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P. E. Morrison Editor (Society Publications)

D. C. Eldt Editor (Bulletin)

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THE NEW EDITOR

With the next issue in March, the first of the eighth volume, the *Bulletin* will have a new editor. He is Bernard J. R. Philogène, of the Department of Biology, University of Ottawa. Bernard is well informed, very interested in the Society, and highly literate in both English and French. The one thing he needs to produce interesting, informative, and useful *Bulletins* is the full cooperation of all the members. This I am sure he will get and with this, my last issue, I wish him success and pledge my support.

Douglas C. Eidt

PICTURE QUIZ

In place of the usual editorial pontifications, here is a lesson in humility (which is to say I got it wrong). Simply identify the butterfly without consulting a book, a friend, or a reference collection. Now look it up in your butterfly book. If you got it wrong, don't feel badly because the half that got it right was guessing too.

The photograph is by amateur nature photographer W. A. Crich, D.D.S., A.P.S.A., Grimsby, Ontario.



NORMAN STANLEY CHURCH 1929-1975



Dr. Norman Stanley Church of the Agriculture Canada Research Station, Saskatoon, passed away suddenly 26 July 1975, at the age of 46 years.

Norman was born at Stavely, Alberta, in 1929 and spent his childhood there. He became interested in entomology, and after graduation from high school he attended the University of Alberta where he received a B.Sc. degree in 1950. After working as a summer assistant with the Dominion Entomology Laboratory of Canada Department of Agriculture at Lethbridge during the summer of 1949, he returned in the spring of 1950 to accept permanent employment and to work closely with Dr. R. W. Salt. He obtained leave to attend

Montana State College and received an M.Sc. in 1954, and later Cambridge University where he studied under Dr. V. B. Wigglesworth and received a Ph.D. degree in 1958. Returning to Lethbridge, he remained until 1963, at which time he was transferred to the Agriculture Canada Research Station at Saskatoon.

Norman's career was characterized by a clear insight into entomological problems, meticulous research, and a deep devotion to helping his fellow man. Early in his career he studied diapause in the wheat stem sawfly and the temperature relations of flying insects; later he moved on to study the reproductive physiology and embryology of blister beetles, with many of the latter studies being carried out in close co-operation with Dr. J. G. Rempel of the University of Saskatchewan and his graduate students. At the time of his death Norman had begun investigating the regulation of feeding activity cycles in wireworms. He was the author of some 25 published scientific papers.

Norman was the Secretary of the Entomological Society of Canada and Western Regional Director of the Professional Institute of the Public Service of Canada, and throughout his career he gave freely of his time to organizations and to individuals. His sunny disposition always spread good cheer around him and he will be remembered with much affection by his many friends and colleagues. He is survived by his mother at Stavely, Alberta, and by two sisters.

L. Burgess and R. H. Burrage

GOVERNING BOARD

The Governing Board will meet in March at the University of Manitoba. The site was selected so that there could be interaction with students at local universities, as occurred at the University of Guelph in 1975 and at Macdonald College in 1974. Matters for the consideration of the Board should be addressed to the Secretary, Dr. G. H. Gerber, Agriculture Canada Research Station, 25 Dafeo Road, Winnipeg, Manitoba, R3T 2M9.

THOMAS N. FREEMAN 1911-1975



Thomas N. Freeman died 15 May 1975, in an Ottawa Hospital.

Dr. Freeman was born in Saskatoon, Saskatchewan, but grew up on a farm near Simcoe, Ontario. Like many other boys and girls reared on the farm, Tom developed an interest in the outdoors which remained with him throughout his career.

Tom graduated from the Ontario Agricultural College in 1934 with the B.S.A., from the University of Colorado in 1936 with the M.Sc., and from the University of Toronto in 1946 with the Ph.D.

Tom's real interest was in taxonomy so it was natural that he should head into the Systematic Entomology Unit at Ottawa. The year 1936 marked the beginning of a long and distinguished career in entomology for Dr. Freeman. It also marked the beginning of a long period of service to the Canadian farmer and forester. Tom never lost sight of the importance of the problems of these people; his studies were confined primarily to Canadian Lepidoptera of economic importance.

Dr. Freeman collected butterflies as a boy and to this first love he turned when he joined the Systematic Unit. Later he became involved in the large and difficult group known as the Microlepidoptera.

The work on the Microlepidoptera was interrupted in 1947 when Tom was appointed coordinator of the newly-organized Northern Insect Survey. This was a large-scale effort with numbers of survey parties all over the arctic regions of Canada. Out of this work came valuable information on the flora and fauna of the far north. Tom played a large part in the success of this work which terminated for the most part in 1961.

Able in 1961 to return once again to the Microlepidoptera, Tom became involved with the economically important leaf-mining forms. This interest continued to the time of his retirement, on 15 October 1971.

Tom published about 150 papers, almost 80 of these on research. Among the professional papers were two memoirs on the Microlepidoptera; the Archipinae of North America (Lepidoptera: Tortricidae) *Can. Ent. Supp.* 7, 1958 and Needle-mining Lepidoptera of Pine in North America. *Can. Ent. Supp.* 16, 1960.

Tom held many honours. His work with the Lepidopterists' Society was recognized by his election to President in 1956. He was active in the Entomological Societies of Canada and of Ontario. Insects in several orders have been named after Dr. Freeman among them three species or subspecies or Lepidoptera: *Diarsia pseudorosaria freemani* Hardwick 1950, *Erebia epipsodea freemani* Ehrlich 1955, and *Nepytia freemani* Munroe 1963.

Dr. Freeman married Gertrude Munro on 13 March, 1938. There are two children, Marianna (Mrs. W. J. Cantwell) and Leslie.

W. C. McGuffin

ERIC B. WATSON 1898-1975

Eric B. Watson died suddenly at his home in Breckenridge, Quebec, 18 May 1975, in his 77th year.

After graduating from Imperial College, London, Eric joined the former Division of Forest Insects of the Entomological Branch, Department of Agriculture, Ottawa, in 1924, and remained with this unit through its successive changes of title, organizational structure and departmental affiliation, until his retirement from the then Forest Entomology and Pathology Branch of the Department of Forestry in February, 1963.

Eric's early assignments included field investigations of spruce bark beetles in the Algoma region of Ontario and in the central part of the Gaspé Peninsula, the eastern hemlock looper in the Pentecost area of the Quebec North Shore, and the white pine weevil at the Petawawa Forest Experiment Station. In the late 1930's he was responsible for the activities of the Ottawa forest insect laboratory, and later for the operations of the forest insect survey in southern Ontario. For 17 years, Eric served as editor of the Bi-Monthly Progress Report and as headquarters editorial counsellor on scientific papers on forest entomology.

Quiet, even-tempered, unassuming and always helpful, Eric is remembered with affection by those who had the privilege of working with him in the remote and usually primitive field establishments of the 1920's and 1930's, and with gratitude by many of the then young investigators of the post-war era who benefitted from his patient editorial counselling.

After his retirement, Eric's out-of-doors activities were concentrated on his extensive garden at the hill-top home overlooking the Ottawa River a few miles west of the national capital. He is survived by his wife Mary, his daughter (Mrs. F. Dow Smith) of Newton, Mass., and four grandchildren.

M. L. Prebble



ELECTION 1976

The Nominating Committee, C. R. Harris, Chairman, R. D. McMullin, and A. D. Miller will prepare the usual slate of nominations for President-Elect and two Directors-at-Large.

Nominations from the membership may be submitted in writing over the signatures of at least three active members of the Society, with a signed statement from the nominee indicating his willingness to accept office if elected. Such nominations shall be submitted to the Secretary not later than 31 March 1976.

ARTHUR KELSALL

1892-1974

Dr. Arthur Kelsall, FCIC, 82, died 2 June 1974 at Annapolis Royal, N. S. Born in England, he came to Canada in 1907 and settled with his parents at Wilmot, Annapolis County, N.S.

In World War I he served overseas with the Princess Patricia's Canadian Light Infantry from 1915 until 1917 when he was seriously wounded. On discharge, he went to McGill University to complete his Bachelor of Scientific Agriculture degree in chemistry in 1918.

In 1919 and 1920 he took post-graduate work at McGill, in chemistry. He did not finish because of a rather bizarre misfortune. Kelsall had his unfinished thesis and the data to complete it at his home in Annapolis Royal. He held a position of responsibility in the town at the time, and had ordered a brief interruption in the water supply while a new main from the reservoir was connected. A serious fire broke out during the interruption and consumed, among other buildings, his residence — and his thesis.

From 1923 to 1938 he was responsible for fungicide and insecticide investigations in Nova Scotia having succeeded George Sanders as Officer-in-Charge of the Dominion Entomology Laboratory at Annapolis Royal. Dr. Kelsall's principal concern was with the control of apple scab. He discovered with George Sanders that copper sulphate could be dehydrated and successfully combined with lime to make a copper-sulphate dust, also referred to as "bordeaux dust". Mixed with arsenicals for insect control, it became widely used on apples, potatoes and other crops. He pioneered studies of the sulphur fungicides and their combination with insecticides. Aluminum sulphate was tried first. However, a young boy fell into an empty spray tank while attempting to insert a drain plug. Kelsall rescued him but he was extremely sick nonetheless, and might have died except for Kelsall's quick action. Aluminum sulphate was hastily abandoned. Zinc sulphate was found ineffective. He finally introduced a lime-sulphur/iron sulphate mixture that became widely used in Nova Scotia fruit orchards. He developed a process using glycerine whereby white arsenic (arsenous oxide), which is heavy and sank to the bottom of the spray tank, could be made light and combined with lime sulphur. White arsenic was much cheaper than other arsenicals and considerable saving was effected. It was not only effective as an insecticide, but it enhanced the fungicidal effectiveness of the lime-sulphur/iron sulphate, and the glycerine could be recovered and used again! He also did some initial work in determining the value of derris as an insecticide.

In 1938 he became Superintendent of the Experimental Station, now the Agriculture Canada Research Station, Kentville. In 1938 he was ordered by his physician to give up his many duties at the Station. He moved back to Annapolis Royal nearer his old haunts for hunting the big game, spearing the little fishes, unearthing and photographing Indian hieroglyphics and watching for "tree squeaks".

Arthur Kelsall was Secretary of the Entomological Society of Nova Scotia, now the Acadian Entomological Society, in 1919. He received an honorary DCL from Acadia University and was mayor of Annapolis Royal for 8 years.

D. C. Eidt

(Adapted from the proceedings of the Acadian Entomological Society 1974 Annual Meeting with the help of C. W. B. Maxwell, Emeritus Member.)

FIRST NOTICE
ANNUAL MEETING

Entomological Society of Canada
Entomological Society of Ontario



24 - 27 October, 1976
Hotel Toronto
Toronto, Ontario, Canada



Feature Symposium, 25 October

Pests, Policies, and Progress - Is Canada Going to the Insects?

Submitted Papers, 26, 27 October

Contributors must complete and submit the adjacent form to Dr. R. Trottier, not later than 1 March 1976.

Special Interest Groups

Informal conferences on the following specialized topics are being organized: insect physiology, pest management, medical entomology, insect behaviour, and toxicology. Members interested in participating, please send the Special Interest Group tear sheet to Dr. R. Trottier not later than 1 March 1976.

Photo Salon

Contact Miss June Herbert, Agriculture Canada Research Station, Kentville, Nova Scotia.

Board of Director's Meetings and Annual General Meetings are scheduled on 23, 24, 26 and 27 October.

SUBMITTED PAPER REPLY FORM

(Deadline — 1 March 1976)

RETURN TO: Dr. Robert Trottier
Research Station, Agriculture Canada
P.O. Box 185,
Vineland, Ontario L0R 2E0

Author's Name (Please Type)

Institution and address

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.....
.....

PLEASE TURN OVER

SPECIAL INTEREST GROUPS REPLY FORM

(Deadline — 1 March 1976)

RETURN TO: Dr. Robert Trottier
Research Station, Agriculture Canada
P.O. Box 185
Vineland, Ontario L0R 2E0

Participant's Name

Participant's Address

.....
.....
.....

Title of Group

SUBMITTED PAPER REPLY FORM (Con'td)

Title of Paper (not to exceed 15 words)

.....

.....

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To be read by

Projection equipment required: 2x2 , 16 mm movie
(Other sizes and glass mounts not acceptable).

PLEASE TURN OVER

Reply Form

SPECIAL INTEREST GROUPS

insect physiology
pest management
toxicology

medical entomology
insect behaviour

PLEASE TURN OVER

The Evening Star

The Largest ONE CENT PAPER
in the WORLD

Montreal

Friday, July 16, 1874

GRASSHOPPERS' RAVAGES. — Mr. F. L. MORTON, writing from Palestine, Manitoba, on the 30th ult., to the Toronto Globe, narrates the doings of the grasshoppers in the North-west. According to his statement, the White Mud settlements and the greater part of the Province suffered more or less from last year's invasion of the pest, some of the settlers on the Assiniboine having saved a considerable proportion of their crops. Last year the local government assisted those who had suffered most to buy seed, and this year a large area of wheat was sown, as no serious grasshopper invasion was anticipated. About the middle of May the young grasshoppers made their appearance in "countless millions," and in a short time swept off a large portion of the growing crop. A cold, wet spell of weather then set in, which drove them from the fields to the timber and meadow lands; but although many of them were destroyed by drowning and by fire put out by the settlers, no sooner did the dry, warm weather return than the grasshoppers also returned and finished what they had previously left, with the exception of a few peas and potatoes. After this, they left on the 22nd of June, without depositing any eggs, but leaving behind a partially grown brood which he thinks will also leave so soon as fully winged.

In Mr. Morton's section of country the settlers are chiefly from Ontario, who immigrated in 1871, 1872 and 1873. The first settlers, he says, got one small crop in 1873 and none since. The later arrivals have had no crops and the consequence is "all their means are expended, and where to look for bread for the ensuing winter many, especially those with large families, known not." Meetings have been held for discussion of the sad situation, whereat resolutions have been passed calling upon the Local and Federal Governments to push on public works in order to furnish the people with employment and the means to procure food and next year's seed; for if the indications should be that the crops will escape next year, the settlers are sufficiently hopeful and courageous to trust their seed in the ground again. The case of those settlers is a very hard one. Mr. Morton says: "If the Dominion and our own Government do not find immediate employment for some hundreds of men who are ready and willing to work, there will be absolute need of *charity*." This is evidently something the writer hates to name, as charity is truly the last resort with men of the type of the Ontario farmer. A very pertinent question is asked, in case work be found, "where is next year's seed to come from?" He says it must be brought from the States and Ontario "before the close of navigation," a matter of urgency which, we fear, cannot be satisfactorily accomplished unless governmental or extraneous aid of some kind be forthcoming. If either the Local or Federal Government can place any work in the way of the courageous but suffering settlers, it should be done with as little delay as possible.

(Contributed by D.K.K.)

SCHIZODACTYLUS

Schizodactylus monstrosus is a large, Indian, cricket-like insect of occasional minor economic importance, that has been known to science for a very long time. Like its few relatives from adjacent regions and South Africa, it differs from other Orthoptera in certain obvious, peculiar features, and, although formerly placed among the gryllacridoids, it seems to represent a separate group with a long, independent history. The only verse about it is as follows:

An Odd-ball Orthopteran

Tell me, why, in all Creation, do you have splayed feet

And that curious aberration – your wings rolled up neat?

'Tis but with hesitation that, by careful observation of the various relationships within the cricket nation, we can give some indication of your taxonomic station in phyletic classification. For your pers'nal information,

Schizodactylus – Tarnation – you're a real off-beat!

D. Keith McE. Kevan (1972)

Keith Kevan is an average-sized, Canadian, cricket-like entomologist of occasional minor literary importance, that has been known to entomology for a long time. Like its few relatives from adjacent regions, and South Africa, it differs from other entomologists in certain obvious, peculiar writings, and, although formerly placed among the poets, it seems to represent a separate group with a long, independent history. There are no verses about it.

ACHIEVEMENT AWARDS

Because of the prolonged postal interruption, the deadline for nominations has been changed to **31 January 1976**. For details see **Bulletin 7(2):35**. Nominations marked "Confidential" may be sent to the Society headquarters or direct to M. Ellen MacGillivray, Chairman, Achievement Awards Committee, P.O. Box 20280, Fredericton, N.B., E3B 4Z7.



WASHINGTON, D.C., U.S.A.

AUGUST 19-27, 1976

The Second and Final Announcement for the Congress, with registration, housing, and other forms, was mailed in early summer to those who had requested that their names be placed on the mailing list. If you plan to attend the Congress and wish to receive the Second Announcement and forms, send a card with your name, address, and Congress Section of major interest to the Secretary-General, V International Congress of Entomology, P.O. Box 151, College Park, Maryland 20740. The 13 Congress sections are listed in the Bull. Ent. Soc. America, June 1974.

Preregistration (up to February 1, 1976 the Congress registration fee will be at a lower rate) will assure you of a room reservation. In U.S. Bicentennial year, demand for rooms will be great. Travel reservations should be made early.

FORTHCOMING MEETINGS

- Sociedade Entomologica do Brasil, 1-6 February 1976, Maceio, Brasil.
- Southwestern Branch ESA, 10-12 February 1976, Oklahoma City, Oklahoma.
- Louisiana Entomological Society, 4-5 March 1976, Baton Rouge.
- XI National Congress of Entomology, 8-10 March 1976, Centro de Convenciones, Reforma 445, Mexico 5, D. F.
- Georgia Entomological Society, 17-19 March, Desoto-Hilton Hotel, Savannah, Georgia, with the South Carolina Entomological Society.
- South Carolina Entomological Society, 17-19 March 1976, Savannah, Georgia, with the Georgia Entomological Society.
- North American Benthological Society, 24-26 March 1976, Holiday Inn, La-Crosse, Wisconsin.
- North Central Branch ESA, 7-9 April 1976. Denver Hilton Hotel, Denver, Colorado.
- Pacific Branch ESA, 22-24 June 1976, Holiday Inn, Ventura, California.
- XV International Congress of Entomology, 19-27 August 1976, Washington, D.C., U.S.A. For information write Ernest C. Bay, Secretary General, Box 151, College Park, Maryland 20740.
- Entomological Society of Canada, 25-27 October 1976, Toronto, Ontario. Jointly with the E.S.O.; 1977, Manitoba.
- Entomological Society of Ontario, 25-27 October 1976, Toronto, Ontario. Jointly with the ESC.

B. E. P. Photo Salon

BOTANY SECTION



Apothecia

Prints, Macro Photography — First and Best in Salon: *Mushroom*.
John Dueck, Saskatoon, Saskatchewan.

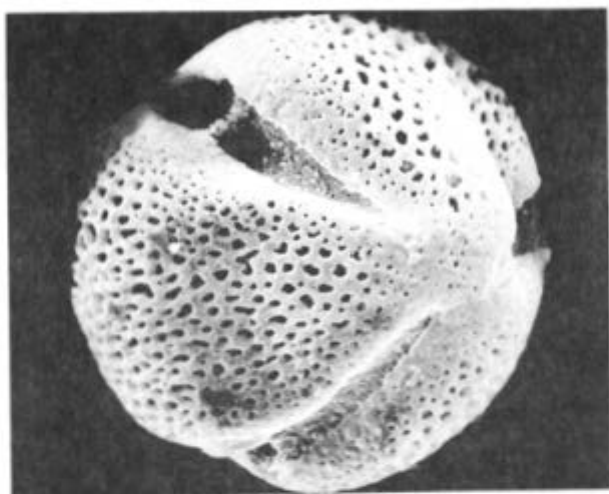


Slides — First: *Cardinal Flower*.
B. T. Aniskowicz, Ottawa, Ontario.



Prints, Light Microscopy — First:
Asci—Ascobolus. G. L. Barron,
Guelph, Ont.

B. E. P. Photo Salon



Prints, Electron Microscopy — First: *Pollen* of *Parthenocissus inserta*.
R. J. Adams and J. K. Norton, Waterloo, Ontario.

ENTOMOLOGY SECTION



Prints — First: *Stonefly*.
Ralph Underwood, Saskatoon, Saskatchewan.

Slides — First and Best in Salon: *Caterpillar on Oak*.
M. E. Badgley, Sunnymead, California.

Officers and Governing Board — 1975-1976



FELLOWS OF THE ENTOMOLOGICAL SOCIETY OF CANADA

Mrs. Jean B. Adams	Fredericton, New Brunswick
Dr. Carl E. Atwood	Toronto, Ontario
Dr. J. Lucien Auclair	Montréal, Québec
Dr. George E. Ball	Edmonton, Alberta
Dr. Edward C. Becker	Ottawa, Ontario
Dr. Brian P. Beirne	Burnaby, British Columbia
Dr. Frederick Theodore Bird	Sault Ste. Marie, Ontario
Dr. J. Robert Blais	Ste. Foy, Québec
Dr. Reinhart A. Brust	Winnipeg, Manitoba
Dr. Donald A. Chant	Toronto, Ontario
Dr. Vincent G. Dethier	Princeton, New Jersey
Mr. J. Antony Downes	Ottawa, Ontario
Dr. Harold F. Madsen	Summerland, British Columbia
Dr. Freeman L. McEwen	Guelph, Ontario
Mr. Charles A. Miller	Fredericton, New Brunswick
Dr. Herbert H. J. Nesbitt	Ottawa, Ontario
Dr. Rodolphe O. Paradis	St. Jean, Québec
Mr. Douglas G. Peterson	Ottawa, Ontario
Dr. M. D. Proverbs	Summerland, British Columbia
Dr. Curtis W. Sabrosky	Washington, D.C.
Dr. W. A. Smirnoff	Ste. Foy, Québec
Dr. Ray F. Smith	Berkeley, California
Dr. George C. Varley	Oxford, England
Mr. G. Stuart Walley	Ottawa, Ontario

From among these Fellows, the members of the Society will elect the first Fellowship Selection Committee.

OFFICERS AND GOVERNING BOARD 1975-1976

W. A. Charnetski, Regional Director, E. S. Alberta; Susan B. McIver, Director-at-Large; J. P. M. Mackauer, Regional Director, E. S. British Columbia; Ellen MacGillivray, President-Elect; Edward Becker, Treasurer; George S. Cooper, President; Peter Harris, Regional Director, E. S. Saskatchewan; C. R. Harris, Past-President; J. S. Kelleher, Director-at-Large; R. W. Fisher, Regional Director, E. S. Ontario; F. L. McEwen, Director-at-Large; George H. Gerber, Secretary.

Absent: R. Brust, Regional Director, E. S. Manitoba; J. B. Dimond, Regional Director, Acadian E. S.; René Martineau, Regional Director, E. S. Quebec (S.E.Q.); J. Lucien Auclair, J.-J. Cartier, I. W. Varty, Directors-at-Large.

PERSONALIA

Harold Madsen has been appointed Assistant Director of the Agriculture Canada Research Station, Summerland, B.C. He was Head of the Entomology Section since 1964.

E. J. LeRoux has been appointed Director-General of the Research Branch, Operations Directorate, Agriculture Canada. Ed was President of the ESC 1969-70.

J.-J. Cartier, a Director-at-Large of the ESC, has been appointed Assistant Director-General, Research Branch, with responsibility for Eastern Canada.

Ian Outram has accepted a position with Ciba-Geigy, and will be stationed at Cranfield, England. Ian has been at the Maritimes Forest Research Centre, Fredericton, since 1967, where he has made important contributions to spruce budworm research, particularly in reproduction and moth behaviour.

EMPLOYMENT

The Entomological Society of Canada maintains a list of employment opportunities in Canada for members, and has an employment office at annual meetings of the Society. Positions wanted and available are published in the *Bulletin*. Forms for the use of prospective employers and employees are available on request.

Please direct all inquiries and correspondence to: A. G. Robinson, Chairman, Employment Committee, Entomological Society of Canada, Department of Entomology, University of Manitoba, Winnipeg R3T 2N2.

Do not direct inquiries to the *Bulletin*.

POSITION WANTED

B.Sc. with 10 years experience with Commonwealth Institute of Biological Control desires position as Research Assistant or Technician in research field of Biological Control, or in an Entomological Research Laboratory. Reference No. 40-3-75.

CHARLES DARWIN

A comprehensive edition of the letters of Charles Darwin is being planned with the sponsorship of the American Council of Learned Societies and with support from the National Endowment for the Humanities and the National Science Foundation.

The edition will be arranged in chronological order with full texts and annotations and will include letters to Darwin as well as those from him.

Although extensive collections of Darwin's correspondence are available at the American Philosophical Society, in the Cambridge University Library, and in other research libraries and archives, the edition can be made definitive only through the generous cooperation of the possessors of smaller lots of Darwin's widely scattered correspondence. It is hoped that librarians, collectors, scholars, antiquarian booksellers, and others with knowledge of Darwiniana will feel disposed to contribute their help to this project, which will make available for the first time materials that will be basic to future scholarship on Darwin and the history of 19th century science.

Please direct all correspondence to Dr. Frederick Burkhardt, R.F.D. 1, Bennington, Vermont 05201 U.S.A. or to Dr. Sydney Smith, St. Catharine's College, Cambridge CB2 1RL, England.