Communities* (1966).

Elton received many honours and awards in recognition of his contribution to ecology. He was elected to the Fellowship of the Royal Society in 1953 and awarded the Society's Darwin Medal in 1970. He received the American Ecological Society's Eminent Ecologist Award (the first for a

General Introduction

non-American) in 1961, the Linnean Society's Gold Medal in 1967, the John and Alice Tyler Award for Ecology in 1976 and the Edward W. Browning Award for Conserving the Environment in 1977. Elton died in Oxford in 1991.

DESCRIPTION OF THE PAPERS

The papers are presented in the order given in the List of Contents. There is important biographical and autobiographical material, records of Elton's expeditions, fieldwork and surveys including photographs, his natural history notebooks, and correspondence.

Section A, Biographical and autobiographical, brings together records of Elton's career, honours and awards, publications, family letters, and the autobiographical writings of his later years and the material he assembled in connection with this activity. Amongst this assembled material are records relating to the Bureau of Animal Population, Elton's university teaching and his work for the Nature Conservancy.

Section B, Notebooks, presents a sequence of natural history notebooks which Elton kept for a period of over seventy years, 1914-1987. There are also two 'precis' notebooks from the 1920s used for notes on the literature, meetings of scientific societies, miscellaneous information and ideas, and the 'Corpus Christi Garden Book' which Elton kept, 1938-1945, during his Garden Mastership of the College.

Section C, Expeditions, presents records, principally diaries and photographs, of the four Arctic expeditions, 1921-1930, three visits to the Mols laboratory and nature reserve, Femmøller, Denmark, 1953-1962, and four visits to tropical America, 1965-1973. In respect of the 1921 Spitsbergen expedition, for which no contemporary diary of Elton's survives, Elton prepared, 1978-1983, a general account with photographs, in three volumes (ring-binders), specifically with archival deposit in mind.

Section D, Fieldwork and surveys, presents records of an ecological survey at Leckford, Hampshire, 1938-1939, and of ash bark beetle (*Hylesinus fraxini*) research carried out in Wytham Woods, Oxfordshire and at the Bureau of Animal Population, Oxford, 1948-1964. There are also seven photograph albums covering a wide range of locations and habitats including Leckford, Wytham Woods and Nature Conservancy areas, 1927-1963.

Section E, Correspondence, includes a small number of substantial exchanges with colleagues who began their research careers with Elton in Oxford, notably R.S. Miller, 1951-1989, and C. Overgaard Nielsen, 1952-1967. The exchange with P.W. Crowcroft, 1980-1990, is less substantial but relates to Crowcroft's history of the Bureau of Animal Population, *Elton's Ecologists* (Chicago University Press, 1991). Also of interest is Elton's correspondence with the Russian ecologist N.I. Kalabukhov

General Introduction

and colleagues with whom he established contact in connection with the later work on the ecology of the tropical rainforest.

There is also an index of correspondents.

ACKNOWLEDGEMENTS

We are very grateful to Mrs Elton for making the papers available, and for advice and encouragement.

P. Harper
T.E. Powell

Bath 1993

SECTION A BIOGRAPHICAL AND AUTOBIOGRAPHICAL A.1-A.85

- A.1-A.13 CAREER, HONOURS AND AWARDS
- A.14-A.23 FAMILY
- A.24-A.31 PUBLICATIONS
- A.32-A.82 AUTOBIOGRAPHICAL
- A.83-A.85 OBITUARIES AND TRIBUTES

CAREER, HONOURS AND AWARDS

- A.1 Commission 2nd Lieutenant Land Forces (Temporary) in Corps of Royal Engineers, 23 May 1919.
- A.2 Hudson's Bay Company consultancy, 1926-31. See also A.80.
- A.3 Murchison Grant, Royal Geographical Society, June 1929.
Fellowship, New York Zoological Society, 1931.
- A.4 Senior Research Fellowship, Corpus Christi College, Oxford, 1936, 1951.
Honorary Fellowship, Corpus Christi College, Oxford, 1967.
- A.5-A.7 Oxford University
Appointments, reappointments, stipend, reports on periods of office.
- A.5 1936.
1940-49.
- A.6 1950-59.
- A.7 1962-63.
- A.8 Request from the Admiralty for information about means of preventing and alleviating mosquito bites in north Norway, with Elton's reply, May 1940.

Biographical and Autobiographical

- A.9 Honorary Life Membership, Chicago Academy of Sciences, 1946.
Honorary Membership, The Wildlife Society, 1949.
Fellowship of the Royal Society, 1953.
- A.10 Honorary Membership, British Ecological Society, 1960.
Eminent Ecologist Award, Ecological Society of America, 1961.
Linnean Gold Medal, Linnean Society of London, 1967.
Foreign Honorary Membership, American Academy of Sciences, 1968.
- A.11 Honorary Membership, American Society of Mammalogists, 1973.
Tyler Ecology Award, 1976.
- A.12 Edward W. Browning Award, 1977.
- A.13 Certificate of Appreciation, Ecological Society of America, 1982.
Honorary Fellowship, Institute of Biology, 1983.
Honorary Membership, American Society of Zoologists, 1985.

FAMILY

See also A.39, A.78.

- A.14 Oliver Elton, father. 1861-1945.
Four letters from Elton to his father, 1924, 1925, 1926 and 1938.
- A.15 Letitia Maynard Elton, mother. 1865-1948.
Five letters from Elton to his mother, 1925 (two), 1926 (three).
- A.16-A.22 Geoffrey York Elton, brother. 1893-1927.
- A.16 Diary, 1910.

Biographical and Autobiographical

- A.17 'The Pikelet'. Issue number one of magazine produced by G.Y. Elton, August 1912.

Manuscript cover with contents list and manuscript paginated 8-15 'The Enemy's Country by Alumnunculus (G.Y.E.)'. The other contributions, as enumerated in the contents list, do not survive.
- A.18 Notebook used by G.Y. Elton for notes on fish culture, latest bibliographical reference, 1920.
- A.19 Five letters from CSE to GYE, 1913-14, and two letters from GYE to CSE, 1913 and 1915.

The letters are annotated by Elton, probably in connection with the preparation of his autobiography.
- A.20 Four letters from GYE in the army to CSE, 1917-18.
- A.21 Three letters from GYE to CSE, ?1920-21.
- A.22 'GYE Fish Letters Screened and most discarded'. Contents of folder so inscribed: letter from the Trent Fish Culture Co. Ltd. to GYE, 1920 and four letters from GYE to CSE, 1920 and nd.
- A.23 Soft cover 'work book' used by Elton for abstracts of family letters.

PUBLICATIONS

- A.24 Bibliographies
- A.25 *Animal ecology*, Sidgwick & Jackson, London, 1927.

Contract only.
- A.26 *Voles, mice and lemmings*, Clarendon Press Oxford, 1942.

Correspondence with Wheldon & Wesley Limited re facsimile reprint (1965), 1960, 1965, 1980, 1987.

Biographical and Autobiographical

- A.27, A.28 *The ecology of invasions by animals and plants*, Methuen, London, 1958.
- A.27 Contract.
Correspondence re Polish edition, 1965, 1967.
- A.28 Proof copy. Inscribed 'CE copy (corrected)' and 'Proof copy, used to assemble extensions and analogous new data. But it does not have the Plates nor Index'.
- A.29, A.30 *Pattern of Animal Communities*, Methuen, London, 1966.
- A.29 Contract.
- A.30 Reviews.
Letters from readers.
- A.31 Chapman & Hall Ltd.
Sales and royalties, 1975-89.

AUTOBIOGRAPHICAL

- A.32 'Small Adventures. A private record of the early life of Charles Sutherland Elton'.

45pp typescript notes which Elton began in 1955. The notes incorporate some family letters not subsequently kept by Elton.

Folder also includes:

'The Noble Art', 5pp typescript, with letter congratulating Elton on his boxing for Oxford University, 4 December 1922.

'How are the Mice?', 5pp typescript. Elton explains that before the Second World War this was the only intelligent question about his work any Corpus Christi College don ever asked him. During the war the question was: how are the rats?

Biographical and Autobiographical

A.33-A.82 Notes, drafts and background material for the autobiographical 'Life and Scientific Work' Elton was preparing towards the end of his life.

His purpose is explained in a draft preface at A.36:

These notes are primarily intended as material for the construction of my obituary by the Royal Society, and secondly as a record for my family. They are not an autobiography as such, though they include more information than a scientific biography would require. Some of the information can be regarded as background, and some as being of possible interest to future explorers of the history of ecological research.

The material was found in Elton's binders and folders and where available his titles and inscriptions are reproduced in the catalogue entries.

A.33, A.34 'Life'. Contents of Elton's binder divided into two for ease of reference: narratives of family background, school, military training, student days, notes on his books, geological, meteorological and ecological interests, and on his brother Geoffrey, photographs.

A.35 'Life 1921'. Contents of ring binder so inscribed: manuscript account of 1921 Spitsbergen expedition, photographs.

A.36 'Introduction and general'.

A.37 'Introduction (Materials)'.

Includes Elton's speech at 'Inaugural meeting of the Bureau of Animal Population in its new quarters ... , 18 April, 1947'.

A.38 'Photos for memoirs'.

A.39 'Abstracts from family letters (relevant to Life History)'.

A.40-A.42 'Chronology data'. 3 folders.

Include correspondence and obituaries of colleagues.

A.43-A.46 'Department of Zoological Field Studies. Bureau of Animal Population'.

A.43, A.44 Diary of events, 1946-67. 2 folders.

Biographical and Autobiographical

- A.45 Lists of research staff, etc.
- A.46 Correspondence, 1976, 1980.
- A.47 'The First 30 Years of the Bureau of Animal Population'.
The 'substance of a talk' on the history of the Bureau given by Elton, 14 February 1962. 17pp duplicated typescript privately circulated.
- A.48 Samples of punched data cards designed by Elton and used at the Bureau.
- A.49-A.52 'Teaching'.
Lecture notes for Elton's courses on ecology and faunal history, various dates 1957-58 to 'last' ecology and faunal history [1966-67]. 4 folders.
- A.53 'Animal Disease Squilleries Influenza'.
Includes correspondence.
- A.54 'Community Ecology'.
- A.55 'Ecological surveys & community structure'.
Includes abstract of talk by Elton 'What is an important species?' given at Glasgow University, May 1967, and correspondence.
- A.56 'Evolution'.
- A.57 'Geology (polygons)'.
- A.58 'Matamek'.
Abstract of papers and discussions, Matamek conference on biological cycles held at Matamek Factory, Canadian Labrador, 23 July 1931.
The abstracts etc were prepared for publication by Elton and include his own contributions.
- A.59 'Misc. Ecological'.

Biographical and Autobiographical

- A.59A Miscellaneous ecological.
- A.60-A.62 'Nature Conservancy'.
- A.60 British Ecological Society report on Nature Conservation and Nature Reserves, October 1943.
- A.61 Correspondence and papers *re* establishment of Nature Conservancy, 1946, 1948-49.

Includes invitation to serve, 9 December 1948, and text of Royal Charter.
- A.62 Correspondence 1956, 1964-68.
- A.63 'Nature Conservancy matters'.

Correspondence and papers *re* destruction of roadside meadow-scrub community, toxic chemicals, and Wychwood, Oxfordshire, 1954, 1960-61, etc.
- A.64 'Nature Conservancy Oxon-Berks Striping Survey'.

Correspondence and papers, 1950, 1952-53, 1956, 1962.
- A.65-A.68 'N.C. Memoranda & Reports'.

Wartime reports and memoranda on nature preservation in postwar reconstruction, etc., 1941-43, 1945.
- A.65 1941.
- A.66 1942.
- A.67 1943.
- A.68 1945.
- A.69 'Non-Spitsbergen'.

re yellow ants at Wytham Park, and *re* Combe Halt.

Biographical and Autobiographical

- A.70 'Park Town Jungle'.
Elton's notes on the flora of Park Town, Oxford, prepared January 1974 and revised 1981.
- A.71 'Population Cycles'.
- A.72 'Rachel Carson'.
Includes correspondence and obituary.
- A.73 'Sledge-dog/arctic fox epidemics'.
One letter only, 1984.
- A.74 'Tropics'.
- A.75 'Vole work'.
Includes letter from D.H. Chitty, 1989.
- A.76 'Wartime Rat/Mouse Work'.
Includes letter from Port of London Health Authority, 1946.
- A.77 'Wytham Survey'.
- A.78-A.82 Miscellaneous notes *re* family, Oxford Department, colleagues, expeditions, Hudson's Bay Company, natural history notebooks, etc.
5 folders.
Include a little correspondence.

OBITUARIES AND TRIBUTES

- A.83 Obituaries, 1991.

Biographical and Autobiographical

- A.84 Reprint of A.C. Hardy's article 'Charles Elton' from 15th edition
Encyclopaedia Britannica, 1974.
- Article by novelist Maggie Gee on 'Green Book Fortnight', *Observer*, 16
April 1989, referring to the work of Elton and his wife Joy, the poet, E.J.
Scovell.
- A.85 Special Elton festschrift number of *Journal of Animal Ecology*, February
1968.

SECTION B

NOTEBOOKS

B.1-B.38

See also A.81

B.1-B.34

Natural History notebooks.

B.1

'April-July 1914'.

B.2

'Llanengan Aug. 11 - Sep. 1914'.

B.3

'Marlborough, and Savenake Forest, 27 July - Aug - Sept 10 1915'.

B.4

'Sept 1915 to May 1918'.

B.5

'1919-1923' (Including Hollybush 1922)'.

B.6

'June 1923 - April 1925'.

B.7

'Hollybush July 1925'.

B.8

'June 1942 - 21 May 1944'. No.1 of Elton's numbered series of natural history notebooks.

B.9

'22 May 1944 - 14 Oct. 1945'. No.2.

B.10

'1 Nov. 1945 - 30 Oct. 1946'. No.3.

B.11

'Nov. 1946 - 2 June 1948'. No.4.

The first entry is for 17 March 1947.

B.12

'June 1948 - 21 Aug 1949'. No.5.

B.13

'31 Aug. 1949 - 19 Aug. 1951'. No.6.

B.14

'31 Aug. 1951 - 18 Aug. 1953'. No.7.

Notebooks

- B.15 '20 Aug. 1953 - 2 July 1954'. No.8.
- B.16 '6 July 1954 - 8 Dec. 1955'. No.9.
- B.17 '12 Jan. 1956 - 9 October 1956'. No.10.
- B.18 '21 October 1956 - 16 April 1958'. No.11.
- B.19 '17 April 1958 - 29 Oct. 1958'. No.12.
- B.20 '2 November 1958 - 8 Sept. 1959'. No.13.
- B.21 '12 September 1959 - 16 June 1960'. No.14.
- B.22 '19 June 1960 - 9 Feb. 1961'. No.15.
- B.23 '26 Feb. 1961 - 12 Oct. 1961'. No.16.
- B.24 '26 Oct. 1961 - 22 April 1963'. No.17.
- B.25 '26 April 1963 - 3 April 1965'. No.18.
- B.26 '9 April 1965 - 5 June 1970'. No.19.
- B.27 '7 June 1970 - 5 Jan 1975'. No.20
The first entry is for 12 June 1970.
- B.28 '18 January 1975 - 22 June 1978'. No.21.
- B.29 '25 June 1978 - 8 October 1982'. No.22.
- B.30 '20 October 1982 - 11 August 1983'. No.23.
- B.31 '13 Aug. 1983 - 22 July 1984'. No.24.
- B.32 '24 July 1984 - 30 Sept 1985'. No.25.

Notebooks

- B.33 '23 October 1985 - December 1987. No.26.
- B.34 'Spring 2. Wytham Woods', 11 April 1944 - 21 August 1947.
- B.35, B.36 Precip Notebooks.
- B.35 No.2. 'Dec. 1921 to Dec. 1922'. Notes on the literature and meetings including Oxford Entomological Society and British Association.
- B.36 No.4. In use c.1923-25. Notes on the literature, meetings including Oxford Bird Society, Ecological Society and British Association, miscellaneous information and ideas.
- B.37 'Corpus Christi College [Oxford] Garden Book', February 1938 - August 1945.
- Elton resigned from the Garden Mastership on 23 May 1945 but agreed to continue until 1 October 1945.
- A carbon of Elton's letter of resignation is enclosed at the front of the notebook.
- B.38 Early notebook, probably predating B.1, containing drawings and watercolours of fungi.

SECTION C EXPEDITIONS C.1-C.57

C.1-C.6 Spitsbergen 1921.

C.1-C.3 Account (prepared by Elton 1978-83) of the 1921 Oxford University expedition to Spitsbergen.

Elton's foreword (dated 1983) explains the background:

This Expedition was the first of three ventures from Oxford to the Spitsbergen archipelago (now known as Svalbard). They later inspired the foundation of the Oxford University Exploration Club in 1927. The Club undertook further expeditions to Spitsbergen, to other countries in the Arctic, and to many in lower latitudes. It is still (1983) very active. But no general account of the 1921 Expedition was ever published. I have written these notes in order to bring together as much as possible into one account, since most of the information, quite extensive in scope is to be found in widely scattered publications, or has not been published at all. The main theme in these Notes is the wide ecological survey done by V.S. Summerhayes and myself, but I have included remarks about other general aspects of the Expedition's work, with references by which anyone can find out more fully about them. It has not been easy to track down the biological work done by other expeditions since then, as that also has appeared in a very scattered form. I have noted such information as is known to me, and seems relevant to the extension or the interpretation of our own field studies. This account is therefore both a direct source of information, and a guide to many other sources, and certainly to all important work of the Expedition itself.

Elton prepared three typescript copies of his account, each in three ring-bound volumes, two copies for deposit in the Norsk Polar Institutt, Oslo and the Scott Polar Research Institute, Cambridge, UK, respectively. The third (and original), which he retained in his own possession during his lifetime, is presented here.

C.1 Foreword, list of contents, list of photographs; part 1: pp.1-63.

C.2 Part 2: pp.64-119.

C.3 Part 3: pp.120-180.

C.4 Lists of equipment.

C.5 Field notes made from Bergen to Tromsø, 2-7 June 1921.

Expeditions

- C.6 Elton's abstract from F.C.R. Jourdain's manuscript diary of the 1921 expedition.

The original is in the Edward Grey Institute Library, Oxford.
- C.7, C.8 Spitsbergen 1923.
- C.7 Hardback notebook 'SZ 5' used by Elton for diary of expedition, 14 July - 5 September 1923. Paginated 1-281. List of equipment enclosed at rear.
- C.8 Volume (in ring binder) of text (28 July 1923 only) and photographs with captions, prepared by Elton c.1978-83. Includes list of expedition members.
- C.9-C.13 Spitsbergen 1924.
- C.9 Hardback notebook 'SZ 7' used by Elton for diary of expedition, 14 June - 16 July 1924. Paginated 1-141. Enclosed at front is a note that his account of the journey, from Tromsø home in 1923 'SZ VI' was 'NOT KEPT'.
- C.10 Hardback notebook 'SZ 8' used by Elton for diary of expedition, 16 July - 9 August 1924. Paginated 1-141. Enclosed at front is correspondence 1924 from T.G. Longstaff and 1980 with G. Macfarlane re his biography of H.W. Florey.

Longstaff was a member of the 1921 and 1923 expeditions; Florey was Medical Officer in 1924.
- C.11 Hardback notebook 'SZ 9' used by Elton for diary of expedition, 9 August - 18 September 1924. Paginated 1-219 (not all used). Enclosed at front are notes of the fauna of the hold of the expedition ship *Polarbjorn*, 22 and 26 June 1924.
- C.12 Bound volume comprising 'Diary of C.S.E. while on the Oxford University Arctic Expedition 1924'. Typescript with maps, plan of base camp etc. drawn by Elton. Inscribed on title page 'A personal version taken from the full diary, and given to my Mother'.
- C.13 Volume (in ring binder) of text and photographs with captions, prepared by Elton c.1978-83.

Expeditions

- C.14-C.20 General Spitsbergen material.
- C.14 'Newspaper cuttings' book. With contents list. Contents include correspondence various dates, 1921-32 and 1979-83, data, notes on the literature, printed material.
- C.15 Correspondence 1972-73, 1980. Principally *re* obituary of Sir George Binney, expedition organiser and leader.
- C.16 Correspondence 1979-85. Principally *re* Elton's preparation of narrative accounts of Spitsbergen expedition.
- C.17 Brief correspondence 1979-80 *re* later Oxford University Spitsbergen expedition.
- C.18, C.19 Photographs. 2 folders.
- C.20 Album of photographs from the three Spitsbergen expeditions, compiled by Elton for his mother.
- C.21 Canada 1928.

'Report of research work in Canada', with covering letter to Hudson's Bay Company, 28 November 1928.

Pages torn from jotter used by Elton for daily record, general notes on visit.
- C.22, C.23 Lapland 1930.
- C.22 Hardback notebook 'SZ 10' used for Vol.I of diary of Oxford University Lapland expedition, 28 June - 21 August 1930. Paginated 1-139. Enclosed at front is correspondence 1945 with Norwegian member of expedition, correspondence 1977 with Scott Polar Research Institute *re* preparing copy of diary for its archives and notes prepared by Elton to accompany the copy. Enclosed at back are 'Remaining pages which formed Vol.II (SZ 11)', 22-26 August 1930 paginated 1-18.
- C.23 Volume (in ring binder) of text and photographs with captions, prepared by Elton c.1977.

Expeditions

- C.24 North America 1938.
Typescript diary of visit to Canada and USA, 29 August - 17 October 1938.
36pp.
- C.25-C.32 Denmark
Visits to Mols laboratory and nature reserve, near Femmøller, Jutland
1953, 1959, 1962.
- C.25-C.28 Photograph albums.
- C.25 1953.
- C.26 1959 (1).
- C.27 1959 (2).
- C.28 1962.
- C.29 Hardback notebook used for diary of visit to Mols, 19 May - 5 June 1953.
Paginated 1-80.
- C.30 Soft cover notebook used for diary of visit to Mols, 8-22 May 1959.
- C.31 Soft cover notebook used for diary of visit to Mols, 14-23 September 1962.
- C.32 Map of Mols nature reserve.
- C.33-C.37 South America 1965.
- C.33-C.35 Typescript diary with photographs of journeys in the West Indies, Brazil
and Colombia, 11 June - 27 July 1965. 103pp + notes. 3 folders.
- C.36 Travel arrangements and funding.
- C.37 Photograph album.

Expeditions

- C.38-C.43 The Americas 1968.
- C.38 Hback notebook used for 'Diary Belém [Brazil] 21 July 1968 to Barro Colorado I. Panama Canal Zone to Washington D.C. 14 Aug.'
- C.39 Spiral back notebook labelled 'Belém S. America 1968. Notes dictated to J.E. [Mrs Joy Elton] by C.S.E.'
- C.40, C.41 'Report by Mr Charles S. Elton on a research tour in the Americas while a Visiting Fellow to the Smithsonian Institution in 1968'. 108pp typescript + notes and photographs, memorabilia, correspondence, plant specimens. In two binders.
- C.40 Part 1 pp.1-63. USA - Brazil, 21 April - 1 June 1968. Enclosed at front are 4pp typescript headed 'Terry (T.D.) Pennington' and letter from Pennington at Belém, Brazil, 24 October 1965.
- C.41 Part 2 pp.64-108. Enclosed at front are manuscript notes: 'Belem 1968 Chronology index', 'Belem 1968 Operations index', etc. Enclosed at the back are plant specimens.
- C.42 'B[arro]C[olorado][sland] Brasil 1968 Memos & Joy's [Mrs Elton's] notes'. Contents of binder so inscribed: 'Animal habitats and numbers in rain-forest', 'The significance of animal cover in biological surveys', 'Provisional note on the field layer in Mucambo Forest', etc.
- C.43 Travel arrangements, funding.
- C.44-C.46 Panama and Montserrat 1970.
- C.44 Diary of journey to Panama and the West Indies, 1 October - 28 November 1970. 51pp typescript + notes and photographs. In binder.
- C.45 Copy of preceding with 'Joy's [Mrs Elton's] notes' and plant specimens but without many of the photographs. In binder.
- C.46 Travel arrangements, funding.

Expeditions

- C.47-C.50 Panama and Montserrat 1973.
- C.47 Diary of journey to Panama and the West Indies, 1 April - 23 May 1973. 60pp typescript + notes and photographs, memorabilia and a little correspondence.
- C.48 Copy of preceding with Mrs Elton's notes but without many of the photographs. A little correspondence enclosed at front.
- C.49 Photographs and specimens of flowers, fruits and leaves. In ring binder.
- C.50 Travel arrangements, funding.
- C.51-C.57 Soft cover notebooks used, with two exceptions (C.54, C.57), for lists of photographs taken on expeditions to the Americas.
- C.51 West Indies and South America 1965. Vol.I.
- C.52 1965. Vol.II.
- C.53 1968.
- C.54 'Joy [Mrs Elton] Field Notes at Belem May 1968'.
- C.55 Panama and Caribbean 1970.
- C.56 Panama and Caribbean 1973.
- C.57 1973. Lists of clothes, equipment, maps, travel documents, etc.

SECTION D

FIELDWORK AND SURVEYS

D.1-D.18

- D.1 Leckford Ecology Survey 1938-39. Contents of Elton's binder: copy of report on soil survey of Leckford Estate 1932; correspondence various dates 1936-68; field records 1938-39.

The field records are introduced by an historical note by Elton:

Mr J. Spedan Lewis of Leckford, Hampshire, gave the Bureau [of Animal Population] a donation of £400, and asked in return that we should try and do some ecological research on his estate. The money actually was used to support D.H. Chitty's vole research (at Lake Vrynwy, etc.) but C.S. Elton and his wife, Mrs E J. Elton, undertook some periodic visits (19 February, 1938 to 1 April, 1939) to Sheep Drove. This was a mile-long double hawthorn hedge flanked in places by other scrub, with arable fields outside and a wide green trackway inside. All on chalk, except where it debouched onto a gravel area with scrub at the N. end. The Survey was an experiment in finding out if a useful community study could be done by collecting certain groups of animals selectively. It is still (1956) the only serious vertebrate and invertebrate animal ecological study ever made on the hedge system which covers thousands of miles of England. It was never completed, mainly because of the approach of War, and current vole research in 1939. Most of its useable specimens and records are being incorporated into the Ecological Survey of the Bureau, since few local data on hedge communities exist so far.

- D.2-D.11 Ash Bark Beetle Survey.

- D.2 Binder containing records of Elton's research in Wytham Woods and at the Bureau of Animal Population on the ash bark beetle (*Hylesinus fraxini*), 1948-53.

The first entry for 6 July 1948 explains how Elton came to be involved in a quantitative research on the *Hylesinus fraxini*.

- D.3 Binder inscribed on spine 'C.E[Elton] log work' and containing 'Ken Marsland's notes' on the ash bark beetle: notes on the literature, records of work, 1961-64, analysis of earlier work, 1949-50.

Marsland was Elton's laboratory technician.

- D.4-D.8 Experimental records. 5 folders.

- D.9 Correspondence, 1949-64.

Fieldwork and Surveys

- D.10 'Bark beetle talk', 11 October 1950.
- D.11 Bibliographical references.
- D.12-D.18 Photograph albums.
- D.12 'B.A.P. General Ecology CN 201/6/1'.
Locations include Leckford, Wytham Woods, and Denmark. 1927, 1938, 1946-51.
- D.13 'B.A.P. General Ecology CN 201/6/2'.
Mainly Nature Conservancy areas. 1948, 1954-57.
- D.14 'B.A.P. General Ecology CN 201/6/3'.
Locations include Wychwood Forest, Wytham Woods etc. 1958-63.
- D.15 'General 3. Nature Conservancy Visits 1956-57'.
- D.16 'General Photos 5. Habitats'. 1957-60.
- D.17 'General Photos 6. Habitats (including some Nature Conservancy visits) 1961-62. Also (at end) Walberswick 1961'.
- D.18 'Wytham Area Habitats'. 1955, 1958-61.

SECTION E	CORRESPONDENCE	E.1-E.78
E.1, E.2	Crowcroft, P.W. Crowcroft came from the University of Tasmania to research at the Bureau of Animal Population, 1949-51. He was the author of a history of the Bureau, <i>Elton's Ecologists</i> (Chicago University Press, 1991). Much of the correspondence relates to the preparation of the history. 2 folders.	1980-90
E.1	1980, 1982-83. Includes outline of proposed history and list of 'illustrations in hand'.	
E.2	1985-90.	
E.3	Downs, W.G. <i>re</i> tropical ecology.	1965-66, 1970-71
E.4	Duffey, E.A.G. Duffey came from Leicester University to research at the Bureau of Animal Population, 1950-52. He subsequently made his career with the Nature Conservancy.	1983, 1987
E.5	Elton, R.A. Elton's son Robert, a medical statistician working at the MRC Virology Unit, Glasgow. <i>re</i> statistical advice on tropical ecology paper.	1971-72
E.6	Foster, R. <i>re</i> tropical ecology.	1971-73
E.7-E.9	Kalabukhov, N.I. Kalabukhov was a distinguished Russian ecologist who worked extensively on rodents. Elton corresponded and exchanged publications with Kalabukhov from about 1932 and the surviving letters are probably only a small part of the correspondence exchanged.	1943-45, 1972-78, 1983-90

Correspondence

- E.14-E.18 'Notes passed between C.E. and R. Miller in 1951 while collaborating on a paper "The ecological survey of animal communities", *J.Ecol.*, 1954.' Elton's folder so inscribed divided into five for ease of reference.
- E.14 September, October 1951.
- E.15 November 1951.
- E.16 December 1951, 'Summer' 1952.
- E.17, E.18 Undated drafts. 2 folders.
- E.19 1952 June-December.

The first letter from Elton to Miller after Miller's return to the USA opens with the following declaration: 'This is the beginning of that remarkable monthly series of letters to which our biographers will pay tribute, and which will mark the beginning of a further upward spiral of fertility in ecology'.
- E.20 1953 January-March.
- E.21 1953 April-June.
- E.22 1953 July-December.
- E.23 1954 January-May.
- E.24 1954 August-December.
- E.25 1955 January-June.
- E.26 1955 July-December.
- E.27 1956 February-May, August.
- E.28 1957 January-June.
- E.29 1958 January-November.

Correspondence

- E.30 1959 January-October, 1960 November.
- E.31 1961 May-December.
- E.32 1962 January-March, August, September.
- E.33 1963 January-August.
- E.34 1964 February-April, September-December.
- E.35 1965 March-June, November, December.
- E.36 1966 January-October.
- E.37 1967 January-May, September, December.
- E.38 1968 March-September.
- E.39 1969 March-December.
- E.40 1970 January, August, September.
- E.41 1971 January-November.
- E.42 1972.
- E.43 1973 February-November.
- E.44 1974.
Includes photographs.
- E.45 1975 January-September.
- E.46 1976 February-December.
- E.47 1977 February-October.

Correspondence

- E.48 1978 February-December.
- E.49 1979 February, May, November.
- E.50 1980 January-September.
- E.51 1981 January-November.
- E.52 1982-83.
- E.53 1984-89.
- E.53A Curriculum vitae, miscellaneous biographical information.
- E.54-E.60 Overgaard Nielsen, C. 1952-67
- Overgaard Nielsen came from Denmark to research at the Bureau of Animal Population, 1950-52. He made his career at the Mølslaboratoriet, Femmøller which Elton visited in 1953, 1959 and 1962. See C.25-C.31.
- Research, visits.
- 7 folders.
- E.54 1952 April-November.
- E.55 1953 June-December.
- E.56 1954.
- E.57 1955.
- E.58 1956-58.
- E.59 1959-61.
- E.60 1962-65, 1967.

Correspondence

- E.61-E.63 Park, T. various dates 1957-90
- Park came from the University of Chicago to research at the Bureau of Animal Population, 1948-49, and made his career in the Department of Zoology at Chicago.
- Research, publications, personal history.
- 3 folders.
- E.61 1957, 1966, 1971, 1973, 1975.
- E.62 'Recollections of Ocean Springs, 1911-1919'.
- 33pp typescript narrative account of Park's childhood in Ocean Springs, Mississippi, sent to Elton in 1982.
- E.63 1987, 1989-90.
- Includes preface, introduction and table of contents only of transcript of Park's reminiscences for Oral History Program of University of Chicago Archives, and Park's foreword to P.W. Crowcroft's history of the Bureau of Animal Population, *Elton's Ecologists*.
- E.64 Prus, T. 1971, 1989
- E.65 Robinson, M.H. 1966, 1968-73, 1978
- Robinson was based at the Smithsonian Tropical Research Institute, Panama.
- 1966 item is Elton's notes of lecture by Robinson at Oxford Zoological Department on life in Panama monsoon forest.
- E.66 Rubinoff, I. 1982
- Rubinoff was Director of the Smithsonian Tropical Research Institute, Panama.
- E.67 Rzóška, J. 1969
- Rzóška came from the University of Poznan and worked at the Bureau of Animal Population, 1940-46. He was subsequently a scientific coordinator with the International Council of Scientific Unions International Biological Programme.
- re ecological rules in the management of nature.

INDEX OF CORRESPONDENTS

AITKEN, Thomas H.G.	E.77
AMERICAN ACADEMY OF SCIENCES	A.10
AMERICAN ECOLOGICAL SOCIETY	A.10
AMERICAN SOCIETY OF MAMMALOGISTS	A.11
AMERICAN SOCIETY OF ZOOLOGISTS	A.13
ARCHIBALD, J.F.	A.63, A.64
ARMSTRONG, Patrick H.	E.78
BALACHOWSKY, Alfred	D.9
BAYLIS, H.A.	C.14
BERTRAM, George Colin Lawder	C.16
BINNEY, Sir George	A.2
BREKKE, Anne	C.16
BRITISH BROADCASTING CORPORATION	E.77
BRITISH ECOLOGICAL SOCIETY	A.10
BRITISH MUSEUM (NATURAL HISTORY)	C.14, C.48
BROOKE WORTH, C.	C.36
BRUNET, Peter	A.79
BUXTON, P.A.	A.8
CARPENTER, G.H.	C.14
CARSON, Rachel L.	A.72
CHAPMAN, John A.	D.9
CHICAGO ACADEMY OF SCIENCES	A.9
CHITTY, Dennis Hubert	A.75, E.77
COOKE, Alan	C.15, E.78
CROWCROFT, Peter W.	E.1, E.2
DAVIS, Michael	D.9
DAVIS, Valerie	A.41
DIVER, Cyril	A.30, A.61
DOWNS, Wilbur G.	E.3
DRAYTON, Paul K.	E.77

Index of Correspondents

DUFFEY, Eric Arthur Gerald	A.55, E.4
DUNCAN, Arthur B.	A.62
EAGLE, Raymond	C.16
ECOLOGICAL SOCIETY OF AMERICA	A.10, A.13, E.78
ELTON, Geoffrey York	A.16-A.22
ELTON, Leonard Sidgwick	A.30
ELTON, Letitia Maynard	A.15
ELTON, Oliver	A.14, A.37
ELTON, Robert A.	E.6
EVANS, Francis C.	A.46
FAGER, 'Bill'	See A.41, A.46
FOSTER, Robin	E.5
FREDGA, Karl	E.78
GARNHAM, Percy Cyril Claude	A.53
GIMINGHAM, Charles Henry	A.10
GJELSVIK, Tore	C.16
HANSON, Herbert Swann	D.9
HOAR, William S.	A.28
HOLLAND, Clive A.	C.16, C.22
HOLM, Åke	C.14
HOWICK OF GLENDALE, Evelyn Baring, 1st Baron	A.62
HUDSON'S BAY COMPANY	A.2 See also A.80, C.21
HUTCHINSON, George Evelyn	A.55
INSTITUTE OF BIOLOGY	A.13
KALABUKHOV, N.I.	A.30, A.41, E.7-E.9
KAPLAN, Colin	E.10
KAWANABE, Hiroya	A.41, E.11
KINGSLAND, Sharon E.	E.78

Index of Correspondents

LESLIE, Patrick Holt (George)	D.9
LINNEAN SOCIETY OF LONDON	A.10
LITTLE, T.W.A.	A.53
LOCKET, George Hazelwood	D.1
LONGSTAFF, Tom	See C.14
LUBIN, Yael	E.78
McCABE, Robert A.	A.37
MATHISEN, Einar	C.22
METHUEN & CO. LTD.	A.27, A.29
MICHELMORE, Alfred Philip Galabin	C.14
MILLER, Richard Elton	E.12, E.13
MILLER, Richard S.	E.14-E.53
MOORE, Norman Winfrid	D.1
MORRELL, Jack	A.41
MORRISON, Herbert	A.61
MOYNIHAN, Martin H.	C.46, C.50
NATURE CONSERVANCY	A.60-A.68, D.1
NEW YORK ZOOLOGICAL SOCIETY	A.3
NICHOLSON, Edward Max	A.61, A.63, A.72
NORSK POLARINSTITUTT	C.16
O'FARRELL, A.F.	A.46
OGILVIE, Malcolm A.	E.73
OLMSTED, Charles E.	A.10
OVERGAARD NIELSEN, Christian	E.54-E.60
OWEN, Myrfyn	E.73-E.75
PARK, Thomas	E.61-E.63
PAVIOUR-SMITH, Kitty (Mrs H.N. Southern)	A.41
PENNINGTON, T.D.	C.40
POMERAT, Gerard R.	C.36
PORT OF LONDON HEALTH AUTHORITY	A.76
PRUS, Tadeusz	E.64

Index of Correspondents

RAND, Pat	C.47
RAND, Stanley	C.41
REIMERS, Eigil	C.16
REMMERT, Hermann	C.14
RIDLEY, Matt	C.17
RIPLEY, S. Dillon	A.12, C.40, C.43
ROBINSON, Michael Hill	E.65
ROCKEFELLER FOUNDATION	C.36
ROYAL SOCIETY	C.46, C.50
RUBBER TRADE ASSOCIATION	C.14
RUBINOFF, Ira	E.66
RZÓSKA, Julian	E.67
SCHINDLER, James Edward	E.68, E.69
SCOTT POLAR RESEARCH INSTITUTE	C.22
SCOTT, William B.	A.28
SHOPE, Robert E.	C.36, E.70, E.76
SMITHSONIAN INSTITUTION	A.12, C.40, C.43
SMITHSONIAN TROPICAL RESEARCH INSTITUTE	C.46, C.47, C.50 E.65, E.66, E.78
SPEEDAN LEWIS, J.	D.1
SUMMERHAYES, Victor Samuel	C.14
SUTTON, Stephen L.	E.78
TATTERSALL, W.M.	C.14
TAYLOR, Lionel Roy	E.78
THOMPSON, David	E.78
THOMPSON, Harry V.	A.73 See also A.53
TINBERGEN, Nikolaas	E.77
TISCHLER, Wolfgang	E.78
TRAPIDO, Harold	E.70-E.72
VALENTINE, Barry D.	C.41
VEVERS, Henry Gwynne	E.8

Index of Correspondents

WELLS, A.F.	A.8
WHELDON & WESLEY LIMITED	A.26
THE WILDLIFE SOCIETY	A.9
THE WILDLIFE TRUST	E.73-E.75
WILSON, Edward Osborne	A.72
WOLFF, Jerry	E.78
WOODALL, John (Jack) P.	E.76
WORTHINGTON, Edgar Barton	A.63