THE LINNEAN

Newsletter and Proceedings of the Linnean Society of London

Edited by B. G. Gardiner

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Editorial

The Linnean commenced publication in January 1984. The original plan was to produce three parts a year each comprising 32 pages and containing a third of the previous years Proceedings. This plan was strictly adhered to and each part in that first year contained exactly 32 pages including covers.

The immediate success of *The Linnean* prompted Council (Treasurer!) to lift the financial restrictions (regarding length mostly) and grant the editor more freedom. Thus I decided from then on to publish the Proceedings in the January issue and to devote the other two parts to keeping the membership informed about the running of the Society, and to publish more of your comments and articles. All that remained was to decide how many numbers (parts) should constitute a volume. The first volume contained 6 parts (January 1984–August 1985) but librarians found this confusing with many writing to say, for instance, that they had not received Vol. 2 for 1985! From now on there will be a new volume for each year (made up of three numbers). Finally, we agree with you that the cover did look a bit funereal so we have removed the outer black edging.

The historical article in this issue concerns the James Insch collection of books and pamphlets on tea; one of the most important libraries the Society has received since the Second World War.

This personal library, left to us in 1951 and containing over 300 books (many of which were published prior to 1800), represents the finest collection of tea literature in Britain; while some of the volumes such as *An account of the Trade in India* dated 1711 are of equal value to the geographer and historian. As Dr Barrow comments it is a treasure house of collectors items.

Stop Press

Book Bring and Buy—26 February 1987

As the previous events have been successful another has been scheduled in the current session. It will be held in the Library in the evening after the General Interest Lecture already advertised.

Fellows should note that these sales normally include some classic reprints from the Society's early Transactions and other Society publications.

SOCIETY NEWS
Important Notices

Deeds of Covenant

At the 1986 Anniversary Meeting it was suggested that some Fellows might not be fully aware of the advantages to either themselves or the Society in paying their Annual Contributions (or making donations) by Deed of Covenant. The following notes apply to those subject to the United Kingdom Tax laws but we understand that some other countries have similar arrangements. See also p. 2.

Being a registered charity, the Society is able to reclaim from the Inland Revenue the tax on Contributions paid under Deed of Covenant by Fellows who cannot reclaim it themselves. In general this applies to those who do not earn their living from biology and who will have paid out of their already taxed income. The figures vary proportionally with the standard rate of Income Tax. Thus, for the current rate of 29%, for an Annual Contribution of £25 the benefit is a refund of £10.21, for £30 it is £12.25 and for £35 it is £14.30. This is at no cost to the Fellow.

Most professional biologists will already know that the tax laws allow them to reclaim the tax for themselves thus making their effectives rates of subscription less by £7.25, £8.70 and £10.15 respectively. If they are prepared to forego this personal benefit in favour of the Society, payment by Deed again allows the Society to claim at the rates quoted initially.

Anyone who might consider giving a donation to the Society can make this in the form of a Deposited Deed on which the grossed-up tax can be reclaimed as above. In this case the higher-rates tax payer apparently gains as well, because

the donated sum is set against the top rate of tax thus making the effective donation that much cheaper. The alternative would of course be to donate that much more!

Lastly, we feel bound to point out that in executing a Deed of Covenant you are not irrevocably committing yourself to the stipulated number of years. It is perfectly possible to cancel the Deed in mid-term and the Society would certainly accede to any such wish.

If you do not have a Deed of Covenant and are considering starting one please write for the necessary form.

Annual Contributions

(1) This is a recurrent heading, and must remain so as queries are regularly received from Fellows who cannot remember the 'going rate' or what their Contribution should be when they change their journals. The Annual Contributions, as from 24 May 1985, are:

Fellow (no journal)	£25	Associate (no journal)	£12.50
Fellow (one journal)	£30	Associate (one journal)	£15
Fellow (two journals)	£35	Associate (two journals)	£20
Student Associate	£2.50		

(2) The Officers and Council are very aware that a change in personal circumstances, for whatever reason, may affect a Fellow's ability to continue paying the Annual Contribution. It is within Council's power, through the Officers, to remit some or all of the Annual Contribution (Bye-Laws Ch. 2, Sect. 2). However, to do so the Officers must be able to appraise each application in sufficient detail to make a proper judgement. Fellows feeling in need of support should write privately to the Executive Secretary explaining their new circumstances. Alternatively, they should get in touch with a member of Council known to them. Details will be treated in confidence.

Use of the Library

The beginning of the Bicentenary programme of meetings will mean that there will be occasions when the Reading Room will be in use all day for the refreshment of participants at meetings. We will of course try to keep space for readers in the Library Annexe but if display boards are in use in the Reading Room it is not always possible to get to the books behind the display (and these are always somehow the ones wanted). Please, therefore, try to avoid planning a busy day in the Library if a full day joint meeting has been planned.

Notes

Donations

We have been asked if it is possible for Fellows in the United States of America wishing to make donations to the Society to benefit from the U.S. internal tax exemption Laws. We have checked and are assured that it is perfectly proper to make a tax-deductible donation to us, a U.K.-recognized charity, through the medium of a U.S. charity such as the Hunt Institute.

Membership of Committees

Following the note in the January 1986 issue (*2* (1): 2), we have had some response from Fellows volunteering to sit on the Committees, but Council would welcome more. Anyone interested is asked to contact the office.

Below is the list approved by Council for 1986–87.

Bicentenary
Dr D. F. Cutler (Chairman)
Prof. E. A. Bell
Dr V. F. Eastop
Prof. J. G. Hawkes
Prof. D. L. Hawksworth
Mr G. Ll. Lucas
Mr J. Massey Stewart
Dr N. K. B. Robson
Mr M. J. S. Sands
Prof. R. J. G. Savage
Miss M. E. Young

ex officio: The Officers

Collections Curatorial
Dr K. A. Joysey (Chairman)
Mr P. K. C. Austwick
Dr R. K. Brummitt
Dr P. S. Davis
Dr C. E. Jarvis
Mrs S. Morris

ex officio: The Officers,
The Librarian,
The Curators

Editorial
The Editorial Secretary (Chairman)
Prof. R. J. Berry *Biol. J.*
Mr J. F. M. Cannon
Dr S. L. Jury *Bot. J.*
Prof. B. G. Gardiner *The Linnean*
Dr D. M. Kermack *Synopses* Series
Dr H. M. Platt *Zool. J.*
Dr D. Rollinson
Mr R. I. Vane-Wright
ex officio: The Officers,
Ed. *Kew Bulletin* (Mr M. J. E. Coode),
Ed. *J. Zool.* (Dr M. Edwards)
Review Ed. (Dr M. J. Crawley)
by invitation: Rep. of Society's Publisher
Dr R. S. K. Barnes, Joint Editor *Synopses* (EBSA)

Finance
Treasurer (Chairman)
The Rt Hon. The Earl of Cranbrook
Mr F. R. Goodenough
Dr C. B. Goodhart
ex officio: President, Secretaries, Chairman of the Library Committee

Flora Europaea Trust Fund
Botanical Secretary (Chairman)
Mr A. O. Chater
Prof. V. H. Heywood
Dr S. M. Walters
ex officio: President, Treasurer

Grants
President (Chairman)
Dr R. A. D. Cameron
Dr J. S. Churchfield
Prof. J. G. Hawkes
ex officio: Treasurer, Secretaries

Library
Mr G. Ll. Lucas (Chairman)
*Mr R. E. R. Banks
*Mr R. G. C. Desmond
*Miss S. M. D. Fitzgerald
*Mrs S. Gove
*Mr R. D. Kirkman
*Miss J. Sheppard
Mr D. P. Taylor-Pescod
ex officio: The Officers
* Not Fellows

Medals and Awards
President (Chairman)
Vice Presidents
1 Botanical } member of Council who attended
1 Zoological } Separate Meetings of Council
Treasurer, Secretaries

Programmes
Zoological Secretary } Chairmen
Botanical Secretary }
Mr F. H. Brightman
Dr J. H. Crothers
Prof. J. G. Hawkes
Dr K. A. Joysey
Mrs V. M. Purchon (Sixth Form Lectures)
Dr D. Rollinson
To attend when so desired: Group organisers (as listed on the Meetings Card)
ex officio: President, Treasurer

Bicentenary celebration holiday in Sweden

The Society is arranging a two-week holiday in Sweden for 1988 and it is expected that this will start on Wednesday 29 June. Three nights will be spent in Uppsala and four in Stockholm, followed by six night on the Island of Gotland. Professor Bengt Jonsell FLS, has kindly offered to lead the party on Gotland where there is a wealth of historical as well as botanical interest. He is also planning something special during an excursion to Drottningholm near Stockholm. The party will be limited to 24 people. The flight, using Apex fares, will be from and to London (Heathrow): the journey to Gotland will be by day-ferry passing through the archipelago and most of the local transport will be by private coach.

Further and more detailed information will be given in the next issue of *The Linnean.*

The Bicentenary Logo

In case you have been wondering, this oval device was commissioned over a year ago, originally for temporary use on the Society's letterhead for bicentenary correspondence. It was designed by Mrs Claire Dalby, to meet the conflicting requirements of tradition and longevity. As you will have seen it is now also being used as an indicator of our bicentenary activity on billets, programmes and so on.

Some of the more recently elected members, especially non-botanists who live overseas, may not appreciate the significance of the *Linnean borealis*, apparently stylized on the logo but in fact botanically accurate, which is the motif.* It features as the crest on our coat of arms, throughout the Rooms, as an inlay in the Presidential chair, as a carved decoration on the dais and on every illuminated page in the Roll and Charter Book signed by our Royal Family since it was opened in 1802, and of course is on the cover of this Newsletter. The flower has a special place in the hearts of most people in Sweden where it is indigenous, not only being named by Linnaeus for himself but being referred to by him in one of his notebooks with affection as "my flower".

The writing paper letterhead incorporating the logo is printed in terra cotta. This was chosen as, after the design had been accepted, it was discovered that the selected shade of green was already in use, with the same motif, by the Botanical Garden of Montreal. The alternative choice seems happily to reflect the all embracing aspects of Linnaeus' interest in all natural things.

Contacts with E. J. Brill

(1) We have now received confirmation that the Natural History Book Service Ltd, 62 Tritton Road, London SE21 8DE, is acting as the United Kingdom outlet for *The Synopses of the British Fauna* published by E. J. Brill in Leiden. This should therefore establish the link which has been missing since Brill's London office was closed shortly after we agreed the contract in 1983. The Book Service will hold a large stock of all volumes and will promote the series to its customers.

This does not change the present arrangement for the purchase of single

*Editor's note: When reduced, as on my meeting's card, it looks more like a bull's eye!

copies of *The Synopses* at special reduced rates by members of the Society and E.B.S.A. from Burlington House. Likewise, editorial and reproduction matters should still be addressed to the Society or to the Editors as appropriate. However, large bulk orders by Fellows, and orders from non-Fellows, will be handled by the N.H.B.S. who have been authorized to allow discounts also to authors and other bona fide booksellers.

(2) Mr S. Peter Dance F.L.S. has been appointed by E. J. Brill as their Acquisitions Editor. Fellows who may like to consider publishing their work through Brill should contact him at 28 Cheriton Road, Folkestone, Kent CT20 1BU, tel. (0303) 44853. Peter Dance holds a small stock of *The Synopses*.

Flora Europaea Notulae

The *Flora Europaea Notulae* are being reprinted by Koeltz Scientific Books, indexed and collected in a single volume. *Notulae Systematicae and Floram Europaeam Spectantes* contains Notulae 1–7 (originally published in Feddes Repertorium), Notulae 8–20 and Corrigenda and Addenda to Notulae 20 (originally published in *Bot. J. Linn. Soc.*), plus an introduction by V. H. Heywood and a comprehensive index by L. N. Derrick and J. van Scheepen. These *Notulae* document many of the plant nomenclatural and taxonomic changes introduced in *Flora Europaea,* vols 1–5. The volume is available at 25% discount to members of the Society and may be obtained by writing to Koeltz Scientific Books at D-6240 Koenigstein, P.O. Box 1360, West Germany. The order must indicate clearly "Fellow, Linnean Society of London". We understand the price to Fellows is DM250 less 25% = DM 187.50. Payment may be made in any currency by cheque or international postal money order on receipt of the book.

The Handbook of U.K. Biological Societies

This handbook, one of the principal products of the Biological Council, is published annually and contains comprehensive data of all affiliated Societies and a collated diary of their meetings and themes extending up to four years ahead. We are, of course, a subscribing Society.

Whilst it is not practicable to mail all Fellows with the handbook we believe its contents could be very useful to many practising biologists. We have therefore ordered a stock to be held in the Rooms for purchase by Fellows. Over-the-counter the cost is a mere 15p. If you wish to order a copy by post please send a self-addressed envelope ($8\frac{1}{2}'' \times 6\frac{1}{2}''$) enclosing stamps to value 35p.

Library

All the Reading Room and Annexe books have now been cleaned, polished and labelled (except those not yet returned from loan which we will have to deal with as they become available!). A start has been made in the rearrangement of journals dealing with specific subject areas housed in the rolling stacks in the Piccadilly side of the basement. Gavin Bridson's plan to continue the sequence to include invertebrate and vertebrate zoology journals is now being implemented and soon it should be possible to find all the malacological or ichthyological journals grouped in sequence instead of scattered through a mass

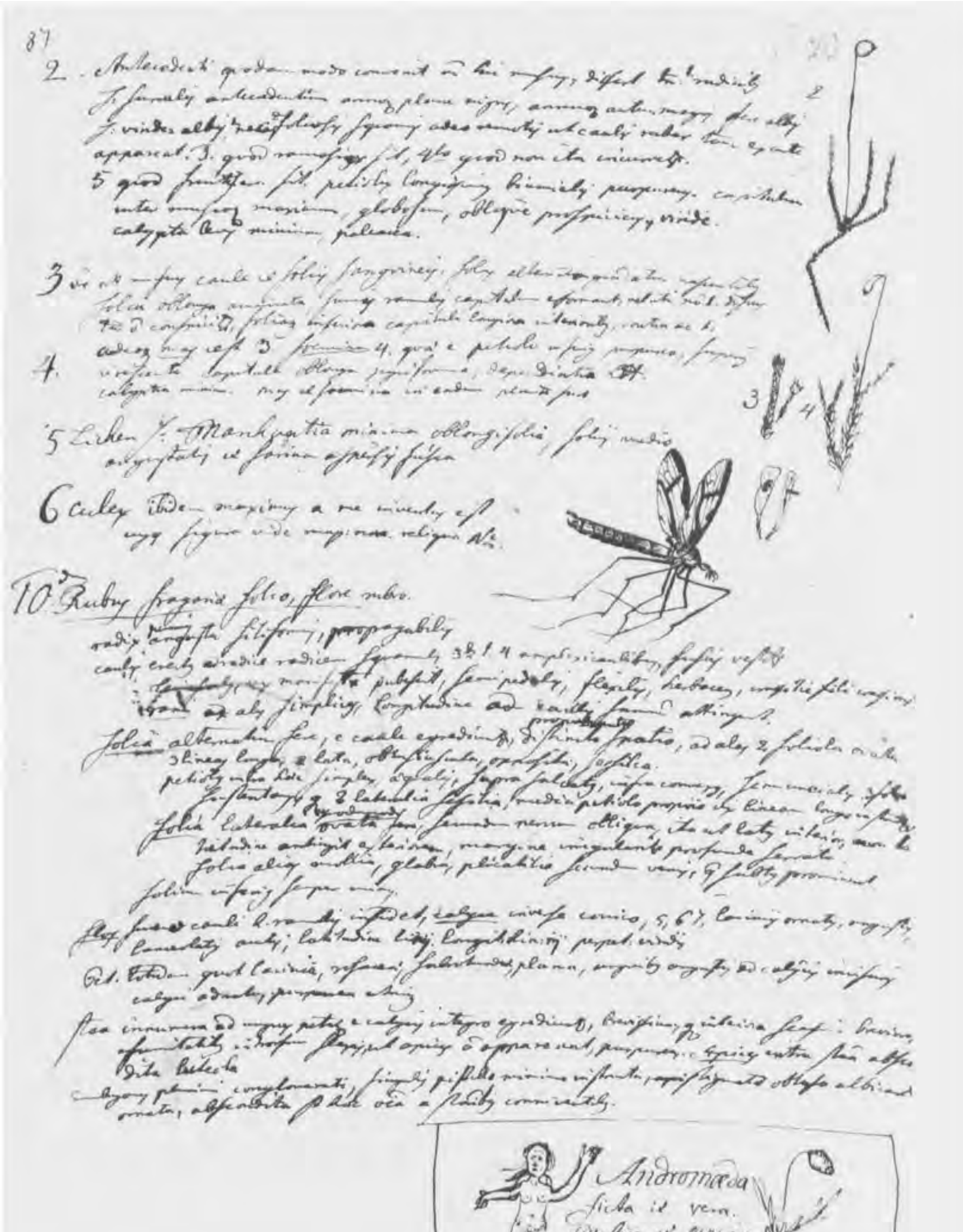
of other less specific titles. This is something of a training exercise using the Manpower Services team to gain experience for eventual rearrangement of at least some of the Reading Room on a subject basis. We hope that by taking things in stages we will be able to avoid "losing" things whilst they are in the middle of being moved. Please be patient if your request takes a little longer to find—it may be sitting in a "half-way house" and need checking in three places.

A recent article on reprints in *New Scientist* is an opportunity to remind Fellows that we *do* welcome copies of your reprints, or of those you have accumulated from others but no longer need or use. They are one way in which we can supply a reader with a copy of something requested and are often much easier to post on loan than a bound volume.

Picture quiz

Name the occasion and any of the participants you can recognize.

The winner of the quiz on page 11 of the last issue was Beverly Halstead who correctly identified Dr Errol White (P-PLS) in Spitsbergen, August 1939. Dr White was with the English–Norwegian–Swedish Palaeontological Expedition which returned on the eve of the Second World War. Beverly's prize is a copy of Tetrapod phylogeny (*Zoo. J. Linn. Soc. 74:* 207) inscribed by the author.


Andromeda
ficta et vera.
Mystica et genuina.
figurata et depicta

From the Archives

The above page for 9–12 June 1732 (old style) taken from Linnaeus's Journal of his Lapland tour (Lachesis Lapponica) is reproduced here both for your interest and to encourage as many of you as possible to participate in the Bicentenary Lapland journey (see *Linnean 2 (3):* 2). It also demonstrates that Linnaeus was probably short sighted (contrast for example the tipulid fly with the human female form).

The accompanying narrative includes an exquisite description of *Andromeda* which reads in translation as follows:

> *Chamaedaphne* of Buxbaum (*Andromeda polifolia*) was at this time in its highest beauty, decorating the marshy grounds in a most agreeable manner. The flowers are quite blood-red before they expand. . . . . As I contemplated it I could not help thinking of Andromeda as described by the poets . . . . represented by them as a virgin of most exquisite and unrivalled charms, but these charms remain in perfection only as long as she retains her virgin purity, which is also applicable to the plant now preparing to celebrate its nuptials. This plant is always fixed on some little turfy hillock in the midst of the swamps, as Andromeda herself was chained to a rock in the sea, which bathed her feet, as the fresh water does the roots of the plant. Dragons and venomous serpents surrounded her, as toads and other reptiles frequent the abode of her vegetable prototype, and, when they pair in spring, throw mud and water over its leaves and branches. As the distressed virgin cast down her blushing face through excessive affliction, so does the rosy-coloured flower hang its head, growing paler and paler till it withers away. Hence as this plant forms a new genus, I have chosen for it the name of *Andromeda*.

Linnaeus had drawn this fanciful analogy further in his *Flora Lapponica*: "At length comes Perseus in the shape of Summer, dries up the surrounding water and destroys the monsters rendering the damsel a Fruitful mother, who then carries her head (the capsule) erect."

This translation, made by James Edward Smith when President of the Linnean Society, appears in *Lachesis Lapponica* Volume 1 published in 1811.

Palynology Specialist Group

This is now being run by Dr Stephen Blackmore, British Museum (Natural History), Cromwell Road, London SW7 5BD. He wishes to hear from anyone, including people who are not members of the Society, who is interested in the subject and has called an informal meeting on 26 February 1987 to plan future activities. Short presentations will be given to emphasize the common ground between ecology, palynology, taxonomy, pollination biology and ultrastructure. See p. 9.

Anniversaries

During the course of 1986 the Society has offered its congratulations and good wishes to: The Botanical Society of the British Isles (150 years), The Wild Flower Society (100 years), The Dublin Naturalists' Field Club (100 years), The Botanical Society of Edinburgh (50 years).

Deadlines

The closing dates for material for *The Linnean* are 18 April for the August 1987 issue 22 August 1987 for the December 1987 issue.

Room Closure

The Rooms at Burlington House will be closed over Easter from 17 April to 21 April 1987.

Membership

Congratulations

We were delighted to hear that Professor J. D. Smyth has been awarded the Zoological Society of London's Frink Medal for British Zoologists.

A letter of congratulation had been sent to Professor Sir David Smith FRS on his Knighthood, received in the New Year's Honours 1986. Letters were also written to Professor E. J. H. Corner FRS, who was awarded the Japanese Consortium's first International Prize for Biology, and to Dr M. R. D. Seaward on the award by the University of Wroclaw, Poland, of a Gold Medal for his services to Polish botany.

We welcome the following who were elected on 16 October 1986

Fellows

Prof. P. Calow, B.Sc., D.Sc., Ph.D.
Prof. Russell Leonard Chapman, M.S., Ph.D
Freddy Villiom Bugge Christiansen, mag. scient & lic. scient
John Berrington Davies, M.Sc., M.I.Biol.
Dr Abd El Aziz Ali Fayed
Christos Ch. Georgiades, B.Sc.
Frederick Otto Peter Hechtel, B.Sc.
Hugh H. Iltis, Ph.D
Noel Christopher Stephen Jackson, M.A.
David George Jamison, M.A., B.M.
Stephen A. Junakl, M.A.
Alastair D. MacDonald, B.Sc., Ph.D.
Lawrence Bernard Martin, B.Sc., Ph.D. (from Associate)
Margaret Ursula Mee, M.B.E.
Robert W. Patterson, M.A., Ph.D.
Brian Stanley Rushton, B.Sc., Ph.D.
David Alan Simpson, B.Sc., M.Sc., Ph.D.
Puangpen Sirirugsa
Martin Walters, M.A.
Miranda Weston-Smith, B.A. (from Associate)

Associates

Alistair Culham, B.Sc.
Frances Cobb, B.Sc.
Caroline Angela MacRae, B.Sc.

Meetings

26 February 1987. An informal meeting of the Palynology Specialist Group will be held in the Council Room as announced on page 8.

Programme

14.30 Introductory discussion on the future activities of the Group. Dr S. Blackmore, Secretary.
15.00 *Pollen wall ontogeny in Lactuceae (Compositae).* Ms S. H. Barnes, British Museum (Natural History).
15.30 *Pollen analysis as applied to archaeology.* Dr M. Keith-Lucas, University of Reading.
16.00 *Colour in pollen grains.* Mrs M. M. Harley, Royal Botanic Gardens, Kew.
16.30 General Discussion.

26 February 1987 at 18.15. Wine and sandwiches on conclusion, ***Rare Breeds of Cattle and their Conservation.*** This general interest lecture will be preceded by meetings of the two Specialist Groups covering Palynology and Computer Applications. The lecturer, Mr Joe Henson, is Chairman of the Rare Breeds Survival Trust which he helped to found in 1973. His farm in Gloucestershire contains his breeding collection of rare breeds of farm animals which are on display to the public.

Abstract

Ever since man first domesticated the wild cattle of Europe he has been changing them by selective breeding to suit his needs. These needs have varied in different climatic regions and social structures so that today we have a wide

variety of types. Many of them have played an important part in our history but as market demands and farming systems change, breeds are superceded, decline and sometimes become extinct. We are fortunate in Britain that many of our less commercial breeds have been saved from extinction by benevolent land owners or local enthusiasts and in recent years by the efforts of the Rare Breeds Survival Trust. With the current agricultural revolution in Europe, where food products are over-produced and economy of production is the new criterion, breeds which have been preserved as part of our living heritage may have a vital use as a gene bank for the future.

19 March 1987 at 10.00. ***Changing attitudes to Nature Conservation.*** Bicentenary joint meeting with the Royal Society for Nature Conservation. This is the next in the series of joint one-day meetings being held in the Rooms. It will follow the same pattern as those already held, with the Society business being conducted prior to the afternoon session.

Agenda for Society Business

1. Admission of Fellows.
2. Minutes of the Meeting held on 19 February 1987.
3. First reading of the Certificates of Recommendation for the election of Foreign Members and Fellows *honoris causa.*
4. Election of Auditors for the Treasurer's Accounts for the year ended 31 December 1986.
5. Ballot for the election of Fellows, Associates and Student Associates.

26–27 March 1987. ***Phylogeny and Classification of the Tetrapods.*** Details and registration forms for this two-day international symposium being held in the Rooms are still obtainable from Burlington House. Any Fellow who inadvertantly did not receive a registration form with the last issue and wishes to attend should contact the office as soon as possible.

30 April 1987 at 18.15. A lecture on ***The Social and Intellectural Climate for Natural History in 18th Century England*** will be given by Dr Roy Porter to celebrate the bicentenary with the Society for the History of Natural History. Details of this and the subsequent informal evening may be obtained from Burlington House.

7 May 1987 at 10.00. ***Bryology: modern research and the way forward.*** Bicentenary joint meeting with the British Bryological Society. Details are on the handout, copies of which may be obtained from Burlington House.

Agenda for Society Business

1. Admission of Fellows.
2. Minutes of the Meeting held on 22 March 1987.
3. Second reading of the Certificates of Recommendation for the election of Foreign Members and Fellows *honoris causa.*

Other Meetings

1987

January 13 *Charlton Sandpits and Abbey Wood.* Dr J. Hooker. London Natural History Society (Geology with Ecology and Entomology) at Burlington House.

January 20 *Seaballs and Lakeballs—an ancient Mediterranean theme with worldwide variations.* Mr J. F. M. Cannon FLS. L.N.H.S. at Burlington House.

February 3 *Recent Research on Sparrowhawks.* Dr I. Newton. L.N.H.S. at Burlington House.

February 9 *Life in British Offshore Waters.* Linda Pitkin. L.N.H.S. at Burlington House.

February 9–14 International Peat Society Symposium. *Tropical Peat and Peatlands for Development.* Yogyakata, Indonesia. Details from Mr R. A. Robertson, Department of Peat and Forest Soils, Macaulay Institute for Soil Research, Aberdeen.

April 16–22 *Is Desert Ecology Unique?* International Workshop at Ben Gurion University, Israel. Details from Prof. U. Safriel, The Blanstein Institute for Desert Research, Sede Boger Campus, Israel.

May 12–14 De Vis Symposium: *Vertebrate Palaeontology and Allied Sciences.* Details from Dr S. Turner, Queensland Museum, Gregory Terrace, Fortitude Valley, Queensland 4006, Australia.

29 June–2 July International Symposium on *Biosystematics of Haematophagous Insects.* Details from Dr M. W. Service, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool L3 5QA. Registration by 30 May.

July 1–3 *Prospects in Systematics.* 50th Anniversary Meeting of the Systematics Association at the Royal Society, 6 Carlton House Terrace, London SW17 5AG.

July 14–18 International Symposium on Vegetational Structure. Utrecht, Netherlands. Details from Symposium Secretariat, Department of Plant Ecology, Lange Nieuwstraat 106, 3512 PN Utrecht, Netherlands.

24 July–1 August *XIVth International Botanical Congress.* Berlin, FRG. Details from Fourteenth International Botanical Congress Botanisches Museum Berlin-Dahlem, Konigin-Luise-Strasse 6–8, D-1000 Berlin 33, FRG.

August 24–29 International Symposium on *Maize Arthropods.* Godollo, Hungary. Details from F. Szentkirayli, Department of Zoology, Plant Protection Institute, P.O. Box 102, H-1525 Budapest, Hungary.

1988

July 18–23 The Second International Succulent Plant Congress—*Aloe 88.* Harare, Zimbabwe, Details from Mr M. J. Kimberley FLS, Convenor of Aloe 88, P.O. Box 8514, Causeway, Harare, Zimbabwe.

A Bryological Correspondence Success

34 Wells Green Road,
Solihull, West Midlands,
12.6.86 B92 7PG

Dear Editor,

As a result of my examination of Italian *Philonotis* moss specimens kindly sent by Dr S. L. Jury FLS, Curator of the Herbarium, University of Reading, I have found two varietal taxa of this genus which Dr Jury informs me are new to the Italian bryoflora.

These taxa are:—

(1) *Philonotis marchica* (Hedw.) Brid. var. *aristata* Réchin et Sébille. (2) *Philonotis seriata* Mitt. var. *laxa*, J. H. Field.

My paper on the latter was published in *Proc. Birm. Nat. Hist. Soc.* (1972) *22*, 2: 131.

Yours sincerely,
J. H. FIELD

The James Insch Tea Library

The Tea Library came into the possession of the Linnean Society on the death of James Insch in 1951. An obituary by Dr Harold Hart Mann appeared in the Proceedings of the Society of 1950–1951, pp 253. Briefly James Insch was born in Morayshire in 1877. He left school at the age of 15 to work as gardener on the Duke of Gordon's estate at Gordon Castle and it was while working there and on other estates in Scotland, Cumberland and Oxfordshire that he developed an interest in botany, especially in its practical applications. Finally, at the age of 25 he accepted an appointment in the Indian Tea Industry in the agency of Messrs Duncan Brothers Co of Calcutta and from 1902–1933 was manager of Tea Gardens and estates in India. He retired in 1938 from active office work but until his death he continued to act as adviser to the Duncan Group. In 1940 he was elected a Fellow of the Linnean Society.

In February 1944 James Insch wrote to the Librarian of the Linnean Society, Spencer Savage FLS, informing him that he intended leaving his entire collection of Tea books and pamphlets to the Society and enclosing a cheque for £100 which he wished to be anonymous, for any expenses which might be incurred in re-binding some of the books. After his death in 1951 the books were duly delivered.

The collection consisted of some 300 books and pamphlets. Since then other books have been added, including some of Dr Mann's who regarded it as a unique collection of Tea literature and probably the best in Britain. It can be divided roughly into three groups. The first and smallest are those of the pre-1750 period. They are locked away in the cupboard of the Library Annex together with all the other pre-1750 books. The second spans the period from 1750 to well on into the 19th century and covers the birth and development of the Tea industry in India. The rest bring us into the middle of the 20th century and virtually to the end of the Raj. The old books are mostly in Latin and English but three are in French and one in German, 19 authors and 23 books in all. There is also a copy of an Act of Parliament of 1704 which began in 1702 in the first year of the Reign of our Lady Anne. It was an Act for continuing "Duties upon low Wines, Coffee, Tea, Chocolate, Spices and Pictures and upon Hawkers, Pedlars, and Petty-Chapmen and upon Muslins, and for Granting new Duties upon several of the said Commodities and also upon Calicoes, China-Ware and Drugs".

Illustration of tea plant, taken from *Legato Batauia* (1668) (much reduced).

Some works are in their original bindings, not all are in good shape. J. O. Ovington's *Essay Upon The nature and qualities of tea* (1699) is beautifully bound in leather, gilt embossed with a tea plant in leaf with flowers and bearing seeds, an angel in each corner. He was Chaplain to King William III and includes a

poem to Queen Mary in his book. In commending tea to her Majesty he claims "it cures everything under the sun, from gravel, vertigo, and corrects nauseous humours that offend the stomach, throwing off abundances of these crudities created in the body through excess". At the same time one Thomas Ovington was Chaplain of Bombay. Is it possible that J. Ovington was related to him and gained his knowledge of tea from him?

A page from P. S. Dufour (1668) *Traitez du Cafe du The et du Chocolat.*

Several of the books are lavishly illustrated, especially those on travel. Beautiful line engravings of landscapes, ports, harbours, ships, people, gardens, flora and fauna all occur and illustrate the high level of civilization which had

existed for centuries in the East, long before the arrival of Europeans. Stylized drawings of the tea plant and tea gardens appear together with the vessels and utensils used in the preparation of tea, not so different from those in use today.

The qualities and virtues of tea are explained by most writers, with advice on culture of the plant, collection of the leaves and the marketing of the finished product. The tea under discussion is for most part from China, some from Japan.

The earliest book is John Nieuhof's *Legato Batavia* (Amsterdam 1668). The Dutch East India Company's Ambassador to the Emperor of China to whom the book is dedicated. John Nieuhof travelled all over the Far East as far as Japan and was in Asia for many years. His book included a map of China embellished with animals, plants, people and scenes depicting life in each province. On page 85 is a drawing of a tea plant in flower and bearing seeds in a landscape with Chinese workers in the background and "Thee or Cha" written at the top.

Le Compte travelled widely. His book *Memoirs and Observations made in a late journey through the Empire of China* (1698) also includes a map of China. He was a Jesuit Priest and confessor to the Duchess of Burgundy. His journey is more of a pilgrimage as the maps mark with crosses the Christian churches and residences of the Jesuits. He was also Missionary to the Eastern Countries and a royal mathematician. Of "Teha [he writes], the flowers resemble wild white roses".

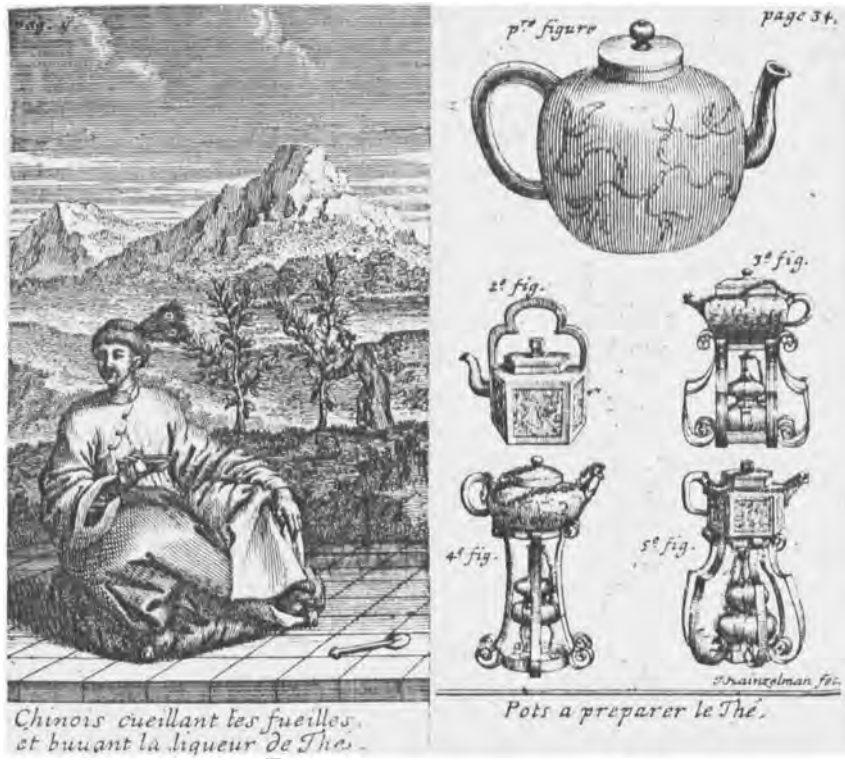
A Merchant in India, Charles Lockyer's *An Account of the Trade of India* (1711) describes in great detail the voyage out round the Cape of Good Hope and back again and every aspect of life in India. He discusses tea as exported from China, its cultivation, packing and preparation. The account mentions "bang", a sort of hemp used as tea by the inhabitants, then states that real tea is grown in China and Japan, though Japanese tea is not recommended. He highly commends the East India Company for its "strength, wealth and great returns made yearly thence in Calicoes and Muslins".

Three books by Kaempfer include two volumes on the history of Japan and span 16 years from 1712 to 1728. Kaempfer travelled widely. The books are copiously illustrated with drawings of places, people, animals, plants, some stylized and extravagantly exotic, including maps "all collected with great diligence in his wonderings through all the East and also including the story of Japanese Tea". He was quoted frequently and considered an authority on Tea.

Michael Bernhard Valentin also wrote in detail about his travels in the East. His *Historia Simplicium* (1732) illustrated by C. B. Valentin and dedicated to the Landgrave of Hesse, has an appendix in the form of a medical dictionary describing many plants and their properties. Minerals and metals are also included as is a drawing of the tea plant, Japonensis, other plants and the utensils used in the preparation of tea.

These last five writers we know definitely travelled in the East. Many of the other books give the impression of first-hand knowledge but in fact are compiled from observations of others. Thomas Pope Blount in his *A Natural History* (London, 1693), readily admits that his "many not common observations are extracted out of the best modern writers". His book is a prolific account of every subject under the sun; plants, insects, reptiles, metals, precious stones, volcanoes, hurricanes. All these and many more are included in 472 pages packed with entertaining comments on so many diverse matters.

Jacob Breyn's *Plantarum Exoticarium*, commonly known as the "*Centuria*", published in Danzig (1678), is a book of illustrations of the first hundred exotic plants and other lesser known plants with added figures and observations of Africa and Asia. In the appendix there are several pages on "Fructice Thee" with an engraving of the tea plant. Like Linnaeus after him, he never left Europe but depended entirely on specimens, plants, seeds, bulbs and the



Two pages from Blegny (1687) *Le bon usage du The du Caffe, et du Chocolat.*

drawings sent to him by travellers, botanists and professional natural history collectors. The beautiful, detailed line engravings are often signed by the artist and engraver Wilhelme Ten Rhyn, physician to the Dutch East India Company in Japan who spent many years in the East. He was a talented artist and kept Breyne supplied with specimens and drawings. Breyne was a dedicated botanist. An elaborate frontispiece to the book is signed "J. Breyne" in a cartouche at the foot of the drawing.

Joannes Nicolaus Pechlin's *Theophilus bibaculus sive de potu Theae dialogus* (1684), although not illustrated, is the most prestigious and most quoted book on tea until well on into the 19th century. He was principal physician to the King of Denmark. Blount's chief reference on tea is "the learned Pechlin" who

states "tea abounds with a brisk, volatile salt which is very agreeable to our northern constitutions whose blood is naturally very heavy and sluggish".

The *Poem in three Cantos* (Anon, 1743) is a eulogy as is Tate's *A poem upon the The, with a discourse in its Sovrain virtues; and directions in the use of it for health* (1702). Tate was Poet Laureate to Queen Anne. The last few pages are devoted to extolling the virtues of tea and describing various varieties and directions for its preservation. He refers to Pechlin's claims that it "sweetens the Blood, revives the Heart, refreshes the Spirits, relieves the Brain, quickens Apprehension, strengthens Memory and preserves the just Temperament of Body and Mind"! What more can you ask for? He apologises for quoting foreign sources and not "our own most eminent physicians" but answers in one word (as good as a thousand) "they drink it themselves".

As was customary, some volumes are dedicated to important sponsors and benefactors and couched in the fulsome, florid language of that period. Ovington dedicated his book to the Rt. Honorable Countess of Grantham: "T' is for your innate Goodness only and that condescending Temper which is so remarkable in you that this foreign leaf dares presume to court your favour". True or false one wonders?

Louis XIV commissioned de Blegny to research into the medicinal qualities of tea, coffee and chocolate. His book *Le bon usage du The, du Cafe, du Chocolat pour la preservation et pour la guerison des maladies* was published in Paris in 1687, with lovely engravings. Next year, by privilege of the King, Philip Sylvester Du Four wrote his book "*Ouvrage egalement necessaire aux Medecins et a tout ceuz qui aiment leur Sante*"! This book was recently consulted by a French visitor, representative of Nestlé. It it also beautifully illustrated.

Borrich (1690), Blanchard, Duncan and Petit (all 1705) deal with tea, coffee and cocoa, and in the case of Blanchard, tobacco as well. Borrich's work is a treatise on the use of plants for medicinal purposes with a special section on tea claiming that "it is a panacea for all ailments". Duncan is concerned with the abuses of all things "hot". He was a Doctor of Medicine of the Montpellier Faculty! Boyle Godfrey's *Miscellaneous experiments and observations on Various objects* (1735) is full of adverse criticism with hardly a good word for anything. He quotes Kaempfer on tea "it has a strong narcotic quality that is of the nature of opium". Godfrey recommends adding milk which by its "butyrous part takes off in some measure its sting". He is convinced it causes ulcers and that it is much better to use local herbs such as sage, ground ivy, balm or coltsfoot. Also included is his advice on "how to cure BUGGS in houses". Cheshire cheese he maintains is corrosive and will excoriate the mouth. He has scarcely a good word about any food or drink except water, especially rain.

Dr R. James's translation of Pauli's *Treatise on Tobacco, Tea, Coffee, Cocoa and Chocolat* (1742) is copiously illustrated with engravings of Chinese and Persian vessels and utensils. Pauli maintains that the tea plant was taken into China by the Tartar incursion in the Seventeenth Century.

The 19 authors in the pre-1750 collection do not include Linschoten because although actually first published in 1598, the edition we have here is a reprint commissioned by the Hakluyt Society in 1885. John Huygen van Linschoten, after the Spanish occupation of the Netherlands, joined his brothers in Seville and a few years later sailed from Lisbon with the Indian Fleet in attendance on the newly appointed Archbishop of Goa. The Portuguese had already been

settled in Goa by the beginning of the 16th century. When the Turks blocked the overland trade routes to the East in 1480, Vasco da Gama opened up the direct sea route to India for the Portuguese in 1498 round the Cape of Good Hope. *The voyage of John Huygen van Linschoten* (1598) is a graphic account of the life, customs and natural history of the Far East. During the five years he spent in Goa he does not appear to have set foot out of it, apart from local journeys. Tea is only briefly mentioned. In his description of life in Macao he writes (p. 137, Vol. 1) "after their meat they use a certain drinke which is a pot with hot water which they drinke as hote as ever they may endure whether it be winter or summer". He gleaned all his knowledge of the countries beyond Goa from the accounts of other travellers. His chief importance rests with his charting of the sea routes to India and the East which proved of great help to other navigators; his charts and maps were used by all ships in these seas.

When Linschoten arrived in Goa the Portuguese had already been established for nearly a century. His book, published 70 years before John Nieuhof's, is the earliest account in the collections of the life and conditions in the East. In the Middle Ages Europe was well aware of the fabulous wealth of the ancient and great civilizations in the East, rich in silks, jewels, porcelain and especially spices. Spices were necessary for the preservation of food, and this trade was the dominant reason for contact between Europe and the East; tea was a by-product. Storms, shipwrecks, sickness and all the hazards encountered meant that many were lost on the way.

The second group includes eight books which belong to the latter half of the eighteeth century. One is a short treatise in Latin by Linnaeus, *Potus Theae* (1765). Sixteen pages classify the tea plant and opposite page 16 is a stylized line drawing of "Thea Bohea".

In 1796, thirty years later, a *Treatise on Teas* was published: "An essay on the Nerves" it contained the sentiments of the many physicians and professors to show the extreme danger to which the public is exposed from the continual use of an article so pernicious and destructive to the constitution. Included is an essay by Dr Solander on "Sanative English Tea, universally approved and recommended by the most eminent physicians in preference to foreign tea, (a slow poison) as the most pleasing and powerful restorative in all nervous disorders hitherto discovered". The ingredients of Sanative Tea are not disclosed in detail but it is prepared from native and exotic plants, "being gathered and dried with peculiar attention to preserving their Sanative Virtue as the most pleasing and powerful restorative in all Nervous Diseases"! Seventy case histories are quoted including sufferers from severe nervous headaches, bilious complaints, hysterical cases, lowness of spirits, violent pains in the head, debility of frame, bad cough, poor appetite and many other complaints—all of whom were restored to perfect health and strength. Consequently the tea is held in high estimation in circles of fashion.

Sir George Staunton F.R.S. in 1798 published *An authentic account of an Embassy from the King of Great Britain to the Emperor of China.* There are two editions in the collection, one of two volumes, the other in three. Both of them are profusely illustrated. The Earl of McCartney was the ambassador sent on this important mission. Staunton, a great friend of his and tutor to his son, accompanied him. The journal records in great detail the famous incident when McCarthy refused to "Kow Tow" to the Emperor. They travelled all over China and even visited

the Emperor in his country residence in Tartary. The appendix records the qualities of tea exported each year from China in English and foreign ships from 1776. The leaves were pressed down into lead-lined chests by the naked feet of Chinese labourers, and specimens of plants were sent to Bengal by his lordship.

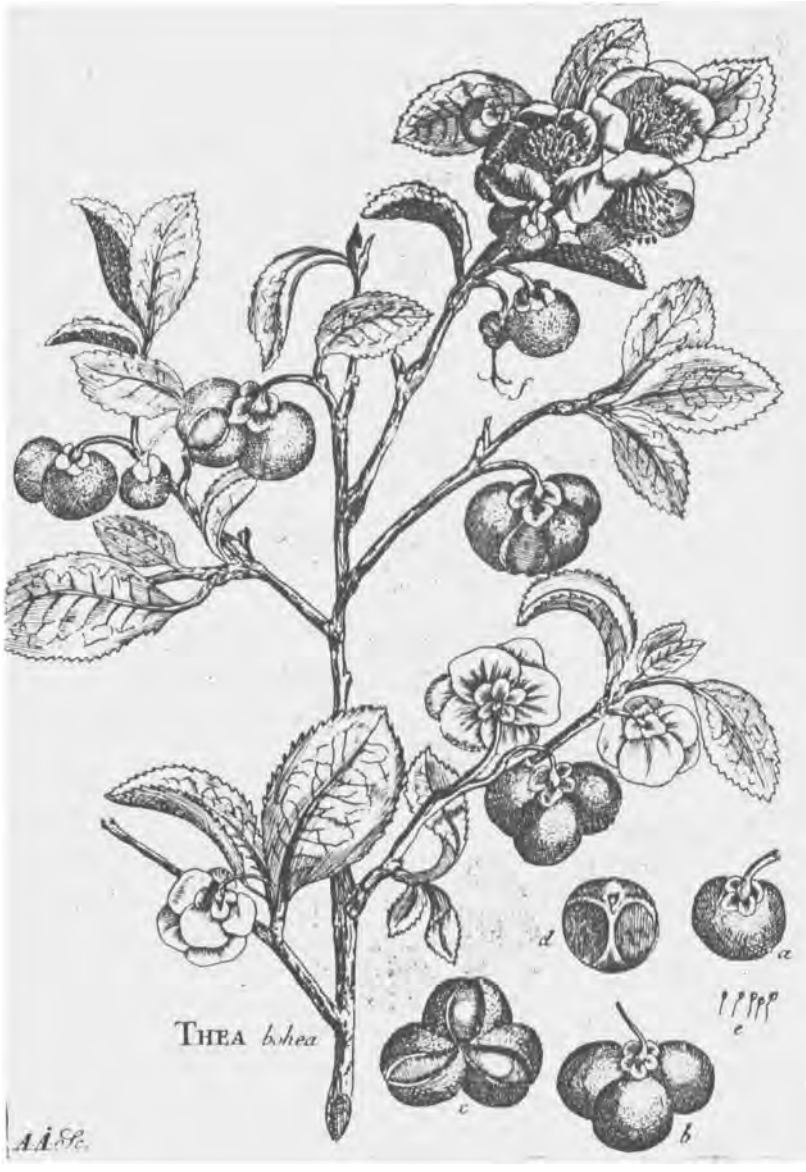


Illustration of tea plant, taken from Linnaeus (1765), *Potus Theae.*

Amongst the many engravings depicting the places they visited and the journeys they made into the interior is one of a tea plant "Camellia Sesangua". The text

covers all aspects of life in the Far East, including details of the natural history, commerce, trading and life style of the people. On page 464, volume II, Staunton, on a journey to Canton, observes "The tea-plant was the first time seen growing like a common shrub scattered carelessly about".

J. O. Lettsoms *The natural history of the Tea Tree* (1799) is a positive gold-mine of information on every aspects of the tea plant, including what must be the most comprehensive bibliography of the literature on tea to be published up to this time. He lists most of the books already mentioned in this collection and many more besides, over 100 references in all. In turn *A new Essay upon Tea addressed to the Medical Profession* (1936) is dedicated to "John Oakley Lettsom M.D. F.R.S. who published the first important Medical Treatise in English on Tea-Drinking". It quotes a waggish snatch of verse attributed to Lettsom:—

"When any sick to me apply,
I physics, bleeds and sweats 'em,
If after that they chose to die,
What's that to me I Lettsom"!

There are two copies, both illustrated, one published in 1772, the second in 1799. The first edition has coloured engravings of the plants Green Tea, Bohea Thea, Camellia Sesanqua and Olea Fragrans. These are engraved and painted by J. Millar—according to Act of Parliament Dec. 10th 1771. He reports the cultivation of the plants in England at Kent and the Physic Garden at Chelsea although it had already been cultivated from seed by the Duke of Northumberland at Sion House.

The *Tea Purchasers Guide or the Lady and Gentlemen's Tea Table and useful compendium in the knowledge and choice of Teas,* published in 1785, is a slim volume written "By a Friend to the Public who has been many years in the East India Company's service especially in the Tea department with no mercenary reviews". The book is of interest because of its association with the East India Company which hitherto has not featured much, in spite of it having been in existence for 200 years by the end of the 18th century. Charles Lorkyer (1711) praised it for its great wealth and Thomas Short in his *A dissertation upon Tea* (1753) (the 1st edition came out in 1730) observed "Whoever well considers what a superior figure this humble shrub makes in commerce, what an important article it is in the Traffick of the East India Companies, what a great revenue the duty upon the little crumbled leaf returns to the Crown of England whereby the general taxes are so much lessened to the Poor". Short's book also deals with the history of tea and its virtues and is frequently quoted by subsequent writers.

Later, Sir George Staunton in his account of Lord McCartney's mission to the Emperor of China notes that the expedition was transported there by ships of the East India fleet. But there is also a bound copy of the Tea sales of 1797 held at the East India House. They record the names of the ships on which the consignments were transported, the merchants involved in the sales and the results of the tastings. The terms used to describe the different flavours are probably not so different from those used today: good, ordinary, rather new, middling, coarse, faint, preferable, rather odd, strong, blackish leaf, new and dusty, new mixt leaf and many other descriptions.

After the turn of the century the books are chiefly concerned with the tea industry itself and India. Inevitably the East India Company crops up all the

time, responsible as it was for the promotion of the cultivation of the plant in India and Assam and the establishment of the industry of 1839. *Tsiology* (1827) by a "Tea Dealer a discourse on tea, Being an account of that exotic, botanical, chymical, commercial and medical, with notices of its adulteration, the means of detection, Tea making" includes a brief history of the East India Company. The Company was founded in 1599 in reply to the Dutch putting up the price of pepper from 3s. to 8s. per pound. Eighty London merchants, including the Lord Mayor, met in Founder's Hall to form an association to trade directly with the East. Queen Elizabeth I granted a Royal Charter in 1600 and within a year East India ships were on their way. Two years later the Dutch East India Company was formed. In *Tsiology* the rapidity with which the Company obtained Territories as a result of the increase in the tea trade is recounted and how it retained this monopoly up to 1857. It also recounts Napoleon's incredulity and astonishment that the British Government could endure a company of merchants possessing a Government, a navy and an army in the very heart of the Empire: "Imperium in Imperio" he declared.

The London Genuine Tea Company, founded in 1818, published in 1819 *A History of the Tea Plant* in celebration of its first anniversary. It mentions that Giovanni Botero, an Italian, was the first to write about tea in Europe in 1590. The English translation of Linschoten's travels (1598), although only with a brief reference, was probably the first the English knew of its existence. Sumer's *A Popular Treatise on Tea* (1863) relates that the Portuguese already knew about tea in the early 16th century and by 1577 had a regular trade in it with the Chinese, long before the English or the Dutch got to the Far East. By 1606 the Dutch were importing it. In the *Purchaser's Guide* (1785) we are told that they traded dried sage leaves with the Chinese, 1 lb of sage to 4 lbs of tea. The Chinese were partial to sage and full of enthusiasm for its virtues, to the financial benefit of the Dutch. Henry Turner's *Treatise on Tea* (1880) is full of useful information: he describes the book as "historical, statistical and commercial from all available sources", price 2d, by post 2½d.

Some tea filtered into England via the Dutch in 1641. The East India Company does not appear to have become involved until the 1660s. An Act of Parliament in 1660 proclaimed a duty on liquid tea, which was how it was sold, of 8d a gallon. In 1662 the East India Company ordered 2 lbs 2 oz. of some good tea from the Dutch to be sent to His Majesty King Charles II as a present. It cost £4, 5/–. His Queen, Catherine of Braganza, was probably already a regular drinker from her Portuguese sources. In 1667 they made the first direct order to their agent in Bantam to send 100 lbs of their best "Tey". From then on it became the fashion. Several books quote Pepys. His first mention of tea appears in his Diary of 28 September 1660 "I did send for a cup of tea (a Chinese drink) of which I had never drank before", and again in 1667 "Home and found my wife drinking tea, a drink which Mr Pelling, the pothecary, tells her is good for her cold and defluctions".

According to Turner, the first Tea and Coffee House in London was opened by Mr Garroway in 1751 in Change Alley, Cornhill, and was still in existence when he wrote of it and very little changed. But before that in 1660 Anthony à Wood, a celebrated antiquarian, reported the opening of a Tea House in Oxford. Excise Officers periodically visited these houses.

The history of the Tea Plant gave rise to many differences of opinion. Turner and others write of Chinese claims of cultivating the tea tree at the time that

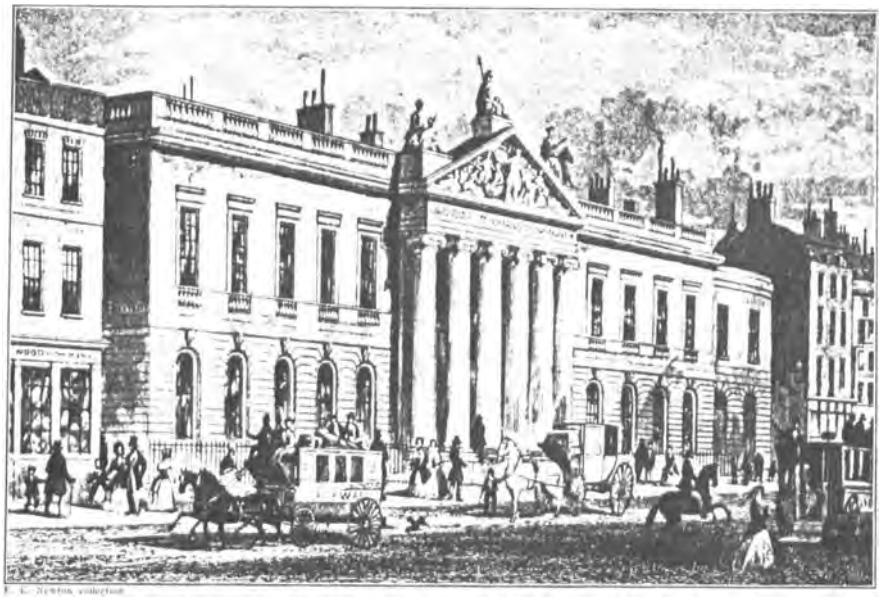
Noah was engaged in planting his vineyard: BC 254. Confucius refers to it in the "She King" in 500 BC but not until the 6th century AD did it become a beverage in general use in China and in the 9th century in Japan. Kaempfer is referred to by most as the authority on the tea plant. He and Pauli before him were convinced that it originated in India. Samuel Baildon, in his *The Tea Industry in India* (1882), is equally adamant about this, also insisting that it is much better tea than the Chinese variety. The old legend narrated by Kaempfer and repeated by many others tells of Darma (or Bodhidharma a Buddhist saint) the third born son of the Indian King Kosjuwo (the 28th successor to Sjaka) who was born in 1028 BC with an Eastern father of very good family. From India, Darma was driven into China in AD 519 to spread the true religion and for many years lived as a hermit. He nourished himself by eating leaves and spent nights in meditation and sleepless vigils. One night he was seized with sleep and in a spirit of penitence for his lapse cut off his eyelids and threw them on the ground. The next morning two shrubs had sprung up with leaves the shape of eyelids and with serrated edges (lashes); partaking of them he felt a wonderful fullness of spirit and strength and was able to remain wakeful and alert.

The Discovery of the tea plant in Assam was an important event. Many books deal with this. *Assam, Sketch of its History, Soil and productions; with the discovery of the Tea Plant,* written anonymously in 1839, is compiled from the parliamentary papers of the day. It records how Robert Bruce, a merchant, on a visit to Upper Assam in 1823 discovered some tea plants growing in a state of nature and grew it in his own garden in Saduga in 1826. The Botanic Gardens in Calcutta would not accept that it was a true tea plant. When the East India Company lost its monopoly, Lord William Bentinck, the Governor General, was instructed to report on other resources. In 1834, Captain Jenkins, Lieutenant Charlton and Dr Wallich all played their part in identifying the tea plant and proving it to be indigenous to Assam. In 1836, A.C. Bruce, the brother of Robert, was appointed Superintendent of the tea forests. The tea industry was established in 1839 and from then on the literature concerned with Indian tea poured out. Already there were many associations and Societies. One of the earliest publications is the *Journal of the Asiatic Society of Bengal* (1835). *The Tea Planters Manual* (1841) and others followed, all involved with the cultivation, manufacture and marketing of tea in districts of India and other countries.

More general reading includes books on travel in the Far East. Robert Fortune's six books, describing his journeys to China, Japan and all over India from 1847–1863, are referred to by many other writers. History preoccupies many writers. Baildon (1882), mentioned before, is often quoted and considered an authority, and a crop of books appeared in the 1880s on the Tea Planters themselves: Deas (1886) *The Young Tea Planter's Companion,* Barker (1884) *The Tea Planter's Life.* In 1885 *The Tea Planter's Vade Mecum* appeared and Owen (1886) published *The Tea Planter's Manual!*

A small booklet ($3'' \times 4\frac{1}{2}''$ gilt edged) by George Shaw MD, FRS, entitled *A Select Cabinet of Natural History* (1820), includes hand-coloured illustrations. On page IV is a drawing of the tea-plant. Following the drawings is the Gardener's Calendar and Lady's Flower Garden, which are full of advice and instructions on every aspect of gardening. George Shaw was Principal Naturalist of the British Museum.

Coming to the 20th century, there are bound volumes of the *Quarterly Journal of the Scientific Department of the Indian Tea Association* from 1901–1933, in addition to unbound copies of other publications up to 1951. William Uker's *All about Tea* (2 vols, 1935) is, in spite of its casual title, in truth all about tea from historical, geographical and scientific views and the industry is described in great detail.



A VIEW OF THE EAST INDIA HOUSE, LEADENHALL STREET, LONDON, ABOUT 1826
From a drawing by T. H. Shepherd.

Illustration from W. Ukers (1935) *All about Tea.*

Many of the later books are illustrated with excellent photographs. An issue of a supplement of the *Daily Telegraph* and the *Morning Post* (28.2.38) *The story of Empire Tea*, is lavishly illustrated, comprising 16 pages packed with stories about tea by well known writers of the day and a foreword by the Secretary of State for India and the Colonies. Elizabeth Craig applies her expert advice on "The Art of making a good cup of tea"! Ivor Brown discusses "the serenity in a good cup of Tea" and so on.

A brochure of the Tea Pavilion at the famous Wembley Exhibition of 1924 exemplifies the story of the Empire. A little booklet put out by the Mazawattee Tea Company on the history of tea is good reading. On the back page is a notice: "The British Analytical Control certifies the Quality and Purity of Mazawattee Tea and its Economy in use is above question! Sold at popular prices by all grocers" and in small letters "Branches and agencies throughout the world". What a pity it has gone. It sounds so much better than P.G. Tips!

A tract by Magnus Pyke on *Tea in Modern Life* lists all one needs to know about tea, calorific value, vitamins, minerals, drugs, chemistry, all set out clearly and in detail and summarizes the properties of tea under three headings, social, pharmacological and nutritional, quoting 17 references.

Tea garden wagtails (1900) has nothing to do with birds but is a collection of local tea garden gossip which appeared in serial form in the India Daily News, Calcutta and is dedicated by the author of the Tea Planter.

The odd novel and other light literature involve the life of the tea planter. Mahatma Gandhi's autobiography in two volumes (1927) printed and published in India (a first edition and entitled *The story of my experiments with Truth*) is very rare.

It is a matter for speculation where James Insch managed to find all these books—only a fraction of which are mentioned here—in India or on his leaves in England? And how much did he pay for them? With the present surge of interest in India and the Raj this library is a treasure house containing many collectors items.

E. BARROW FLS

The Society's Other Treasures

The collections housed in Burlington House represent a unique repository of our scientific heritage. Not only are our type collections of herbarium and zoological specimens regularly consulted, but the library contains many thousands of titles—some of which bring students from around the world—and even our portraits are in demand. The recently restored and cleaned painting of Charles Darwin, for example, was out on loan for exhibition in connection with the centenary celebrations of that influential biologist's death in 1882.

There are other treasures, however, which we hear about less often and about which less is known. It is these, grouped conveniently together as "memorabilia", which I am currently cataloguing for the first time. Later in 1986 an annotated list of the Society's relics will be available. This will provide a source of information about these varied objects, it will tell us what we possess, and it will provide a starting-point for those who wish to relate the possessions of the pioneering biologists to their lives and their scientific work. It will also remind us of the need for conservation. More than one of the Society's instruments, for example, were disposed of in earlier decades. Though the circumstances surrounding the sale of part of our heritage were doubtless sanctified by official action at the time, it is unfortunate that it ever occured. The existence of a catalogue will remind us of the extent of these collections, and it is likely that if such a documentary database had existed in the past, such regrettable episodes would never have been considered.

The range of artefacts which the term "memorabilia" encompasses is considerable. It includes flint-glass ink-wells and carafes, voting machines, walking-sticks and a dried snakeskin; objects that are intriguing relics of an earlier era, though are not of high intrinsic value, nor of great scientific

importance. Others are of greater significance. Readers of these pages will know of the simple microscope of Robert Brown (*Linnean, 1* (4): 1, 12–17, January 1985) which it was my privilege to demonstrate to a meeting of the Society in November 1981. But there are other microscopes in our possession, including a similar simple microscope which once belonged to George Newport and which dates from *c.* 1825, and an instrument of Keble Martin's with some indication of the work that had been in progress at the time the owner ceased using it. This is a little-used historical approach, but the signs that remain on an instrument can frequently provide an indication of the uses to which it was put. I have listed eight microscopes in the Society's provenance, though two of them were sold off in the 1950s.

We have some personal belongings, too, including walking-sticks of Linnaeus and Brown. The former is a spiral staff, which seems to be made from a twining climber in which a lateral shoot has fused to a straight main stem. The handle is carved in the form of *Linnea borealis* and bears a Swedish inscription which translates thus: "has belonged to Linnaeus senior". It may have been carved by Linnaeus himself, of course, though it cannot have been the stick about which he wrote in his journal (*Iter Lapponicum:* 2) and which he took on his Lapland excursion, for that was (in Linnaeus's words) "octangular [and] graduated for the purpose of measuring". The Brown walking stick was an heirloom during Robert Brown's life, for an inscription on the top of the cane states that it originally belonged to the Right Reverend James Brown of Edinburgh, and was given by "the bishop's son, Robert BROWN, Esq., FRS., etc. on his Death Bed to Dr. Boott, June 1853". It was passed to the Society by Professor I. B. Balfour FRS, on 9 May 1904 and the glass-topped case in which it lies to this day was given in December of that year by B. Daydon Jackson, then the Society's General Secretary.

An unusual object in the collections is a container, in the shape of a flattened cylinder of ovoid cross-section and made of birch bark. It was made in Arvidsjaur, Lappland, recently and was presented to the Society in June 1983. This is 17 cm long, the ends measuring 11 × 8 cm, and is internally divided into two chambers. The skin of the container itself is joined through interwoven slats down one side, and the surface is intricately marked through well-preserved bark figures from the tree out of which it was made. The purpose of this unique object is to act as a carrier of tea and coffee, one in each portion of the divided inner space. The container was given by the Daniel Solander Symposium of 1983 and was presented to the Society by Professor Lars Ericson of Umeå University. It is an exquisite example of a craft that still persists in a society less liable to invasion by technology than our own.

The round-topped cabinet in the entrance lobby of the Society's premises is known officially as the Silver Cabinet (not because of the articles it was designed to contain, but because of the name of the donor, a matter to which we will return in a future report). The largest artefact inside belonged to Darwin. It is his vasculum, a tinplate container for botanical specimens collected in the field, and similiar in design to those used by those of us in today's generation of field botanists. Darwin's vasculum contains a large archive of documents which reveal its history. The occasions when it was requested for exhibition are recorded there in detail, but there is one item which shows something of the length of time it has sometimes taken to finalize arrangements. It provides a

fitting text with which to close this preliminary account of the work in hand, and is surely an object lesson in procrastination. The letter, in its entirety, reads as follows:

The Secretary
Royal College of Surgeons
Lincoln's Inn Fields, WC2 19 January 1957

Dear Sir,

The Council would be most grateful if you would please arrange the return of the vasculum of Charles Darwin loaned to the British Association in 1929 for exhibition at Down House.

Yours faithfully
General Secretary
Linnean Society.

Note: the safe return of the vasculum took a few days to accomplish.

BRIAN J. FORD

Linnaeus' Floral Clock

Carl Linnaeus (1707–1778) observed over a number of years that the flowers of many plants opened and closed periodically and that these times varied from species to species. Arranged in sequence of flowering over the day, they constituted a kind of floral clock or *Horologium Florae* as Linnaeus called it in his *Philisophia botanica* (Vienna, 1751): 274–275.

Linnaeus was of course ignorant of the response of plants to different day lengths (photoperiodism), but because of the latitude of Uppsala (60°N) many of the plants he selected were long-day species (adapted to short nights and daily photoperiods of 12 h or more). His list also includes species of the intermediate type, which produce flowers regardless of the day length. These day-neutral types (e.g. dandelion) are not so useful time keepers since their times of opening vary with the season.

This periodic opening and closing of flowers is brought about by the interaction of an endogenous rhythm and the day length (light/dark signal) and it appears that the plant is capable of measuring the time after which the light has come on. However, we have no knowledge of the receptors involved and all we know about the time measurement is that phytochrome is implicated. The actual mechanism for opening and closing certainly involves turgor changes in small groups of cells; these changes may further be influenced by temperature and humidity.

During the first half of the 19th century Botanic Gardens tried to construct floral clocks, but with no great success since many of the plants listed by Linnaeus do not flower at the same season.

Below is appended Linnaeus' *Horologium Florae* together with the English vernacular names where relevant.

For those of you who wish to check the time of day on your rambles through the countryside, remember that not only do the times of opening and closing of some of the flowers vary with the season (i.e. the month) but also with the weather (in rainy weather they may remain closed or their opening may be retarded) and with the plant's aspect (be it on the north or south side of a hill or on the valley floor or in the mountain glen). Finally, if you wish to make direct use of the times given by Linnaeus you will also probably have to make a correction for latitude (the further south you are of Uppsala the later in the day will the plants open and close).

OPENING OF FLOWERS AT UPSALA AND INNSBRUCK.

NAME OF PLANT.	AT UPSALA.	AT INNSBRUCK.	DIFFERENCE IN HOURS.
Cichorium Intybus	4– 5 A.M.	6– 7 A.M.	2
Hemerocallis fulva	5 „	6– 7 „	1–2
Sonchus oleraceus	5 „	6– 7 „	1–2
Taraxacum officinale	5– 6 „	6– 7 „	1
Hypochæris maculata	6 „	7– 8 „	1–2
Sonchus arvensis	6– 7 „	7– 8 „	1
Lactuca sativa	7 „	8– 9 „	1–2
Nymphæa alba	7 „	8– 9 „	1–2
Anagallis arvensis	8 „	9–10 „	1–2
Arenaria rubra	9–10 „	10–11 „	1

CLOSING OF FLOWERS AT UPSALA AND INNSBRUCK.

NAME OF PLANT.	AT UPSALA.	AT INNSBRUCK.	DIFFERENCE IN HOURS.
Taraxacum officinale	8–10 A.M.	2–3 P.M.	5–6
Cichorium Intybus	10 „	2–3 „	4–5
Lactuca sativa	10 „	1–2 „	3–4
Sonchus arvensis	10 „	12–1 „	2–3
Sonchus oleraceus	11–12 „	1–2 „	2
Arenaria rubra	1– 3 P.M.	3–4 „	1
Hypochæris maculata	4– 5 „	6–7 „	2
Hemerocallis fulva	7– 8 „	8–9 „	1
Nymphæa alba	5 „	7–8 „	2–3

Above is collated a few species whose times of opening have been recorded for both Uppsala and Innsbruck (13° South of Uppsala) by Anton Kerner 1895 in *The Natural History of Plants 2:* 215–218 (Transl. F. W. Oliver).

BRIAN G. GARDINER

Linnaeus' name	Current name	Common name	Open	Closed
Tragopogon luteum [648 = *T. pratense* 1753]	= *T. pratensis* L.	Goat's-Beard; Jack-go-to-bed-at-noon	3 a.m.	
Leontodon taraxacoid. [628 = *L. hispidium* 1753]	= *L. hispidum* L.	Rough Hawkbit	by 4 a.m.	
Picris magna [241.1 = *P. echioides* 1753]	= *Helminthotheca echioides* (L.) Holub	Bristly Ox-Tongue	4–5 a.m.	
Cichorium scanense [650 = *C. intybus* 1753]	= *Cichorium intybus* L.	Chicory; Wild Succory	4–5 a.m.	
Crepis tectorum 1753	= *Crepis tectorum* L.	[Hawk's Beard]	4–5 a.m.	
Scorzonera tingitana 1753	= *Reichardia tingitana* (L.) Roth		by 6 a.m.	

Linnaeus' name	Current name	Common name	Open	Closed
Sonchus laevis [[643] = *S. oleraceus* L.]	= *S. oleraceus* L.	Milk-or Sow-Thistle	5 a.m.	
Leontodon taraxacum 1753	= *Taraxacum officinale* Weber	Dandelion	5 a.m.	
Crepis alpina 1753	= *C. alpina* L.	[Hawk's Beard]	5 a.m.	
Tragopogon columnae [243.3 = *T. hybridum* 1753]	= *T. hybridus* L.	[Goat's Beard]	5 a.m.	
Lapsana rhagadiolus 1753	= *Rhagadiolus edulis*		5 a.m.	
glutinosa [245.3 = *L. chondrilloides* 1753]	Gaertner		5 a.m.	
Convolvulus rectus [38.2] = *C. tricolor* 1753]	= *C. tricolor* L.	[Bindweed]	5 a.m.	
Hypochaeris pratensis [631 = *H. maculata* 1753]	= *H. maculata* L.	Spotted Cat's Ear	6 a.m.	
Hieracium fruticosum [639 = *H. umbellatum* 1753]	= *H. umbellatum* L.	[Hawkweed]	6 a.m.	
pulmonaria [637 = *H. murorum* 1753]	= *H. murorum* L.	[Hawkweed]	6 a.m.	
Crepis rubra 1753	= *Crepis rubra* L.		6 a.m.	
Sonchus repens [642 = *S. arvensis* 1753]	= *S. arvensis* L.	Field Milk-Thistle	6 a.m.	
belgicus [244.1 = *S. palustris* 1753]	= *S. palustris* L.	Marsh Sow-Thistle	by 7 a.m.	
Leontodon chondrilloides [629 = *L. autumnale* L. 1753]	= *L. autumnale* L.	Autumnal Hawkbit	7 a.m.	
Hieracium latifolium [238.1 = *H. sabandum* 1753]	= *H. sabaudum* L.	[Hawkweed]	7 a.m.	
Sonchus lapponicus [644 = *S. alpinus* 1753]	= *Cicerbita alpina* (L.) Wallr.	Blue Sow-Thistle	7 a.m.	
Lactuca sativa	= *Lactuca sativa* L.	Garden Lettuce	7 a.m.	
Calendula africana [274.2 = *C, pluvialis* 1753]			7 a.m.	
Nymphaea alba 1753	= *Nymphaea alba* L.	White Water-Lily	7 a.m.	
Anthericum album [267 = *A. ramosum* 1753]	= *A. ramosum* L.	[St. Bernard's Lily]	7 a.m.	
Hypochaeris hispida [240.1 = *H. achyrophorus* 1753]	= *H. achyrophorus* L.		7–8 a.m.	
Lapsane rhagadioloides [246.4 = *Hyoseris hedypnois* 1753]	= *Hedypnois rhagadioloides* (L.) Schmidt subsp. *cretica* (L.) Hayek		7–8 a.m.	
Mesembryanthemum barbatum 1753	= *Trichodiadema babrata* (L.) Schwartes		7–8 a.m.	
Hieracium pilosella 1753	= *H. pilosella* L.	Mouse-ear Hawkweed	8 a.m.	
Anagallis rubra [169 = *A. arvensis* 1753]	= *A. arvensis* L.	Scarlet Pimpernell; Shepherds Weather Glass.	8 a.m.	
Dianthus prolifer 1753	= *Petrorhagia prolifera* (L.) Ball & Heywood	Proliferous Pink	8 a.m.	
Leontodon taraxacum [see above]				8–9 a.m.
Hypochaeris chondrilloides [240.2 = *H. glabra* 1753]	= *H. glabra* L.	Smooth Cat's-Ear	9 a.m.	
Malva helvula [201.4 = *M. caroliniana* 1753]			9–10 a.m.	
Arenaria purpurea [376 = *A. rubra* 1753]	= *Spergularia rubra* (L.) J. & C. Presl	Sand spurrey	9–10 a.m.	
Mesembryanthemum crystallinum 1753	= *Mesembryanthemum crystallinum* L.	[Ice-Plant]	9–10 a.m.	
Lapsana glutinosa [see above]				10 a.m.

Linnaeus' name	Current name	Common name	Open	Closed
Lactuca sativa [see above]				10 a.m.
Scorzonera tingitana [see above]				10 a.m.
Mesembryanthemum neapolitanum [129.10 = *M. nodiflorum* 1753]	= *Cryophytum nodiflorum* (L.) L. Bol.	[Ice-Plant]	10–11 a.m.	
Crepis alpina [see above]				11 a.m.
Tragopogon columnae [see above]				11 a.m.
Soncus laevis [see above]				Noon
Sonchus lapponicus [see above]				Noon
Hypochaeris chondrilloides [see above]				1 p.m.
Malva helvula [see above]				1 p.m.
Dianthus prolifer [see above]				1 p.m.
Hieracuim latifolium [see above]				1–2 p.m.
Crepis rubra [see above]				1–2 p.m.
Hypochoeris hispida [see above]				2 p.m.
Hieracium pulmonaria [see above]				2 p.m.
Sonchus belgicus [see above]				2 p.m.
Lapsana rhagadioloides [see above]				2 p.m.
Mesembryanthemum barbatum [see above]				2 p.m.
Arenaria purpurea [see above]				2–3 p.m.
Leontodon chondrilloides [see above]				3 p.m.
Calendula arvensis [712 = *C. officinalis* 1753]	= *C. officinalis* L.	Pot Marigold		3 p.m.
Mesembryanthemum neapolitanum [see above]				3 p.m.
linguiforme 1753				3 p.m.
Hieracium rubrum [238.3 = *H. aurantiacum* 1753]	= *H. aurantiacum* L.	[Hawkweed]		3–4 p.m.
Mesembryanthemum crystallinum 1753 [see above]				3–4 p.m.
Calendula africana [see above]				3–4 p.m.
Anthericum album [see above]				3–4 p.m.
Alyssum alyssoides [Alyssoides T.]	= Identity uncertain			4 p.m.
Hypochaeris pratensis [see above]				4–5 p.m.
Hieracium fruticosum [see above]				5 p.m.
Nymphaea alba [see above]				5 p.m.
Papaver nudicaule 1753				7 p.m.
Hemerocallis fulva [88.1α—H. lilioasphodelus 1753]	= *H. lilioasphodelus* L.	[Day-Lily]		7–8 p.m.

RECORD OF THE PROCEEDINGS OF THE LINNEAN SOCIETY OF LONDON FOR THE SESSION 1985–86

Contents

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2. Symposia
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1. General Meetings and Lectures

Details of the Meetings held in the Society's Rooms have been included in *The Linnean, 1* (5): 8; *1* (6): 9–16; and *2* (1): 8–11.

There was one change to this published programme, the inclusion of a fourth general interest lecture, by Mr Martin Sands, as promulgated in *The Linnean 2* (1) Stop Press. This was in addition to those described in *The Linnean 1* (6): 13, 14 and *2* (1): 9.

2. Symposia

Four symposia were held jointly with other societies and organizations. General remarks appear in the Report of Council, p. 39. Résumés and publication details are set out below.

Colonization, Succession and Stability

This symposium, the first arranged jointly with the British Ecological Society, was held in the Physics building of Southampton University on 15–19 July 1985. The convenors were Drs A. J. Gray FLS, Institute of Terrestrial Ecology, Furzebrook, M. J. Crawley, Imperial College, London and P. J. Edwards, University of Southampton.

The meeting was attended by 150 people, including representatives from Australia, Eire, Israel, Norway, Spain and the United States of America. There were twenty-two invited papers and a general discussion on the theme of management of successional habitats. The preliminary programme was advertised in *The Linnea, 1* (5): 8–9.

The Proceedings are published under the above title in the British Ecological Society's Symposium Series by Blackwell Scientific Publications (December 1986), ISBN 0.86.524020.1.

ICSEB III

This congress, one outcome of which was reported at length in *The Linnean, 2* (3), included two symposia run by or jointly with the Society.

Random and Directed Events in Evolution

This symposium was run jointly with the Palaeontological Association. The convenors were Professor A. Hallam and Dr J. S. Jones.

The importance of random change in evolution is still a matter of dispute. There are competing models of random and directed events which attempt to explain the evolutionary processes seen by palaeontologists, geneticists, and those concerned with the nature and origins of new species. The symposium attempted to draw together theoretical population geneticists and workers on the biology of extinct and living organisms. It attracted a large and diverse audience from many different countries, who heard a number of very different views on the role of accident in evolution. Although it could scarcely be claimed that any consensus emerged from this symposium, it succeeded in that it brought together groups of biologists who—often without realizing it—were utilizing similar arguments to explain very different observations. The papers will be published separately rather than as a Symposium volume.

Evolution of Marine Meiofauna

This was one of the Special Interest Symposia at the Third International Congress of Systematic and Evolutionary Biology held at the University of Sussex between 4 and 10 July 1985. The convenor was Dr H. M. Platt.

The well-attended meeting took place on the morning of 5 July and the five speakers addressed aspects of the evolutionary inter-relationships of those invertebrate phyla which constitute the meiofouna. Lively discussions demonstrated divergent and often controversial viewpoints, but also indicated the enthusiasm of the participating delegates for this field of research. The papers, which were too few to make a viable proceedings volume, will be published separately.

Bicentenary Symposium
Chemistry, taxonomy and economic botany of Euphorbiales

This symposium was a joint meeting with the Phytochemical Society and was the first to mark the bicentenary of the Society. It was held in the Jodrell Laboratory, Royal Botanic Gardens, Kew between 2 and 4 April 1986. The convenors were Mr T. Reynolds, Dr D. F. Cutler and Dr F. J. Evans. The papers were given by sixteen invited speakers from Britain and overseas and covered many aspects of the chemistry and biology of this fascinating group of plants and their constituents. It was greatly regretted that Prof. R. E. Schultes was not able to deliver his paper in person due to serious illness, but during his convalescence he has been able to put together a written version for subsequent publication. There was also a poster session and an exhibit of living specimens of members of the group. The sessions attracted between 60 and 80 participants of all disciplines and much lively discussion ensued. It was particularly interesting to hear comments from such a multidisciplinary audience ranging from taxonomists to medical scientists.

The proceedings will be published in the *Botanical Journal* as *Bot. J. Linn. Soc.*, Volume *94*, 1987. It will be available as a separate volume.

3. Conversazione

The President and Mrs Chaloner received guests in the Library on the evening of 30 April 1986.

The exhibits, which were on display in the Council Room and Library were: Nematology, Dr A. A. F. Evans and the staff of Imperial College, Silkwood Park; First Specimens for the Microscope, Mr Brian J. Ford FLS; Botanical Illustrations, Mrs Claire Dalby; Pattern Plates for 'Zoological Illustrations' by William Swainson, examples of the work of their restoration carried out by Dr E. Barrow FLS; Late Mesozoic Plants from the Northern Antarctic Peninsula, Professor W. G. Chaloner, P. McA. Rees (Royal Holloway and Bedford New College) and Mr M. Thomson (British Antarctic Survey); W. J. Hooker (1785–1865), the first Director of Kew, Staff of the Royal Botanic Gardens, Kew; Three-dimensional models from optical sections—a new approach to Protozoan morphology, Dr D. McL. Roberts (BM(NH)) and Drs D. T. Stephenson and T. R Harris (IBM U.K. Scientific Centre); A field study in Trinidad on the control of cabbage pests, Dr D. Small, Mr C. Rivers and Mr P. Entwhistle (Natural Environment Research Council, Institute of Virology); Operation Raleigh—Young Scientists in action, Miss E. Fanning (Operation Raleigh), Dr J. Cox (BM (NH)) and Mr P. Edgar.

Mr M. J. S. Sands FLS (Royal Botanic Gardens, Kew) gave an illustrated lecture of Wild North Western Australia.

During the afternoon a party of Fellows and guests looked over and were entertained in the Rooms of the Society of Antiquaries by Mr H. L. Thompson, General Secretary, and the Staff.

4. The Anniversary Meeting

This was held on 22 May 1986 with Professor W. G. Chaloner, President, in the chair.

The President announced that His Royal Highness The Prince of Wales had expressed a wish to become an Honorary Member. (He had previously alerted those present at the General Meeting held on 17 April and the official announcement duly appeared in the Press on 23 and 24 May 1986.)

Elections

The President reported that on the unanimous recommendation of Council and following correspondence to seek his agreement, His Imperial Highness The Crown Prince of Japan had agreed to his name being put up for election to Honorary Membership. After the relevant Bye-Law and a citation in his favour had been read, Prince Akihito, already a Foreign Member, was duly elected *nem. con.*

Following the reading of the Forms of Recommendation for Foreign Members for the third time and after extracts of the relevant Bye-Laws had been recited, the President appointed Prof. B. G. Gardiner, Mr T. Pain and Mr G. R. Speed as Scrutineers and declared the Ballots open. The results of the ballots were:

New Members of Council:	replacing:
Dr J. S. Churchfield	Mr M. J. Andrews
Prof. B. W. Fox	Prof. B. C. Clarke, F.R.S.

Prof. J. Green
Dr C. E. Jarvis
Dr R. W. J. Keay
Prof. P. B. Gahan
Dr D. A. Goode
Prof. P. J. Peterson

Officers:
President: Prof. W. G. Chaloner F.R.S.
Treasurer: Mr C. M. Hutt
Secretaries: Dr D. M. Kermack (Zoology)
Dr F. A. Bisby (Botany)
Prof. J. D. Pye (Editorial)

Foreign Members, Fellows and Associates as in *The Linnean 2* (3): 13.

Presentation of Medals and Awards

The President read the citations and presented the Linnean Medals, the H. H. Bloomer Award and the Bicentenary Medal.

Linnean Medal for Botany

Dr Arthur Cronquist

Arthur Cronquist is a Westerner who has slowly been moving East. He was born in San Jose, California, and attended Idaho State University in the 1930s under the tutelage of the late Ray J. Davis, gaining thereby a life-long interest in systematic botany and the plant family Asteraceae. He later attended Utah State University and obtained his Bachelor of Science degree in 1938 and a Master's degree in 1940. There he studied with Bassett Maguire, completing a revision of the *Aster foliaceus* complex, which was published in 1943. He took a further step East to enter the University of Minnesota, where he took his doctoral degree in 1944. His dissertation, a revision of *Erigeron* species north of Mexico, was published in 1947.

Leaving St. Paul, Minnesota, for the New York Botanical Garden, he assumed an assistant curatorship and began his review of the Asteraceae of the northeastern United States and adjacent Canada. Sojourns in the states of Georgia and Washington were followed by a more drastic move to the East across the Atlantic, occasioned by an appointment in 1951 as technical consultant to the Belgian government, in connection with a United States foreign aid programme. However, in late 1952 he returned to the New York Botanical Garden, where he has remained to this day.

Stimulated by taxonomic skirmishes with the botanical establishment in Harvard, he published a series of papers on the "Compositae of the Northeastern United States". He also began increasingly to look at "the bigger picture" in the form of the phylogeny of angiosperms.

During the 1960s, three volumes of the *Vascular Plants of the Pacific Northwest* were published, and he began an active programme of field study in the intermontain region of the western United States as a prelude to initiating an illustrated flora project for that area. This was followed by several months spent in Mexico, studying members of the Asteraceae. This period of activity culminated in 1968 with the publication of his book *The Evolution and Classification of Flowering Plants*. His work on the Asteraceae and regional floras

continued for the *Flora of the Galapagos Islands*, for the *Vascular Flora of the Southeastern United States*, the Northeastern United States, the Pacific Northwest, and the *Intermontain Flora.*

Dr Cronquist's talents for synthesis and communication have combined to make him a leading educator and author of highly regarded textbooks. His first general botany book, *Introducting Botany*, was published in 1961, with a second edition in 1971 and a Spanish-language edition in 1969. An abbreviated version, entitled *Basic Botany*, came out in 1973. With Gleason, he wrote *The Natural Geography of Plants* (1964). In 1979, he gave us that small but helpful book, *How to Know the Seed Plants.* Designed for the elementary student, this provides excellent keys to the seed plants of the temperate regions of the world.

The culmination of his work—so far—is undoubtedly his *Integrated System of Classification of Flowering Plants*, published in 1981. This volume has become a landmark in the systematics of flowering plant families. Numerous honours have been bestowed upon him by his countrymen. He was elected president of the American Society of Plant Taxonomists (1962), the Botanical Society of America (1973) and the Torrey Botanical Club (1976). In 1970 he received the Leidy Medal from the Philadelphia Academy of Sciences. In 1985 he was a recipient of the Asa Gray Medal of the American Society of Plant Taxonomists. Named after America's foremost plant taxonomist, this medal was given in recognition of "outstanding accomplishments pertinent to the goals of the Society."

It is especially appropriate that on the occasion of our Anniversary Meeting we are able to lure this Westerner once more to take a journey to the East, this time to receive the Linnean Medal for Botany. We are proud to be able to add yet another token of the respect felt by his fellow scientists for his immense contribution to systematic and evolutionary botany.

Linnean Medal for Zoology

Professor Percy Cyril Claude Garnham

Cyril Garnham is a pioneer in the study of Protozoa and tropical medicine. His excellence in studies relating to parasitology, and in particular to the Haemosporidae, have made him one of the world's most outstanding authorities in his chosen field.

At the age of 16 he entered the medical school at St. Bartholomew's Hospital in London whence he graduated in 1923. Attracted by the challenge of tropical medicine, Cyril spent two years at the London School of Hygiene and Tropical Medicine under the tutelage of Sambon, Castelleni and Thompson. Later, he studied in Paris, Amsterdam and Rome and spent many years in Kenya pursuing research on protozoan infections of animals and man. In 1928, a thesis on malaria presented in Kisumu gained him an M.D. London, together with the distinction of the Gold Medal of the University. He returned to the London School and was appointed a Reader in Medical Parasitology in 1947 and became Professor five years later. During his time there, together with numerous students and colleagues, he made important contributions to the knowledge of life cycles of many protozoa, with particular emphasis on the malaria parasites. In 1966 he produced his classic book, *Malaria Parasites and other Haemosporidia.* He developed a keen interest in the ultrastructure of various stages of malaria

parasites and encouraged the electron-microscopic studies of several hitherto unknown organelles in various species of sporozoa which ultimately led to changes in the classification of this group. From 1968 to 1980 he was Senior Research Fellow at Imperial College of Science and Technology and, among other studies, was actively involved with elucidating the presence and role of hypnozoites in malaria.

Cyril Garnham's brilliance and enthusiasm are clearly shown by the 400 or so publications under his authorship, and are reflected not only by the scientific acclaim his work has attracted from around the world, but also by many different ongoing research programmes which have been stimulated by his contributions to biology. The awards and honours bestowed upon him are too numerous to cite in full; a selection will serve to indicate the breadth of scientific esteem. In 1951, the Darling Medal and Prize, by the World Health Assembly; 1962, Brazilian Gasper Vianna Medal; 1964, Fellowship of the Royal Society; 1967, Membership of the Belgian Academie Royale des Sciences d'Outre Mer; 1970, Emile Bumpt Prize of the University of Paris; 1970, Pontifical Academician of the Vatican Academy of Sciences; 1974, the German Rudolf Leuckart Medal; 1984, Frink Medal, Zoological Society of London.

Professor W. Peters recalled exchanging stories and anecdotes with colleagues in preparation for Cyril Garnham's 80th birthday Festschrift and wrote: "Our stories pinpointed P. C. C. Garnham the man, his humanity, his depth of vision, his humour with its occasional wry and even slightly puckish twists, and above all, the sensitivity and understanding he always showed for the personal strengths and weaknesses of his fellow scientists. We remembered how personal illness and physical discomforts, such as fever in the Amazon, leeches in Borneo or chopsticks in Kuala Lumpur, failed to deter him from pursuing his scientific objectives, and applying to them his ability to see the wood from the trees in the most complex situations."

Linnaeus himself trained as a physician whilst pursuing his love for natural history. Indeed, in a series of sketches concerning great parasitologists of the past, Cyril drew attention to the involvement of Linnaeus in the hypothesis of the origin of malaria as described in his doctoral thesis presented in 1735 at the University of Harderwijk. Some 251 years later, it is entirely appropriate that this Society should award the Linnean Medal for Zoology to Professor Garnham, another truly remarkable scientist.

The H. H. Bloomer Award

Dr Walter J. Le Quesne

Walter Le Quesne was born and spent his childhood and youth in the Channel Islands. He is certainly not one of the more recent 'immigrant tax exiles' from the mainland, for his family has long been established on Jersey; indeed a Clement Le Quesne is recorded on Jersey as early as 1470. Through the centuries the Le Quesne family was noted as a quiet and law-abiding group, with the exception of a 16th century buccaneering ancestor, Barnaby Le Quesne, a noted pirate who amassed a considerable fortune and was hanged at Point Normont in 1550. In subsequent generations and up to the present day, Le Quesnes have been notable contributors to many aspects of life on Jersey.

As a boy, Walter was already interested in natural history and especially

insects. Some of his earliest records, published later, refer to specimens collected in 1942 and 1943. After the Second World War he went up to Jesus College, Oxford, first to read Chemistry and then to pursue postgraduate studies and take a D.Phil., also in Chemistry. It was a happy coincidence that as a student at Jesus he was almost bound to meet the Hope Professor of Entomology, a Fellow of the College. In his postgraduate years, the newly elected professor, the late George C. Varley, encouraged him as an active member of the Oxford University Entomological Society. Through such contacts he was able to meet and learn from a wide variety of entomologists, both professional and amateur, and to develop a sound scientific basis for his interests. From his earliest days he was particularly attracted to the Hemiptera, Heteroptera. He became an active member of a group of notable heteropterists in the 1950s, including Dick Southwood, Geoff Scudder and the late Dennis Leston. His first paper was a short note in the *Entomologist's Monthly Magazine* for 1946, but his first major publication was fittingly a list of the Heteroptera of Jersey which appeared in the *Bulletin of the Société Jersiaise* for 1953.

It seems almost impossible for his entomological colleagues to believe that he is not a professional entomologist. In fact most of his professional life has been spent as a nuclear chemist, based at Amersham. He and his family have lived at Chesham, Buckinghamshire for many years but he has consistently maintained contacts with his native Jersey. He regularly contributes reports on the insect fauna of the island to the Société Jersiaise and has encouraged other specialists to record and document the insect fauna for their own specialist groups.

In the late 1950s Walter made a conscious decision to expand his entomological interests to the leafhoppers, plant-hoppers and their relatives—groups which he realized at the time were almost completely neglected in Britain. The only major handbook for identifying these insects was the outdated monograph by James Edwards published between 1894 and 1896. He set out to produce totally new keys to the British fauna. He collected the insects widely himself and worked on collections of most of the major museums in Britain. These studies resulted in a series of important revisionary papers in which he was able to apply modern ideas to the taxonomy of the group. In particular, he was able to clarify species identity on the basis of genitalia and abdominal apodeme morphology. The resulting publications culminated in his monumental and now complete series of keys to the British species of all families as part of the *Handbooks for the Identification of British Insects* series, published by the Royal Entomological Society of London. The first part, on the Fulgoromorpha, appeared in 1960. This was followed by the first two parts of the Cicadamorpha in 1965 and 1969. More recently, in 1981 the third part was published, thus completing a major landmark in British entomology. When he first started work on British Auchenorrhyncha he was working in almost total isolation. However, his first publication and especially the early Handbook parts quickly attracted others, both professional and amateur, to the group. He was one of the founder members of the Auchenorrhyncha Group in Britain when it first met in Cardiff in 1973 and subsequently at Imperial College at Silwood Park in 1975. The success of this group and the current level of interest in these insects have been in great measure due to his efforts and willingness to help any interested worker. This was reflected in the increasingly international nature of the Auchenorrhyncha group, with meetings in the Netherlands in 1978, Finland

in 1981, and Switzerland in 1984. This expansion continues with the next meeting planned for Italy in 1987.

Not only has he contributed to the purely practical aspects of insect taxonomy by the production of handbooks for identification, but he has also made major contributions to the theoretical development of numerical taxonomy. In a series of seminal and widely cited papers published in *Systematic Zoology* between 1969 and 1979 he developed his concept of the 'uniquely derived character'. This has provided a powerful and objective way of estimating minimum homoplasy in data sets and of comparing characters. These ideas have been used and extended by taxonomists working on a wide variety of organisms.

He retired early from his professional employment and we hope that he will now be able to devote even more of his time to entomological work than before. His publication list is already one that any scientist, amateur or professional, would be proud to have achieved. He has now taken on with his usual energy the enormous and time-consuming task of co-ordinating the national recording scheme for Auchenorrhyncha.

Walter Le Quesne is a truly deserving recipient of the H. H. Bloomer award.

Bicentenary Medal

Dr David William Minter

Systematic mycology is an area where there is immense scope for original work. However, most workers tend to follow well-tried, proven routes. Very few are able to stop, stand back, and look at old problems from novel angles. David Minter's main contributions to his chosen subject have been distinguished by that rare ability.

His decision to study mycology was not an early one. Having left The King's School, Peterborough in 1969 he proceeded to Pembroke College, Oxford, to read classics in 1970, but after two years he switched to Agricultural and Forest Sciences in which he graduated in 1974. From Oxford he went to the University of Aberdeen where, supervised by Dr C. S. Millar, he completed his Ph.D. thesis in 1977 on the ecology, biology and taxonomy of *Lophodermium* species on pines. He showed that what had generally been thought of as a single variable species, *L. pinastri*, was in fact a complex of four, separated not merely by hitherto largely overlooked morphological features but also correlating with the ages of needles attacked, cultural features, seasonality in ascospore discharge and of pathogenicity (the causal agent of needlecast).

Dr Minter joined the staff of the Commonwealth Mycological Institute (CMI) at Kew as a mycologist in 1977, where he is currently employed in the identification of certain groups of ascomycetes and conidial fungi. Here he extended his interests in *Lophodermium*, issuing a world monograph of *Lophodermium* species on pines in 1981, in which 17 species were recognized. This resolved confusion that had persisted for over 50 years in these important fungi and was immediately accepted by mycologists and forest pathologists worldwide. Other fungi on living pines and pine litter did not escape his attention, and led to plans for a well-illustrated text of the microfungi on pines.

The need to identify conidial fungi and the groups covered as a part of his duties at CMI brought the methods of conidiogenesis and the terminology of these structures to his attention. The result was a series of three papers, written

together with colleagues at CMI, questioning and re-interpreting some of the characters on which the systematics in the Deuteromycotina had been based for over 30 years. The new concepts of two key methods of conidiogenesis, a wall-building apex or a wall-building ring, are starting to revolutionize the way in which these processes are interpreted and described.

His studies on the Rhytismataceae have extended to ascus structure and function, and with Dr P. F. Cannon he studied, by a wide range of techniques, the processes establishing that peculiar and varied dehiscence mechanisms occur. He has also examined relationships between the structure of the ascomata and the environment at the ultrastructural level with Dr M. Roquebert; suggested evolutionary links between *Arthrinium* and certain other Hyphomycetes by simplifications in the life cycle; produced a simplified terminology for *Aspergillus* and *Penicillium* conidiogenous structures; and re-evaluated the relationships between some mycoparasitic fungi. Since 1978 he has authored or co-authored 55 scientific papers. Dr Minter also has a reputation as a skilled collector of microfungi. In addition to his work in the British Isles, he has collected in Greece, Czechoslovakia, India, Japan, the U.S.A., and the Chilean Andes. The work in India resulted in a comprehensive survey (with P. F. Cannon) of the Rhytismataceae throughout the Indian subcontinent which was published earlier this year.

Dr Minter is an able teacher and organizer. For the last three years he has served enthusiastically as Secretary of the Foray and Systematics Committee of the British Mycological Society. In this capacity he plays a key role in organizing forays, workshops and lecture meetings. Last year he also assumed the editorship of the *CMI Descriptions of Pathogenic Fungi and Bacteria.*

On the basis of his highly original research, and his other contributions to his chosen subject, Dr Minter is a most fitting recipient of the 1986 Bicentenary Medal.

Treasurer's Report

In the last decade or so it has become an almost annual routine for the Treasurer of the moment to report on a good financial year and 1985 was no exception. Our income exceeded expenditure by £6,700, almost the same as at the end of 1984. In addition, we were able to add £25,000, to our provision for repairs and improvements and a further £25,000 as a new provision for Bicentenary expenses.

Of the £44,500 received as Annual Contributions we returned to Fellows, by way of one or more journals at cost, some £39,000, or 88% of the total contributions. We have, of course, been able to do this for a number of years but the fact that we can continue to do so is most encouraging. The high percentage of return of capital in kind to Fellows, the percentage still held at less than 100 per cent, does I think justify the recent increase in the rate of contributions.

Our investments earned £29,000 in dividends and interest, an increase of £8,000 over 1984. Had our stocks and shares, which to date have cost us £172,000, been sold on the 31 December last, they would have yielded over £300,000, far above the rate of inflation. For this we must be grateful to James Capel, our broker, the Finance Committee generally and Roger Goodenough specifically for their expertise and advice that they are always ready to place at our disposal.

Profits from the sale of our journals and published symposia reached a record £92,000, an increase of £10,000 over 1984. And this in spite of the financial constraints that persist in universities and libraries the world over. We have good reason, as in previous years, to be grateful to our publishers, Academic Press, and on your behalf I have thanked their Managing Director.

Arrears in contributions amounted to £1,763, compared with £3,164 at the end of 1984. There is little comment one can make on these figures.

There will, of course, be considerable financial commitment for the Bicentenary but this we can take almost in our stride. We can claim with some confidence that the finances of the Society rest on solid foundation.

It remains for me, as always, to thank the staff and in this respect I can say little more than I have said in previous years, I am so very grateful for their unstinting and so friendly help. I would like especially to thank Sue Darell-Brown for her daily watch over the Society's accounts and her ability to prepare a draft balance sheet way ahead of our auditors. She makes the task of your Treasurer and his responsibility to Council so much easier.

Report of Council

At the meeting the Executive Secretary made a verbal report of activity within the Society during the session, omitting those aspects better left to the formal written report of Council. The following therefore is an expanded version of the verbal report.

Council endorsed the President's comments on the commitment to the Society shown by Fellows who took on Society activities such as sitting on Council and the Committees. This was ever more relevant in the current climate of tight accountability especially within governmental, scientific and academic institutions and establishments. Council endorsed the President's thanks to retiring members of Council and to Fellows who had relinquished their appointments to posts in the Society.

Council was delighted that both The Prince of Wales and The Crown Prince of Japan were now both Honorary Members. This was echoed in the responding letter from the Chamberlain to The Crown Prince who had commented on this happy coincidence, bearing in mind the very recent visit by their Royal Highnesses The Prince and Princess of Wales to Japan.

During the course of the session congratulatory letters had been sent to: the Royal Institution of South Wales for its 150th anniversary on 1 June 1985, and to the Selborne Society, and the Wild Flower Society for their centenaries in 1985 and on 24 May 1986 respectively.

Meetings and Symposia

These have run as programmed, the symposia outside London being well attended and covering themselves financially. Council has been increasingly concerned, however, during the course of the year at the poor attendances at the meetings held in the Rooms, and this was equally applicable whether they were scientific meetings or the general interest lectures held during the evenings and arranged especially as Society events. The one exception to the latter was that on the Linnaean Collections which preceded the Book Bring-and-Buy.

To accommodate the tight timetables of certain Fellows visiting from

overseas, Admissions have been made at General Interest Lectures although these are not specifically so designated. Council encourages Fellows to use the Rooms as much as possible and is delighted that Fellows and visitors from overseas can sometimes attend these less formal meetings.

Specialist Groups

Activity has varied from very little to a regular, albeit informal, programme of events. Meetings were held by the Freshwater, Computer Applications (2) and Plant Anatomy Groups, the latter being the full-scale international symposium on Euphorbiales (p. 31).

Sixth Form Programme

Mr Nigel Purchon ran the eighteenth series of sixth form lectures. He again included a one-day symposium which was a reprise of that held in 1984, catering as it did to a different audience. The series was well attended although there were empty seats on some occasions.

Following his investigation, as reported last year (*The Linnean, 2* (1): 26), Dr David Smith organized a one-day symposium on *Evolution* at the University of Buckingham on Saturday 22 March 1986. This attracted 151 students and 25 teachers from schools not on the London mailing list and was considered so successful as to warrant repetition.

Teachers workshops were run on *Pollen* on 9 November 1985 at Royal Holloway and Bedford New College by the President and the College staff and again, due to popular demand, on 15 March 1986. These were both fully subscribed, thanks to the efforts of Miss Eve Hickey, in the office. Mr Adam Cade, having left Norwood Hall on appointment to the Nature Conservancy Council at Peterborough, has had to relinquish his duties as Co-ordinator.

Publications

There have been some predictable reductions in sales of publications but the net income to the Society showed a 7.1% increase over the previous year, this again being the major source of revenue. Sufficient copy continued to be received to maintain the previous rates of issue: monthly for the *Biological* and *Zoological Journals* and eight times a year for the *Botanical Journal*. Professor Sam Berry continued to edit the *Biological Journal* and Dr Howard Platt completed his first year as editor of the *Zoological Journal*. During the year Dr Stephen Jury progressively took over the editorship of the *Botanical Journal* enabling Dr Michael Dick to retire at the end of the session after completing ten years.

Dr Doris Kermack has continued to edit the *Synopses of the British Fauna*, a further four volumes being published during the year. The publishers, E. J. Brill, have not been easy to work with, being seemingly disinterested in actively marketing the series in the United Kingdom. Shortly after the contract was agreed in 1983 Brill closed their London office. However, Mr S. Peter Dance, elected a Fellow on 22 May 1986, has been appointed as Acquisitions Editor in the U.K. and is already resolving the problems. (*Editor Note:* The Society Notes on p. 4 explain the latest position.)

The *Pollen and Spores: Form and Function* symposium volume, reported in the previous Proceedings, (*The Linnean, 2* (1): 19) was published by Academic Press

in August 1986 under ISBN 0.12.103460.7.

The Linnean continues to receive approval but much remains to be done, especially in establishing it as a vehicle for Fellowship views and correspondence. To improve publicity for the Society's meetings the system of coloured billets has been resurrected, but in a form suitable for posting on notice boards and for reproduction. Fellows, previously reminded of their obligation by the President, are asked to encourage others also to attend meetings whenever possible by displaying these billets to best advantage.

Domestic Affairs

The current phase of Meeting Room refurbishment has been completed and it has now been equipped with sound enhancement, improved air circulation and improved visual aids. The pictures have been cleaned and repaired. The strong room air conditioning plant has been replaced and although temporarily set to work it has yet to be finally accepted. The work has involved a major disturbance in the basement and caused dust and dirt in the Rooms for many months. Mrs Theobold has coped with great equanimity, as she has with the greater use of the Library as an adjunct to the meetings in the Meeting Room.

The two rooms taken over after the British Academy vacated its premises at the north-east corner of the Courtyard have been brought into use as a committee room which seats twelve, and an archives work room. The latter is now being used by Mr R. Desmond, lately of the India Office, who has become the honorary archivist. Access to both is gained through rooms on the ground floor occupied by the Artists General Benevolent Institution (ex-Royal Academy) who provide a welcome security presence. Security has had to be improved for the main Rooms following minor incidents in our Rooms and those of the Royal Society of Chemistry, and an attempted break-in in the basement of the Geological Society. Grills and security bolts have been fitted to all lower entry points.

Other Societies

The arrangements with the British Ecological and Mammal Societies remain unchanged. The contract with the Society for Experimental Biology has been redrawn and the former small committee room in the basement has been converted into the office for a full-time administrative secretary.

Bicentenary

The session saw the opening of the scientific programme with the holding of the symposium on Euphorbiales jointly with the Phytochemical Society at Kew, as reported on page 31.

The Fellowship has been kept informed of progress on planning through the medium of *The Linnean* (*1* (6): 2 and *2* (1): Stop Press).

Staff

During the session there has been no apparent change to the paid staff, but Mrs Jacqueline Elliott has in fact ceased working for the Society for Experimental Biology and commenced work for the Society as a part-time secretary, especially to handle bicentenary associated matters. The work of cleaning and cataloguing undertaken so conscientiously by the members of the

Kent branch of the National Association of Decorative and Fine Arts Societies, currently Mrs Pat Bratten, Melba Coombs, Sybil Down, Mary Forbes, Peggy Mayow and Ann Peacock, known with great affection as The Ladies of Kent, has now been in progress for ten years. The anniversary was marked by a small celebratory drink with the members present that day and recorded by letter to the branch thanking it for the quite invaluable work done for us over this decade.

The team of voluntary helpers in the Library, recorded in the previous Proceedings (*The Linnean 2* (1): 27) has remained unchanged.

New members of the Manpower Services Commission Team (who have to be replaced annually according to the law) have completed labelling and cleaning the books in the lower galleries and most of the Library annex. Their work and, of course, that of the Ladies of Kent, has been remarked on most favourably by readers who surprisingly can now finish their day's research with markedly cleaner hands.

Library

Activity during the session has again shown a steady increase, with the readers really beginning to benefit from the work of labelling and the filing of catalogue cards which has been in progress for many years. Miss Gina Douglas masterminds the activities of all her helpers and earns praise from readers and researchers for the speed of retrieval she and Linda Glavin continually achieve. Mr D. Cull continues to assist with long-term research. During this session he has been sorting the papers of R. H. Jeffers FLS.

Council wishes to record its thanks to all those mentioned on these pages, especially the team of volunteers, and is most pleased that the readers and users of the Rooms, generally, are voicing their appreciation for all the work undertaken on behalf of the Society.

Membership

The List of Honorary Members was increased, as announced on p. 32, by the addition of His Royal Highness The Prince of Wales and His Imperial Highness The Crown Prince Akihito.

The following are the annual statistics:

Date of Election	see *The Linnean*	Fellows	Associates	Student Associates
14 November 1985	*2* (2): 6	33	1	1
13 February 1986	*2* (2): 6/7	24	1	—
17 April 1986	*2* (3)	22	3	—
22 May 1986	*2* (3)	23	2	—
Total		102	7	1

Reinstatements	6
Withdrawals	19
Removals	37
Deaths reported	18

The paid-up Fellowship on the Anniversary Date was 1685. There were 34 Associates and 8 Student Associates.

During the year four Foreign Members and one Fellow *h.c.* died, three Fellows were elected Foreign Members and one Foreign Member was elected an Honorary Member.

The deaths of 18 Members have been reported

Dr Ellis Ashton, M.B.E. Born: 1 December 1919. Died: 31 October 1985. Elected: 17 March 1977.

Miss Dorothy Bexon, M.Sc. Died: 9 October 1985 (aged 90). Elected: 10 May 1934.

Professor John Patrick Micklethwait Brenan, M.A., V.M.H. Born: 19 July 1917. Died: 27 September 1985. Elected: 24 April 1952. Obituary: *The Times* 28 September 1985.

Professor Sir Harry Godwin, Sc.D., F.R.S. Born: 9 May 1901. Died: 12 August 1985. Elected: 24 May 1961. Obituary: *The Times* 15 August 1985.

Professor Sir Alister Hardy, M.A., D.Sc., F.R.S. Died June 1985 (aged 84). Elected 19 June 1924. Obituary: *The Times* 24 May 1985.

Dr Geoffrey Alton Craig Herklots, C.B.E., M.Sc., Ph.D. Died: 14 January 1986. Elected: 19 December 1929. Obituary: *The Times* 13 February 1986.

Miss Frances Hooper, Died: April 1986. Elected Foreign Member: 22 May 1980.

Professor S. B. Kausik, D.Sc. Born: 17 December 1907. Died: 24 November 1985. Elected: 24 May 1955.

Dr Ronald Melville, B.Sc., Ph.D. Died: 6 August 1985 (aged 82). Elected: 3 March 1938.

Professor John Axel Frithiof Nannfield. Born: 18 January 1904. Died: 4 November 1985. Elected Foreign Member 24 May 1967. Obituary: *Taxon, 35* (2): 1986.

Donovan Reginald Rosevear, C.B.E., B.A. Born: 28 November 1900. Died: 17 January 1986. Elected: 21 April 1966. Obituaries: *The Times* 18 January 1986, *The Nigerian Field* December 1985.

Professor Edmund André Charles Louis Eloi Schelpe, M.Sc., D.Phil. Born: 27 July 1924. Died: 12 October 1985. Elected: 12 May 1949. Obituaries: *Taxon, 35* (2): 1986, *35* (3): 1986.

Harold Smith, M.Sc. Born: 28 September 1906. Died: 12 January 1986. Elected: 24 May 1971.

Dr Alan Ramsey Stone. Born: 24 June 1942. Died: 6 May 1986. Elected: 20 March 1980. Obituary: *The Linnean, 3* (1): 53.

Professor William Homan Thorpe, Sc.D., F.R.S. Born: 1 April 1902. Died: 7 April 1986. Elected: 8 July 1943. Obituary: refer to The Royal Society.

Professor Dr Cornelius Gisjsbert Gerrit J. van Steenis. Died: 14 May 1986 (aged 84). Elected Foreign Member: 24 May 1960.

Dr Cyril West, O.B.E., M.A., D.Sc. Born: 16 December 1897. Died 25 March 1986. Elected: 6 March 1913. Elected Fellow *honoris causa:* 24 May 1978.

Dr Wu Hsieu-Wen. Died: 3 April 1985. Elected Foreign Member: 24 May 1983. Obituary: *The Linnean, 2* (1): 41.

Presidential Address

The President gave an address on *Fire, Life and Time*

Abstract

Wildfire has a special role in the energetics of the biosphere, in that although involving purely physical and chemical processes, the energy released is fueled by the biological productivity of plant life. The pyrolized (charred) plant material produced by forest fire is highly resistant to biodegradation, and is readily transported and incorporated into sedimentary deposits. It also retains in a high degree the original fine structure of the plant cell walls, and this is particularly amenable to investigation by SEM. We have records of plant material preserved in this form (fusain) for almost as long as plant life has existed on land. This record of the past occurrence of wildfire has significance for the interpretation of the palaeoecology of plants, and puts certain constraints on the postulated levels of atmospheric oxygen through geological time.

The motion that this address be published, proposed by Professor W. T. Stearn and seconded by Dr. R. I. Spearman, was carried unanimously.

Prior to closing the meeting the President announced that the Officers had been re-elected and he appointed as Vice Presidents for the forthcoming Session:

Professor J. G. Hawkes
Dr D. L. Hawksworth
Mr C. M. Hutt
Dr D. M. Kermack

Benefactions

During the course of the year the Society has received the following donations in excess of £20.00:

Atlas Resor of Sweden	£55
Estate of Miss M. Campbell	£200
Estate of Miss P. I. Edwards	£1000
F. R. Goodenough	£200
B. E. Smythies	£3280
Mrs Stanfield	£2000
D. Taylor-Pescod	£120

5. Balance Sheet and Accounts
The Linnean Society of London

Balance Sheet
31 December 1985

31 December 1984 £	ASSETS	£	£
	Investments (as per schedule)		
186,852	(Market value 31 December 1985: £355,433)		224,218
65,113	**Sundry Debtors**		64,798
	Share of Stock held on Joint Publishing Account		
—	(at valuation)		1,452
35,624	**Deposit and Current Account balances**		98,046
287,589			388,514
	Less: Current Liabilities		
15,435	Contributions received for future years	21,518	
81,334	Provision for repairs and improvements (Note 1)	90,453	
—	Provision for Bicentenary Expenses (Note 2)	25,000	
11,496	Sundry creditors and provisions	35,008	
108,265			171,979
179,324			216,535
	Trust Funds		
	Investments (as per schedule)		
68,328	(Market value 31 December 1985: £136,501)	69,054	
24,349	Deposit and Current Account balances	19,525	
92,677			88,579
£272,001			£305,114
	Represented by:—		
	General Funds		
164,378	General Fund (Note 3)	199,322	
14,946	Publications Fund (Note 4)	17,213	
179,324			216,535
	Trust Funds		
92,677	Balance of Funds		88,579
£272,001			£305,114

C. M. Hutt Treasurer

F. H. Brightman
N. K. B. Robson
D. Rollinson
D. A. S. Smith
} Audit Committee

Income and Expenditure Account for the year ended 31 December 1985

1984 £	INCOME	£
36,134	Annual contributions received	44,471
950	Income tax recoverable on covenanted contributions (year to 5 April 1985)	1,002
21,505	Dividends and interest	29,565
2,163	Publications—sales of back issues	2,888
786	Donations received	612
8,704	Use of rooms	8,664
17,405	Facilities of Premises	10,289
2,267	Miscellaneous receipts	3,591
6,707	Royalties	274
43,518	Publications (Note 6)	48,930
£140,139		£150,286

	EXPENDITURE	
52,816	Salaries and National Insurance	48,138
4,706	Electricity and gas	5,188
4,243	General rates (£7,749 less grant £2,457)	5,292
2,736	Repairs, renewals and insurance	5,717
11,071	Printing, stationery, postage and telephone	5,735
1,645	Audit fee	1,777
3,147	Miscellaneous	6,757
3,447	Books and periodicals	3,861
446	Binding, repairs and cleaning books	1,329
894	Cost of cataloguing	2,135
2,784	Newsletter	4,409
—	Bicentenary	3,212
87,935		93,550
45,000	Transfer to provision for repairs and improvements	25,000
	Transfer to provision for Bicentenary Expenses	25,000
£132,935		£143,550
£7,204	Excess of Income over Expenditure for the year	£6,736

Report of the Auditors to the Fellows of The Linnean Society of London

We have audited the Financial Statements on pages 45–52 in accordance with approved auditing standards. In our opinion the Financial Statements give a true and fair view of the state of the Society's affairs at 31 December 1985 and of its results and source and application of funds for the year ended on that date.

4, London Wall Buildings
London EC2M 5NT
22 April 1986

FRASER KEEN
(Chartered Accountants)

NOTES TO ACCOUNTS—31 DECEMBER, 1985

Balance Sheet

1984		
£		
Note 1.	**Provision for Repairs and Improvements**	£
37,111	Balance at 1 January 1985	81,334
45,000	Transfer from Income and Expenditure Account	25,000
—	Grant and Donation received	20,000
82,111		126,334
(777)	Expenditure during year	(35,881)
£81,334	Balance at 31 December 1985	£90,453

Note 2.	**Provision for Bicentenary Expenses**	
—	Balance at 1 January 1985	—
	Transfer from Income and Expenditure Account	25,000
£—	Balance at 31 December 1985	£25,000

Note 3.	**General Fund**	
7,204	Excess of Income over Expenditure for the year	6,736
200	Composition fees received during the year	612
11,800	Donation	1,200
8,579	Gain on changes of investments during the year	26,395
27,783		34,943
136,595	Balance at 1 January 1985	164,379
£164,378	Balance at 31 December 1985	£199,322

Note 4.	**Publications Fund**	
15,415	Balance at 1 January 1985	14,946
3,267	Transfer from Joint Publishing Account (*Less:* due to other Societies £409)	6,570
18,682		21,516
3,736	*Less:* Transfer to Income and Expenditure Account	4,303
£14,946	Balance at 31 December 1985	£17,213

1984 £		£

Note 4. No value is attributed to the Library, furniture, office equipment and stock of unsold journals in this Balance Sheet. Acquisitions are written off as incurred.

Note 5. Annual contributions in arrears at 31 December 1985 amounted to £1,763 (31 December 1984: £3,164, 51% of which was paid in 1985).

Income and expenditure account

Note 6. Publications

Half share of surplus on 1985 Joint		
78,956	Publishing Account—Journals	85,543
3,736	Transfer from Publications Fund	4,303
316	Cambridge University Press & E. J. Brill	191
83,008		90,037
	Less:	
38,816	Contributions to Joint Publishing Account and distribution cost for Journals Fellows	39,110
674	Editorial expenses	1,997
39,490		41,107
£43,518	Surplus transferred to Income and Expenditure Account	£48,930

Joint Publishing Account with Academic Press Inc. (London) Ltd.
Income and Expenditure Account for the Publishing year ended 31 December 1985

1984 £		£	£
	Sales—		
284,921	Journals (including Linnean Society contributions)		306,208
7,382	Books		20,091
£292,303			£326,299
357	Stock at 1 January 1985		—
127,008	Journals		135,122
—	Books		9,038
127,365			144,160
—	*Less:* Stock at 31 December 1985		2,905
£127,365			£141,255
	Gross Profit for year—		
82,469	Academic Press		92,522
	Linnean Society—		
78,956	Journals	85,543	
3,513	Books: Publications Fund	6,979	
82,469			92,522
£164,938			£185,044

Special Accounts (Trust and Reserve Funds) for the year ended 31 December 1985

	Deposit and current account balances at 1 January 1985	Income: Dividends, interest and income tax recovered	Income: Royalties or other receipts	Expenditure: Grants awards, transfers and sundry expenses	Expenditure: Purchase of investments	Expenditure: Administration contribution	Deposit and current account balances at 31 December 1985	Investments at book value
	£	£	£	£	£	£	£	£
P. Appleyard Bequest	3,044	1,605	—	820	68	141	3,620	7,897
The H. H. Bloomer Award Trust	494	313	—	158	14	28	607	1,104
Bonhote Fund	1,521	940	—	770	57	86	1,548	5,730
Goodenough Fund	691	203	200	52	—	16	1,026	873
Hooker Lecture Fund	471	225	—	—	—	19	677	983
Minchin Fellowship Fund	—	27	—	27*	—	—	—	120
Denis Stanfield Memorial Fund	401	263	2,000	—	6	15	2,643	1,113
Trail-Crisp Award Fund	93	88	—	—	—	7	174	336
Westwood Fund	256	131	—	—	9	11	367	692
Jane Jackson Bequest	—	1,410		— 1,410*	—	—	—	4,088
Omer-Cooper Fund	2,160	1,392	—	34	312	118	3,088	9,469
Flora Europaea Fund	15,218	4,857	3,027	16,572	260	495	5,775	36,649
	£24,349	£11,454	£5,227	£19,843	£726	£936	£19,525	£69,054

*Income transferred to General Income Account.

Schedule of Investments 31 December 1985

Nominal		**General account**	Book Value £
£8,184.27		Treasury 2½% Stock 1986	7,826
£14,250.00		6% Funding Stock 1993	11,963
£9,000.00		Treasury 12% Stock 1986	8,688
£10,000.00		Treasury 9% Stock 1994	7,272
3,000	Shares	Allied Lyons plc 25p Ordinary Shares	2,817
£3,944.00		Barclays Bank plc Ordinary Stock	5,287
6,400	Shares	B.A.T. Industries plc Ordinary Shares	5,968
8,000	Shares	Boots Co. plc 25p Ordinary Shares	10,475
12,000	Shares	Cadbury Schweppes plc 25p Ordinary Shares	9,240
7,000	Shares	Coats Patons plc 25p Ordinary Shares	7,627
1,500	Shares	Glaxo Holdings plc 50p Ordinary Shares	2,032
1,250	Units	GUS "A" Ordinary Stock	7,700
6,650	Shares	Hanson Trust plc 25p Ordinary Shares	14,772
1,600	Shares	ICI plc £1 Ordinary Shares	12,294
3,861	Shares	Land Securities plc £1 Ordinary Shares	5,694
5,250	Shares	Northern Foods plc 25p Ordinary Shares	3,880
5,000	Shares	Racal Electronics plc 25p Ordinary Shares	12,468
1,847	Units	Royal Insurance plc 25p Stock Units	3,233
£11,000.00		Scottish Mortgage & Trust plc 8–14% Stepped Deb.	11,083
2,000	Shares	Shell Transport & Trading Co. plc 25p Ordinary	5,368
10,730	Units	The Equities Investment Fund for Charities	16,711
			172,398
		National Savings Bank—Investment Account	51,820
			£224,218

(Market Value 31 December 1985 £355,433)

Nominal		**Trust funds**	Book Value £
	Units	The Equities Investment Fund for Charities:	
5,891	,,	P. Appleyard Bequest	7,267
1,180	,,	The H. H. Bloomer Award Trust	971
1,786	,,	Bonhote Fund	2,143
626	,,	Goodenough Fund	873
843	,,	Hooker Lecture Fund	983
126	,,	Minchin Fellowship Fund	120
715	,,	Denis Stanfield Memorial Fund	1,062
371	,,	Trail–Crisp Award Fund	336
494	,,	Westwood Fund	613
6,496	,,	Jane Jackson Bequest	4,088
4,042	,,	Omer–Cooper Fund	6,593
7,467	,,	*Flora Europaea* Fund	11,851
		Treasury 9% Stock 1994	
£9,300.00		*Flora Europaea* Fund	7,398
		6½% Funding Stock 1985/1987	
£19,014.18		*Flora Europaea* Fund	15,000
		Treasury 9% Stock 1994	
£4,165.58		Bonhote Fund	3,063
			62,361
		National Savings Bank—Investment Account	6,693
			£69,054

(Market Value 31 December 1985 £136,501)

Source and Application of Funds Statement for the year ended 31 December 1985

	General Funds	Trust Funds	Total	*1984*
Source of Funds	£	£	£	*£*
Movement on General Fund Account	34,943	—	34,943	*27,783*
Movement on Publications Fund	2,267	—	2,267	*(469)*
Movement on Provision for Repairs and Improvements	9,119	—	9,119	*44,233*
Provision for Bicentenary Expenses	25,000	—	25,000	—
Increase in Sundry Creditors and Contributions received in Advance	29,596	—	29,596	*6,742*
Decrease in Debtors	315	—	315	—
	101,240	—	101,240	*78,279*
Application of Funds				
Purchase of Investments	37,366	726	38,092	*44,952*
Increase/(Decrease) in Share of Stocks	1,452	—	1,452	*(178)*
Increase in Debtors	—		—	*17,388*
Movement on Trust Funds Income and Expenditure	—	4,098	4,098	*4,443*
	38,818	4,824	43,642	*66,605*
Movement in Net Liquid Funds	62,422	(4,824)	57,598	*11,674*
Deposit and Current Account balances				
As at 1 January 1985	35,624	24,349	59,973	48,299
As at 31 December 1985	£98,046	£19,525	£117,571	*£59,973*

OBITUARY
Alan Ramsey Stone (1942–1986)

It is with deep regret that we record the unexpected death of Dr Stone in the Nematology Laboratory at Rothamsted Experimental Station in May. He joined the staff of Rothamsted in 1969 and quickly showed himself to be a talented systematist, establishing himself as an authority on cyst nematodes. He was appointed Head of the Nematology Department in 1979, when only 35 years of age, and became Consultant Director to the Commonweath Institute of Parasitology in 1982. As a result of developing interests in the co-evolution of cyst nematodes and their hosts he was drawn into broader areas of systematics and played a key role in the Systematics Association as Zoological Secretary for 1977–1983 and subsequently as Editor-in-Chief, a position he maintained at his death. He was elected F.L.S. in 1980 and served on Council, 1981–1984, and as Vice-President, 1983–1984. He made important contributions to the affairs of the Society during these years, latterly as a member of the Finance Committee.

Although severely diabetic Alan did not spare himself and he was the primary instigator and co-editor of *Concepts in Nematode Systematics* (1982), a key volume in the integration of systematic approaches bringing together workers on animal helminths and plant nematodes. At the time of his death I was working with him editing a volume *Co-evolution and Systematics* to appear in September 1986.

Systematics has lost an ardent supporter and he will be sorely missed by his numerous friends and colleagues around the world.

D. L. HAWKSWORTH

LIBRARY

See also pages 1 and 2.

Donations

Once more we have had a welcome number of donations from Fellows and others in many subject areas. As well as noting specific donations listed below, we would like to thank Prof. G. Pontecorvo who continues to supply the Library with a large number of journals, and also the BBC Natural History Unit, Bristol, who have passed on to the Library a large number of Natural History reprints and similar publications. We are often glad to be given copies of older 'classics", some of which we were not able to purchase at the time they were published. Recent donations include:

H. I. H. the Crown Prince of Japan	Ichthyological Society of Japan, *Proceedings of the Second International Conference on Indo-Pacific Fishes*, ed. T. Uyeno & R. Ara, 985 pp. Tokyo, 1986.

The author	Allen, D. E., *The Botanists, a history of the Botanical Society of the British Isles,* 232 pp. St Paul's Bibliographies, Winchester, 1986.
The author	Arora, K. *Genetic resources of less known cultivated food plants,* 126 pp. Nat. Bureau of Plant Genetic Resources, New Delhi, 1985.
Dr G. Buchheim	Encke, F., Buchheim, G. & Seybold. S., *Zander Handworterbuch der Pflanzennamen,* 770 pp. Ulmer, Stuttgart, 1984.
Dr J. H. Crothers	Field Studies Council, *Dog Whelks, an introduction to the biology of Nucella lapillus (L.)* by J. H. Crothers, 1985.
	Chalmers, N, & Parker, P., *The O.U. Project Guide,* 105 pp. Field Studies Council, 1985.
	Tilling, S. M., *A key to the major groups of terrestrial invertebrates* (test version) Field Studies Council, 1985.
R. Ellingworth	Ali, S., *The book of Indian Birds,* 158 pp. Bombay Nat. Hist. Soc., Bombay, 1964.
	Flahault, C., *Nouvelle Flore . . . des Alpes et des Pyrenees,* Ser. I, II & III, Librarie des Sciences Naturelles, Paris, 1906–1912.
	Harris, T. T., *Wildflowers of Australia,* 206 pp. Angus & Robertson, Sydney, 1938.
	Kobayashi, K., *Birds of Japan in natural colours,* 204 pp, Osaka, 1963.
	Martin, W., *The flora of New Zealand,* 3rd ed., 266 pp. Whitcombe & Tombs, n.d.
	Prescott, E. E., *The native flowers of Victoria,* 118 pp. George Robertson Sydney, n.d.
	Sulman, F., *Wildflowers of New South Wales,* Vol. I, 208 pp. Angus & Robertson, Sydney, 1926.
	"Torfrida", *Nurseries of Heaven, wildflowers of India,* 45 pp., [privately], 1944.
The author	Ferber, I., *Israel National collections of Natural History,* 78 pp. Israel Academy of Sciences and Humanities, Jerusalem, 1985.
The author	Fitter, R. S. R., *The Ark in our midst,* Collins, London, 1959.
	Fitter, R. S. R., *Collins pocket guide to nests and eggs,* 175 pp. London, 1968.
R. S. R. Fitter	A large quantity of natural history and conservation reports and papers.
Dr D. Goode	*Ecology Handbook,* No. 1, *Ecology and Nature Conservation in London.* GLC, London, 1985.
	Ecology Handbook, No. 2, *A guide to habitat creation.* GLC, London 1984.
	Ecology Handbook, No. 3, *Nature Conservation guidelines for London.* GLC, London, 1985.
	Ecology Handbook, No. 4, *A nature conservation strategy for London.* GLC, London, 1985.

Hunt Inst.	Halstead, B. W., *Poisonous and venomous marine animals of the world*, 3 vols. U.S. Printing Office, Wastington, 1965–1970.
Dr S. L. Jury	Botanical Society of the British Isles, *English names of wildflowers*, 2nd ed., by J. G. Dony, S. L. Jury & F. H. Perring, 117 pp. B.S.B.I., 1986.
Dr R. W. J. Keay	Backnumbers of the *Nigerian Field* Journal, to complete our holdings.
The author	Kunkel, G., *Arboles ornamentales en jardins Almerienses*. Almeria, 1986.
The author	Maycock, R., *Vascular plants of Buckinghamshire*. [privately] 1986.
Prof. J. T. Moody	Alic, M., *Hypatia's heritage, a history of women in science*. 230 pp. Women's Press, London, 1986.
Prof. G. Moggi	Turin, Orto Botanico, *Erbari e iconographfia botanica*, 158 pp. Turin, 1986.
Prof. A. Morandini	Florence, Biblioteca Meidcea Laurenziana, *Pianti e fiori nelle miniature Laurenziane* by G. Moggi and M. Tesi, 94 pp. Florence, 1986.
The authors	Nasir, E. & Ali, S. I., *Flora of Pakistan*, Nos 117, 119, 122, 130, 137, 138, 140, 141, 147, 148, 150, 153, 154, 158, 160–163, 166, 167, 169, 171, Dept. Botany, Karachi.
Prof. S. Nedyalkov	Bulgarian Academy of Sciences, *Red data book of the Peoples Republic of Bulgaria*, Vol. I, *Plants*, Vol. 2, *Animals*. Sofia, 1985.
R. A. M. Nesbitt	Taylor, S., *A Traveller's Guide to the woody plants of Turkey*, 126 pp. Redhouse Press, Istanbul, 1984. Yakar, N., *Renkli Türkiye Bitkileri Atlasi* Fascs 1, II & III. Istanbul, 1964–1966.
T. Pain	Barber, L., *The heyday of natural history, 1820–1870*, 320 pp. Cape, London, 1980.
The author	Pankhurst, R. J. & Allison, J. M., *British Grasses, a polyclave key to grasses in the vegetative state*, 76 pp. Field Studies Council, 1985.
Prof. G. Pontecorvo	Muller, H. J., *The modern concept of nature, essays on theoretical biology*, ed. E. A. Carlson, 272 pp. State University, New York, 1973. Dobzhansky, T., *Genetics and the origin of species*, 364 pp, Columbia U.P., New York, 1937. Genetical Society of Great Britain, *Fifty years of genetics*, ed. J. Jinks 79 pp. Edinburgh, 1969. Stern, C. & Sherwood, E. R., *The origin of genetics, a Mendel source book*, 179 pp. Freeman, London, 1966. Weisz, P. B., *The science of biology*, 886 pp. McGraw-Hill, New York, 1967.
The author	Rowley, G., *Field numbers of succulent plants, a collector's logbook 1968–1983*, 59 pp. Reading [privately], 1986.
Dr O. Skulberg	Wilse, J. N., *Spydeberg praestergield* (reprint of 1779 edition), 588 pp. Fredrikshald, 1920.

The publishers	Slingsby, D. & Cook, C., *Practical Ecology*, 213 pp. Macmillan, 1986.
Dr I. W. B. Thornton	LaTrobe University, *1985 Zoological Expedition to Krakataus, Preliminary Report,* Misc. series. La Trobe, 1986.
The authors	Vicieae Database Project, *Publications* Nos 1–6. Biology Dept., University of Southampton, 1984–1986.
Dr S. M. Walters	Raven, C. E., *John Ray, Naturalist, his life and work* (reissue), 506 pp. Cambridge University Press, 1986.

Accessions

Other recent accessions include:

Botanical Society of the British Isles, *Handbook No. 2, Umbellifers of the British Isles*, by T. G. Tutin, 197 pp. BSBI, 1980.

Botanical Society of the British Isles, *Handbook No. 3, Docks and knotweeds of the British Isles*, by J. E. Lousley and D. H. Kent, 205 pp. BSBI, 1981.

Botanical Society of the British Isles, *Handbook No. 4, Willows and poplars of the British Isles*, by R. D Meikle, 198 pp, BSBI, 1984.

Baoling, W., Ruiping, S. & Yang, D. J., *Nereidae (Polychaetous annelids) of the Chinese coast*, 234 pp. China Ocean Press, Beijing, 1985.

Corner, R. W. M., *Flowering plants and ferns of Selkirkshire and Roxburghshire, a check list*, 44 pp., Lancaster, 1985.

Dexing, J. & Junmin, L., *Marine benthic diatoms in China*, Vol. I, 313 pp. China Ocean Press, Beijing, 1985.

Endler, J. A., *Natural selection in the wild*, 336 pp. Princeton University Press, 1986.

Gangulee, H,. C., *Handbook of Indian mosses*. Balkema, Rotterdam, 1986.

Guinochet, M. & Vilmorin, R., *Flore de France*, T. 4 & 5. Paris, 1984.

Hadley, G., *A map flora of mainland Invernessshire*. BSBI, 1985.

Hayman, P., Marchant, J. & Prater, I. *Shorebirds, an identification guide to the waders of the world* 412 pp. Croom Helm, London, 1986.

Holland, S. C., Caddick, H. M. & Dudley-Smith, D. H., *Supplement to the flora of Gloucestershire*. Grenfell, Bristol, 1986.

Jolivet, P., *Les Fourmis et les plantes*, 254 pp. Ed. Soc. Nouvelle Boubee, Paris, 1986.

Lucas, M. J. & Middleton, J., *Flowers and ferns around Huddersfield*, 115 pp. Kirklees Met. Council, 1985.

Nehmé, M., *Fleurs sauvages du Liban*, 240 pp. CNRS, Beirut, 1980.

Newton, I., *The sparrowhawk*, 296 pp. Poyser, 1986.

Pascher, A., *Susswasserflora von Mitteleuropa*, Vol. 2, pt 1, *Bacillariophycaea (Naviculaceae)*, by H. Ettl, J. Gerloff & H. Heynig. Balkema, 1985.

Vrba, E. S., *Species and speciation*, 176 pp. Transvaal Museum Monograph No. 4, 1985.

Whiteley, D., *The natural history of the Sheffield area and the Peak District*, 255 pp. Sorby Natural History Society, Sheffield, 1985.

Wynne Edwards, V. C., *Evolution through group selection*, 386 pp. Blackwell, Oxford, 1986.

BOOK REVIEW

E. LACK and H. W. LACK, *Botanik und Gaertenbau in Prachtwerken.* Paul Parey. 1985. ISBN 3 489 63024 6.

In contrast to permanent museum displays, special exhibitions are of an ephemeral nature and this so much so that one sometimes wonders whether all the time and energy expended by the organizers of such events is really worth while.

How often one arrives at a place only to realize that an exhibition has just closed the day before! But even for the lucky few—few relative to the people who visit museums—who saw it, often more by chance than choice, only memories will remain: a permanent collection can be revisited; the ingredients of exhibitions disappear like the snow of yesteryear.

With this in mind one can appreciate the trend to provide the visitor to an exhibition with a well-illustrated and scholarly annotated catalogue even though this may sometimes make the cost of such a visit very expensive. Thus often the catalogue can be of such a high standard and so comprehensive that it gives more joy and provides the reader with much more information than he could have gained by visiting the exhibition for which it was prepared.

This certainly applies to the catalogue which I have the pleasure of reviewing. It was prepared by E. and H, W. Lack for an exhibition entitled "Verborgene Schätze der Gartenbaubücheri" ("Hidden Treasures of the Horticultural Library") which was held at the Bundesgartenschau (Federal Garden Show) in Berlin in August 1985. For reasons best known to the publishers (a sales trick?) the reader will not recognize at first glance that this publication is a catalogue because its title (Botanik und Gartenbau in Prachtwerken"—"Botany and Horticulture in Fine Books") differs markedly from the title of the exhibition. Even worse, this title suggests a book of a general nature and conceals not only its selective approach but also the fact that it contains information which is not obvious from the title.

Having said this, the reviewer cannot but praise the work of the compilers. The essay on "Botanische Gärten und Botanische Prachtwerke von den Aufängen bis 1850" ("Botanical Gardens and Fine Botanical Books from the Beginning Until 1850") displays scholarship of their authors set out in brilliant style. In many ways it repeats what they have published on previous occasions but this does on previous occasions but this does not really matter for a reader who comes across the subject for the first time, and it is after all the purpose of an exhibition to address itself to this category of people.

The history of the Berlin Horticultural Society is dealt with at some length and may be of only local interest, but a short biography of Dr Robert Zander (1892–1969), the creator of this library, is certainly more widely appreciated since he has become an international household name in botanical and horticultural circles through its Handwörterbuch der Pflanzennamen.

In the special section of this catalogue—say book—73 books presented in the exhibition are described at great length, with painstaking accuracy and with the scholarship for which the authors have already established their reputation. The illustrations in both black and white and colour are of superb quality.

EDMUND LAUNERT

FORTHCOMING PAPERS IN THE JOURNAL

Botanical Journal

Euphorbia Studies: The Chemistry, Taxonomy and Economic Botany of Euphorbiales. Edited by S. L. Jury, T. Reynolds and D. F. Cutler, assisted by F. J. Evans.

WEBSTER, G. L., The saga of the spurges: a review of classification and relationships in the Euphorbiales. RADCLIFFE-SMITH, A., Segregate families from the Euphorbiaceae. CARTER, S., Problems of distinction among succulent *Euphorbia* species from eastern tropical Africa. SCHULTES, R. E., Members of the Euphorbiaceae in primitive and advanced societies. CALVIN, M., Fuel oils from euphorbs and other plants. MENNEGA, A. M. W., Wood anatomy of the Euphorbiaceae, in particular of the subfamily Phyllanthoideae. PUNT, W., A survey of pollen morphology in Euphorbiaceae with special reference to *Phyllanthus*. RUDALL, P., Laticifers in Euphorbiaceae—a conspectus. MAHLBERG, P. G., DAVIS, D. G., GALITZ, D. S. AND MANNERS, G. D., Laticifers and the classification of Euphorbia: the chemotaxonomy of *Euphorbia esula* L. ARCHER, B. L. AND AUDLEY, B. G., Some new aspects of rubber biosynthesis. HECKER, E., Tumour promoters of the irritant deterpene ester type as risk factors of cancer in man. SCHMIDT, R. J., The Biosynthesis of tigliane and related diterpenoids; an intriguing problem. EVANS, F. J. AND EDWARDS, M. C., Activity correlations in the phorbol ester series, AITKEN, A., The activation of protein kinase C by daphnane, ingenane and tigliane diterpenoid esters. KINSELLA, A. R., A review of the evidence from *in vitro* and *in vivo* studies for a role for phorbol ester tumour promoters (from the Euphorbiales) in the selection and clonal expansion of specific cell populations. BLUMBERG, P. M., NAKADATE, T., WARREN, B. S., DELL'AQUILA, M., SAKO, T., PASTI, G. AND SHARKEY, N. A. Phorbol esters as probes of the modulatory site on protein kinase C. RIZK, A.-F. M., The Chemical Constituents and economic plants of the Euphorbiaceae.

Biological Journal

REID, D. G., Natural selection for apostasy and crypsis acting on the shell colour polymorphism of a mangrove snail, *Littoraria filosa* (Sowerby) (Gastropoda: Littorinidae).

REED, T. M., Island birds and isolation: Lack revisited.

BONHOMME, F., GUENET, J.-L., DID, B., MORIWAKI, K. AND BULFIELD, G., The polyphyletic origin of laboratory inbred mice and their rate of evolution.

FITCH, W. M. AND ATCHLEY, W. R., Response to Bonhomme *et al.*

HOWLETT, R. J. AND MAJERUS, M. E. N., The understanding of industrial melanism in the peppered moth (*Biston betularia*) (Lepidoptera: Geometridae).

JARRELL, G. H., Is female-biased sex determination in lemmings caused by staying together for warmth?

HURLBUTT, B., Sexual size dimorphism in parasitoid wasps.

HEYWOOD, P. AND ROTHSCHILD, L. J., Reconciliation of evolution and nomenclature among the higher taxa of protists.

Zoological Journal

RIEPPEL, O., The phylogenetic relationships within the Chamaeleonidae, with comments on some aspects of cladistic analysis.

SCOTT-GALE, A., Phylogeny and classification of the Asteroidea (Echinodermata).

DEVRIES, P. J., SCHULL, J. AND GREIG, N., Synchronous nocturnal activity and gregarious roosting in the neotropical skipper butterfly *Celaenorrhinus fritzgaertneri* (Lepidoptera: Hesperiidae).

HOWES, G. J. AND SANFORD, C. P. J., Oral ontogeny of the Ayu, *Plecoglossus altivelis*, and comparisons with the jaws of other salmoniform fishes.

CRAWFORD, C. S., BERCOVITZ, K. AND WARBURG, M. R., Regional environments, life-history patterns, and habitat use of spirostreptid millipedes in arid regions.

KERMACK, K. A., LEE, A. J., LEES, P. M. AND MUSSETT, F., A new docodont from the Forest marble.

LINNEAN SOCIETY JOURNALS BACKSTOCK

JOURNAL	VOLUME/PART	PRICE £ VOLUME	PRICE £ PART	PRICE $ VOLUME	PRICE $ PART
Journal of the Linnean Society of London, Botany	Vols 1–7, 1856/57–1863/64	85.00	21.00	159.50	39.50
	Vols 8–58, 1864/65–1961/64	64.00	16.00	120.00	30.00
	General Index to Vols 1–20, 1888	7.00		13.00	
	Single indexes (each)	4.00		7.50	
Journal of the Linnean Society of London, Zoology	Vols 1–7, 1856/57–1863/64	85.00	21.00	159.50	39.50
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	Singles indexes (each)	4.00		7.50	
Proceedings of the Linnean Society of London	Vols 118–142, 1905/06–1929/30 (1 part to a complete volume)		12.00		22.50
	Vols 143–157, 163, 1930/31–1950/51		27.50		51.50
	Vols 158–162, 164–169, 1945/46–1956/57		23.00		43.00
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	Vols 17–19, 21, 22, 26–28 (each complete in 4 parts)		16.00		30.00
	General Indexes to vols 1–25, 26–30 (each)	10.00		19.00	
Transactions of the Linnean Society of London Series 2, Botany	Vols 1, 3, 6, 8, 1875/80–1913/22	43.00	6.00	80.00	11.00
	Vols 2, 5, 1881/88–1896/1901	72.00	6.00	135.00	11.00
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	Vol. 7, 1904/13	72.00	6.00	135.00	11.00
	Vol. 9, 1916/22	28.50		53.50	
	Part 1		24.00		45.00
	Part 2		6.00		11.00
Transactions of the Linnean Society of London Series 2, Zoology	Vols 1, 2, 5–11, 1875/79–1908/22	60.00	6.00	112.50	11.00
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	Vols 13–15, 17, 19, 1909/10–1926/36	43.00	11.00	80.50	20.50
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	Part 1		33.50		63.00
	Part 2		5.00		9.50
Transactions of the Linnean Society of London Series 3, Zoology	Vol. 1, Nos 1, 2, 3, 1939/55		10.50		19.00

Fellows and Members of the Society are entitled to a 30% discount off the above prices, which do not include postage. Payment from overseas should be in U.S. Dollars.
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