Editorial

In November 1973 we compiled the first Linnean Newsletter, an informal publication containing news of Fellows, information from the Officers of the Society, appeals, etc. Our last newsletter was issued in 1981.

The Proceedings of the Society were first published in 1838 as the *Proceedings*, and for the years 1856–1865 they were published in a *Journal of Proceedings* and divided into two parts; botany and zoology. Since 1969 they have been published in the *Biological Journal*.

With the change in emphasis of the Biological Journal that began during Dr Karen Hiiemae's editorship in 1977, and continued by the present editor Professor R. J. Berry, there has been less room for papers on general natural history and of an historical nature, while the *Record of the Proceedings of the Society* were increasingly inappropriate in that Journal. In order to relieve space in the *Biological Journal* and at the same time to provide Fellows with an improved service, Council agreed to the publication of a more elaborate Newsletter, to include the Society's Proceedings.

Thus *The Linnean*, as we have called it, contains not only Society news, including notices of meetings, but also the Proceedings. There will be three issues a year and the editor welcomes historical articles, correspondence and short papers on any newsworthy subject. The quality and interest of this new venture depends on the response from readers. *The Linnean* should provide a place in which members can communicate with one another, or express their views on any aspect of the Society, past, present, and future. We hope to hear from you: contributions can be sent to Dr B. G. Gardiner, Biology Department Queen Elizabeth College, Campden Hill Rd London W8, or to the Executive Secretary at Burlington House.

SOCIETY NEWS

Notes and Queries

Telephones

With the new telephone system installed and working we will shortly be switched to two inter-connected lines. This will allow you to dial in on either number and the system will automatically select whichever line is free. As from 1 April 1983 the Society numbers will be 01-434 4479 and 01-434 4470. The old number, 01-734 1040 will go out of use and be disconnected as soon as 01-434 4470 is working.

Wanted

The Society is urgently looking for some furniture for the Rooms at Burlington House. We would very much like to hear from any Fellow who might be thinking of disposing of a small table, about 4 ft × 2 ft, suitable to remain in the hall and be available for use as a reception desk during symposia and other large meetings. We would also be grateful for a single or double

cupboard to stand opposite the Strong Room door, maximum dimensions 8 ft high by 6 ft wide by 1 ft 8 in. This should be capable of having, or have many shelves, and be both lockable and reasonably dustproof. It will be used to house the 'supplementary' collection of shells, echinoderms and crustaceans which are not of Linnaean origin.

Ideally, to remain in keeping with the Rooms, both of the above should be of Victorian or Victorian type, the cupboard could well be a breakfront bookcase or something similar.

Obituaries

These are a sad but important part of our records. With a society as old as ours we have an excellent set of historical details. They are to be found amongst the Society's Proceedings in the form of obituaries which contain vignettes covering life over the last two centuries. It would be sad if this aspect of our history were to fall into neglect through our inability or unwillingness to keep up the writing of obituaries.

There is, however, the complementary and important aspect of keeping those of us in the office informed of people's deaths so that we may scan the press for notices and also alert the writers. If you see obituary notices, especially in your local press, would you please send us a copy? To show the sort of information we do have on record, we have extracted two concurrent obituaries from the Proceedings of 1865.

> *John Lee, LL.D., Q.C., F.R.S., &c. &c.*, died at an advanced age at Hartwell House, his residence, near Aylesbury, on the 25th of February. Though some time a Fellow of this Society, into which he was admitted on the 4th December, 1855, and well known for the encouragement he always afforded to those engaged in natural-history pursuits, Dr. Lee had not himself paid much attention to those branches of science. That to which he was more particularly devoted was Astronomy, which he cultivated with much assiduity with the aid of an observatory he had established at his residence, and with such reputation and success as to lead to his being selected to fill the Chair of the Royal Astronomical Society. Somewhat excentric in his views on various subjects, Dr. Lee was an ardent politician of extreme radical views, a teetotaller, and as great an enemy to tobacco as King James the First. In his character of a politician he, on several occasions, contested the county seat with Mr. D'Israeli, but never with any chance of success.
>
> In him his neighbours have lost an active magistrate, and science has to deplore, if not a very distinguished, yet a very ardent and ready auxiliary.
>
> *Edward Frederick Leeks, Esq.*, a Solicitor by profession, and Secretary of St. Ann's Schools, died November 1, 1865. I am not aware that he had contributed anything to science; but he was an old Fellow of this Society, into which he was admitted in the year 1845.

Addresses

The response to our request in the Summer News Items has been most pleasing. On current plans we aim to start compilation of the list in the New Year for production later in the Spring, please continue to report changes of address so that the updating may continue.

Every year we get a number of mailings returned to us 'gone away'. This is disturbing for us and, I am sure, must be disturbing for the member who does not receive his journals and correspondence and wonders why. Should we find the member in arrears we stop his journals, but this is especially inconvenient if he later makes contact and pays up as there is a discontinuity in the 'run'.

We would therefore be most grateful if members would ensure we know of changes of address as they occur. At present we would like help with the whereabouts of:

V. Agnihothrudu—Bangalore, India
Simon St Clair Carter—Rye, Sussex
Jason F. Castle—Christchurch, New Zealand
Jane L. Cooper—Sausalito, California
Edward Fitzsimmons—Oakland, California
Mrs E Galik—Gorlu, Turkey
J. R. S. Gilchrist—Fairlie, Ayrshire
Charles R. Lancaster—Hilliers, Hampshire
P. M. Tascherau—Kitchener, Ontario
Virenda Kumar Varma—Plumpstead, London
David O. L. Williams—Guernsey, Channel Islands
John Nevison Wilson—Animal Virus Research Institute, Woking

Social evenings and lectures

Following the success of the Library Open Evening last Spring we have arranged three informal evenings for members to invite guests to the Rooms to hear lectures of general interest and to meet over refreshments. By the time this is published we shall have held two, and hope to be able to more accurately assess numbers and costs for the third, on 28 February 1984.

Members are encouraged to use this further opportunity to introduce the Society to their friends. Overseas Fellows and guests will be especially welcome.

Date:	Tuesday, 28 February, 1984.	
Programme:	18.30–19.15: Lecture:	*The early years of the Linnean Society in its social and historical context.* Dr Roy Porter (Wellcome Institute of the History of Medicine).
	19.30–21.00:	Refreshments in the Library.
Cost:	Probably £2.50–£3.00 for wine and light food.	

Please let the office know by 21 February of your intention to attend.

Membership

We welcome the following who were elected as Fellows on 17 November 1983.

Modupe Olatunde Akinola, B.Sc.
Laith Abdul Jalil Al-Hassan
Prof. Frederick Allen Aldrich, M.S., Ph.D.
Dr Charles Barrie Coulson, B.Sc. M.Sc., Ph.D
David John Curran
Dr Jean Galtier
Lawrence Allan Jack Herber, B.Sc., M.Sc.
Dr John R. Krebs
Dr Sudhir Kumar
C. M. Lovatt, M.A., Ph.D
Kenneth Charles Lowe, B.Sc. M.A., Ph.D
Prof. David Jordan McLaughlin, A.B., Ph.D
Iris Munro
David Ronald Murray, B.Sc., Ph.D
Parshuram G. Patwardham, M.Sc., Ph.D.
Dr Laurent Rivier
David Rollinson, B.Sc., Ph.D., D.I.C.
Dr Gopal Krishan Sharma
Rupert Heinrich Wild, D. Phil.
Prof. David Dudley Williams, B.Sc., M.Sc., Ph.D.
John Beaumont Williams, B.Sc.
Prof. B. Baadur, Ph.D.
Peter Alan Henderson, D.Sc.
Prof. David Hopkins Rembert, B.Sc., M.S.
Bijay Kumar Sinha, M.Sc.

and also the following who were elected Associates on 17 November 1983

Stephen Andrew Bennett, F.R.M.S.
Elspeth M. Boardley, B.A.
J. Douglas McKenzie, M.Sc.
Heather Annette Page, B.Sc.
Caroline Anne Sincock, B.Sc., M.Sc., M.I.B.
Paul Andrew Wilding, B.Sc.
Amrith Mark Silva

The programme and the demise of the billet

Members will appreciate that with the advent of this Newsletter the need for the billet, as such, no longer exists. By the same token we still need to publish the agendas for the General Meetings but we are constrained by a need to produce our copy six weeks to two months earlier than before. Set out below are the details available at the time of going to press. Abstracts will be posted on the notice board as usual and some copies will be available on the day of the General Meetings.

General Meetings

19 January 1984 at 17.00. Tea will be served at 16.30.

1. Admission of Fellows

2. Communications: *Revisiting the Marine Fauna of Aristotle.* Dr T. E. Thompson, Dr J. W. Turner, Dr J. Moyse, Dr A. Nicolaidou.

Dr T. E. Thompson (Zoology Department, University of Bristol)—*Shallow subtidal surveys of mainland Greece.*

Abstract

Benthic surveys carried out in 1982 supplement studies undertaken during the last 10 years by the Universities of Thessaloniki and Athens. Apart from its importance in invertebrate and algal taxonomy, this programme of resource evaluation has yielded interesting correlations between general benthic heterogeneity and the crash programme of urban development evident in modern Attica. Faunistic comparisons involve principally molluscan examples. New examples of massive range-extensions (from Ceylon, and from Bermuda, to quote two examples) were found, probably associated with the fact that the Aegean and Ionian Seas contain some of the greatest deeps in the Mediterranean Sea.

Mr J. W. Turner (Agriculture School, University of Oxford)—*Tidal effects in the straits of Evia.*

Abstract

The difference between MLWS and MHWS at Bristol (Avonmouth) is 12.3 m. At Plymouth it is 4.7 m, at Lisbon 3.3 m, at Naples 0.4 m and at Rhodos 0.1 m. The fact that tidal amplitude diminishes from west to east in the Mediterranean Sea is well known, but what has until now been ignored is the situation in the Strait of Evia where tidal rapids are spectacular and the amplitue (MLWS–MHWS) is 0.8 m. These rapids were studied in the vicinity of the Khalkis Bridge connecting Evia (the second largest Greek island, after Crete) to the mainland of Attica. This unique Strait offers a challenge to invertebrate biologists and oceanographers.

Dr J. Moyse (Zoology Department, University College, Swansea)—*Marine fauna of the Island of Khios.*

Abstract

Collections were made by a team of 14 Swansea specialists in 1967, with ecological and biogeographical emphasis. The small Crustacea included 34 amphipods (two new species) and seven *Eurydice*. Tubeworms included 12 Spirorbidae, leading to a taxonomic revision of the entire family. Bryozoans included 101 species, four of them new. The Aegean shows faunal affinities with the Black Sea, the Red Sea, and, especially, with the Atlantic Ocean. Coelenterates and barnacles were sparse, perhaps because swarms of fish keep zooplankton densities low. Fixed algae and marine angiosperms were abundant, and so were sponges and echinoderms which certainly deserve further study.

Dr Artemis Nicolaidou (Zoological Laboratory, University of Athens)—will describe *current Greek marine biological research programmes.*

16 February 1984 at 10.45. Coffee will be served at 10.15 in the Library.

1. Admission of Fellows.
2. Announcement of Council's nominations for Medals and Awards 1984.
3. Ballot for election of Fellows, Associates and Student Associates.
4. Communications: *The Future Ecology of the Norfolk Broadlands—an assessment of the potential for restoration of the Broadland ecosystem.*

This is a meeting being run jointly with the British Ecological Society and the three sessions are being chaired by Professor A. D. Bradshaw, F.R.S. (B.E.S.), by Mr M. Aitken Clark, (Principal Advisor and Chief Executive of the Broads Authority), and by our President.

11.00–11.30 Mrs Hilary Balls (University of East Anglia)—*The eutrophication problem—restoration of Broads by isolation.*

Abstract

Two Broads have recently been isolated from nutrient-rich river water by damming or diversion and one of these, Cockshoot Broad, has had much of its phosphorus-rich sediment removed. The changes which have taken place in these Broads since isolation will be discussed and also results from a series of experimental ponds.

11.30–12.00 Dr G. L. Phillips (Anglian Water)—*The eutrophication problem—restoration of Barton Broad by reduction in phosphorus loading.*

Abstract

Progress by Anglian Water in the reduction of phosphorus loading to Barton Broad will be discussed together with the effect this has had on the biological status of the Broad. The potential role of phosphorus stripping as a restorative measure in Broadland will be considered.

12.00–12.30 Dr Brian Moss (University of East Anglia)—*The present state of the Broadland ecosystem.*

Abstract

Many of the ways in which freshwater bodies may be altered by human activities have been recorded in Broadland. Among the more important are eutrophication, recreational damage, drainage and the introduction of an exotic mammal. The links between the consequent ecological problems will be indicated and technical problems of restoring the Broads from their present hyper eutrophic state discussed.

12.30–13.00 Mr N. J. Hanley (Broads Authority)—*A strategy and management plan for Broadland*

Abstract

The Broads Authority is presently finalizing its strategy and management plan for Broadland. Prime among policies contained in it are those concerning water quality, repair of recreational damage and resumption of traditional fen management. Administrative problems in obtaining agreement to and in implementing these policies will be outlined.

14.00–14.30 Dr B. Wheeler (University of Sheffield)—*The neglected face of Broadland—the undrained fens.*

Abstract

Considered together, the Broadland fens are arguably the single most important resource of rich-fen vegetation in Britain, both in extent and species composition. Some ecological characteristics of selected vegetation types of especial conservational importance will be outlined. The potential and problems for effective restoration or renovation of these will be discussed.

14.30–15.00 Miss C. Crook (University of East Anglia)—*Possible causes of the loss of reedswamp from Broadland.*

Abstract

Large areas of fringing reedswamp have disappeared from Broadland. Possible causes of this, including disease, grazing, boat-wash and eutrophication, have been investigated. The major losses have been from the floating-mat growth form which is vulnerable to changes in water quality. Effects of high nitrate concentrations on reed growth will be discussed.

15.00–15.30 Dr J. S. Wortley (Anglian Water)—*Fish and fisheries in Broadland.*

Abstract

Density, biomass and growth rate data for different species of fish will be presented and compared with available historical data for the fishery. Seasonal movements of fish will be described, and the influence of habitat changes and the ichthyotoxic alga *Prymnesium parvum* on the fish community discussed.

15.30–16.00. Tea will be served in the Library.

16.00–16.30 Mr D. Brewster (Broads Authority)—*The grazing marshes and their dyke flora.*

Abstract

The grazing marshes cover 20 000 ha of the floodplain of the Broadland rivers. Traditionally managed for beef fattening, these marshes with their network of drainage dykes, still provide an important refuge for the aquatic plant and animal communities that have been lost from the Broads. The agricultural policy of the U.K. and E.E.C. is favouring a change to improved grass and arable cropping with deleterious effects on the dyke habitat. The factors that are important for the maintenance of diversity and ways of maximizing it in arable dykes will be discussed.

16.30–17.00 Dr L. M. Gosling and Dr S. J. Baker (Coypu Research Laboratory, Ministry of Agriculture, Fisheries and Food)—*Coypus in Broadland: population changes and ecological impact.*

Abstract

Feral coypus (*Myocaster coypus*) have occupied the wetlands of East Anglia since the 1930s; their numbers are mainly limited by control trapping and cold weather. Coypus are generalist herbivores and select particular plants and plant parts at different times of the year. Their destructive impact depends on the details of this selective process. Historical population estimates allow a limited interpretation of some changes in Broadland plant communities. Population simulations, which take account of variation in climate and of control intensity, provide a basis for exploring future trends.

17.00–17.30 Mr J. O'Sullivan (Royal Society for the Protection of Birds)—*Broadland bird communities.*

Abstract

Broadland is justly famed for its attractive and rare birds, many species of which have been affected by the decline of the Broads. This lecture examines the problems birds face, the work being done to understand and counter these, and ways of managing bird populations and habitats in Broadland.

17.30–17.55 Dr M. George (Nature Conservancy Council)—*The future Broadland ecosystem.*

Abstract

An assessment will be made of what the Broadland ecosystem might be like a decade and more hence.

15 March 1984 at 17.00. Tea will be served at 16.30.

1. Admission of Fellows.
2. First reading of Certificates of Recommendation for election of Foreign Members and Fellows *honoris causa.*
3. Election of Auditors for the Treasurer's Accounts for the year ended 31 December 1983.
4. Communication: *The Biology of Early Mammals,* Dr. A. W. Crompton, University of Harvard.

Abstract

Recent discoveries of numerous early Jurassic mammals from North America and further studies on the Chinese mammals from the same period have shown that these forms were extremely diverse in structure. This diversity and experimental studies in 'primitive' living mammals have provided data which help to both interpret the morphology of the earliest mammals and provide a sounder base for speculating on their biology.

Correspondence

Linnean Darwin Group—old legend or new reality?

Being the oldest biological society in existence, and an essentially systematic one at that, the Linnean Society of London necessarily seeks to embrace all facets in the study of (natural) life. As often remarked, our only unifying theory is that of evolution, with Darwin's contributions generally accepted as being of paramount importance. Recently, however, some biologists have cast doubt on the scientific status of Darwin's theory and the importance of natural selection. Although much of the debate has been misdirected (on both sides), there seems little doubt that a lot of poor biology and bad science has been promoted under the banner of Darwinism—but that is hardly Mr Darwin's fault!

Darwin's observations and formulation of evolutionary theory would not have been possible without systematics, and it is essential that progressive systematic ideas continue to illuminate all aspects of biology. Equally, systematists should always strive to be cognisant of new developments throughout biology—a daunting task. Recent acrimony over the evolution problem has damaged mutual respect between many systematists and other biologists, and threatens to reduce the flow of vital information between them. To help redress this I would

here like to revive proposals for a 'Darwin Group' (P. H. Greenwood, 1978, *Antenna, 2:* 96; S. Jones, 1979, *Antenna, 3:* 3). The purpose of the Darwin Group would simply be to promote regular informal debate on any and all aspects of evolution and systematics. Humphry Greenwood suggested that such a group could readily be formed "under the *aegis* of the Linnean Society" which, for the reasons already outlined, would seem an excellent proposition. Steve Jones, agreed, and referred to a short-lived but successful series of meetings of the type envisaged, organized by himself and Sam Berry at the Royal Free Hospital during the late 1970s. The Editors of *Antenna* confidently expected "to announce a Darwin group meeting in 1979"—but nothing ever seems to have happened.

So, what about it, Dr Jones, President Past and President Present? As a friend of Darwin once remarked, "The great end of life is not knowledge but action". Can we have some action, please?

R. I. VANE-WRIGHT, F.L.S., F.R.E.S.
100 Ifield Road, London SW10

Admission of Lady Fellows

Hanging on the upper staircase of the Linnean Society is a large oil painting (49 in. × 74 in. sight size), *Admission of Lady Fellows,* painted by James Sant R.A. in 1906. The artist, aged 86, had been portrait painter to the Queen from 1872, painting allegorical female figures and genre subjects and enjoying the patronage of many noble and landed families.

On 19 January 1905 eleven women signed the Society's *Book of Admission and Obligation* and in May of that year Frank Crisp, the Treasurer, gave a dinner at Prince's Restaurant, Piccadilly, to celebrate the event. He also commissioned and personally paid £300 to Sant to paint the scene and the picture was duly exhibited at the Royal Academy in 1906. Critics of the day were divided as to its merits. *The Manchester Courier* considered it "without doubt the painter's most distinguished achievement". Other papers thought he had made the most of a not over-interesting subject and had not done too badly considering "he had long passed manhood's prime". *The Daily Mirror* wrote "Don't miss this, it will make you laugh", while *The World* thought the picture was rendered somewhat comic by the figure in blue plush in the foreground—a view doubtless shared by Frank Crisp.

In the original picture, illustrated in Gage's *History of the Linnean Society* (1938), the figures are grouped round the Presidential table. Dr Lilian Veley, a microbiologist, is signing the Book while Mrs Crisp, a botanist wearing an elaborate lace dress, is shaking hands with the President, Dr W. A. Herdman. Also in the picture are Miss E. L. Turner, an ornithologist specializing in Norfolk birds; Miss A. Lorrain Smith, President of the Mycological Society; B. D. Jackson, the General Secretary; Miss S. M. Silver; Mrs Constance Sladen, who worked for the Percy Sladen Trust after her husband's death; D. H. Scott, the Botanical Secretary; and Frank Crisp, the Treasurer. The Rev. T. R. R. Stebbing, the Zoological Secretary, rests his arm on the table while his well-endowed wife, whose watercolour drawings of the British Flora were destroyed in a fire, stands prominently in the right foreground—perhaps too prominently. Both their figures were painted out by an unknown hand later on and the

Figure 1. Admission of Ladies. Collotype of painting before the alterations

Figure 2. Photograph of painting as it is today.

Society was not given this group portrait until Lady Crisp presented it after her husband's death in 1919.

Crisp undoubtedly felt very strongly about its composition. In a letter to B. D. Jackson dated 17 January 1905, he wrote: "Naturally if I pay £300 for a picture, I should prefer that another "Fellow's" wife should not be the selected figure!" This was followed by a telegram of 22 May 1905: ". . . we must surely have at the table a lady fellow who has done something not one without a record glad to assist artistic licence but that would be going too far".

In 1937 the Duke of Bedford wrote asking whether the picture had been painted as the Duchess was among the first 15 lady Fellows. He was told that Her Grace had not been elected until 15 December 1905 and therefore did not feature in the painting. He was also informed that the picture had not met with Sir Frank Crisp's approval and so did not reach the Society's rooms until after his death.

The unknown artist substituted a chair for the controversial figures and were the overpainting to be removed, the Rev. T. R. R. Stebbing and his wife would be allowed to see the light of day once more.

MARGOT WALKER

Linnaeus's medical career

Linnaeus's interest in medicine seems to have started in 1722 when at the age of 15 and still attending the Lower School at Växjö he was introduced to Dr Johan Rothman, the state doctor of Småland who gave him permission to visit his garden. Rothman was also one of the senior masters at Växjö High School which Linneaus entered in 1724. It was Rothman who recognized and fostered the boy's aptitudes, and in 1726 finally convinced Linnaeus's father to allow his son to follow a career in medicine rather than enter the Church. More importantly for science, Rothman also arranged to take the youth into his own home for a year and there to give him private tuition in medicine and botany.

In the autumn of 1727 Linnaeus registered as a student of medicine at Lund University. Here he renewed his acquaintance with his former Lower School tutor, Gabriel Höök now a Master of Philosophy at Lund. Höök found him lodgings with a Professor at the University, Dr Kilian Stobaeus. This was to prove to be a propitious move for Linnaeus who was eventually allowed to use both Stobaeus's extensive library and museum and to go with him on visits to his patients. Then, like Rothman before him, Stobaeus came to treat Linnaeus as his son, giving him free board and lodging and allowing him to attend his lectures gratis.

Linnaeus was nevertheless disappointed with Lund University and in 1728, following the suggestion of his mentor Dr Rothman he transferred his studies to the University of Uppsala. The Medical Faculty at Uppsala had however fallen on bad times; no chemical laboratory existed, no anatomy was taught, and the University Hospital was in such terrible repair that Professor Lars Roberg was obliged to let out part of it as a public house to defray maintenance costs. On the credit side the University was endowed with several medical scholarships, one of which (Royal Medical Scholarship—lower class) was awarded to Linnaeus in December 1728. By the Spring of 1729 both the money his father

had given him and his scholarship monies had gone—paid out in University fees, board and lodging, and on two journeys to Stockholm. Again, fate was on his side, for on the 8th April 1929 while working in the University Botanic Garden he chanced to meet the venerable Dr Olof Celsius, Professor of Theology and an eminent local naturalist. Impressed by Linnaeus's botanical knowledge and recognizing his poverty, Celsius at first invited Linnaeus to take meals with him and then later gave him a room in his house. Then in June 1729, probably on Celsius's recommendation, Linnaeus was awarded another Royal Medical Scholarship (initially second class, but in December raised to first class) and this, together with his lecturing fees, enabled him to pay off his debts.

By the Spring of 1730 Linnaeus's botanical abilities had so impressed Olof Rudbeck (one of the two Professors of Medicine at Uppsala) that he invited Linnaeus to hold demonstrations for him in the Botanical Gardens from Easter to Midsummer. He also invited him to tutor his three youngest boys (all told, he had 24 children by three marriages) and to reside in his house. In his spare time he was also to coach a fourth son in medicine! Rudbeck's patronage was such that Linnaeus was awarded a Royal Stipend and this meant he was now free to indulge his many interests. Thus he drew up a *Hortus Uplandicus* for his botanical garden demonstrations and began such works as his *Bibliotheca botanica, Classes plantarum* and *Genera plantarum.* He also started classifying and cataloguing insects and birds. Unfortunately, Nils Rosen (Assistant Professor elect) returned from his foreign travels in 1731 and decided to take over the botanical demonstrations which in the previous year had been given by Linnaeus. Then in December 1731, Rudbeck's patronage came to an abrupt end, probably at the instigation of his wife, and Linnaeus returned to his parents' home in Småland. Despite these setbacks Linnaeus managed to persuade the Royal Society of Science at Uppsala to give him a travel grant to visit Lapland in the Spring of 1732. On his return to Uppsala in 1733 Linnaeus continued as a medical student, financing himself as best he could by leading botanical excursions, giving a month's lectures on mineralogy, and teaching private pupils.

In June 1734 Linnaeus received a letter from the Governor of Dalarna, Baron Nils Reuterholm, suggesting he should travel through Dalarna (at the Governor's expense) reporting on it as he had done on Lapland. Linnaeus was delighted and the trip started from Falun on the 3 July 1734 and ended 45 days later. On his return to Falun, Linnaeus remained a guest in the Governor's house while he completed his report. He remained with the Reuterholms until the middle of November, tutoring the sons in natural history, giving a course of lectures, in mineralogy at the Falun Assay Office and starting the practice of medicine. Then, probably on the insistence of the Reuterholms regular tutor, Johan Browallius, he decided that he must go abroad to obtain his doctor's degree. Linnaeus left Falun towards the end of the year for Uppsala in order to take his theological examination (one of his examiners being Olof Celsius) because at that time any student desirous of travelling out of Sweden had to pass such an examination before he could get a passport. He returned to Falun on the 20 December. Then on February 20 1735, aged 27, Linnaeus set out with his travelling companion, Claes Sohlberg (whose father paid him for escorting his son) for a short tour of Germany, Denmark, and Holland. When he arrived at Harderwijk on the 18 June he enrolled at the University for the degree of Doctor of Medicine and handed in a thesis written before he left Sweden on

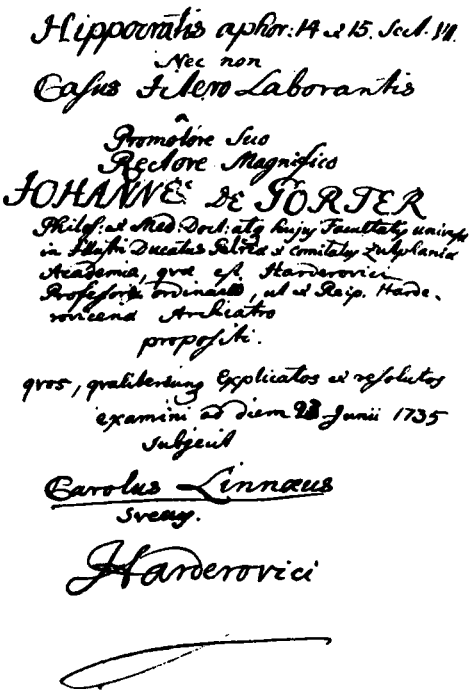


Figure 1. Title page of Linnaeus's short exposition of two of Hippocrates's aphorisms delivered to Professor De Gorter of Harderwijk in order to become a cand. medicinae, 1735.

"Hypothesis nova de febrium intermittentium causa" (a new hypothesis as to the cause of intermittent fevers). He also wrote a short exposition of two of Hippocrates's Aphorisms (Fig. 1.) and diagnosed and prescribed for the treatment of a case of jaundice. Six days later he was duly awarded the degree of doctor of medicine by Professor Jan De Gorter.

Linnaeus then accompanied Claes Sohlberg to Leiden where the latter intended to study medicine. While in Leiden, Linnaeus was befriended by Dr Johann Friedrich Gronovius who arranged for the publication of *Systemma Naturae* later that year (1735); Linnaeus also made the acquaintance of the wealthy and eminent physician Dr Hermann Boerhaave. Running short of funds and returning to Sweden via Amsterdam, at Boerhaave's insistence he called on the Superintendent of the Amsterdam Botanic Garden, Professor Johannes Burman. Burman quickly offered him a fine room and board if he would help him work up the plants of Ceylon. Linnaeus accepted but only remained with Burman for six weeks, for within a week of his arrival in Amsterdam he chanced to meet (in the Botanic Garden) one of Boerhaave's wealthiest patients, Dutch East India Company director, George Clifford. Clifford had his own botanic garden at Hartecamp near Haarlem and he invited Linnaeus and Burman to visit him there. The visit was a success and following the advice of Beorhaave, Clifford suggested Linnaeus became his personal physician and also looked after his garden and private zoo at Hartecamp. The renumeration was to be 1000 florins a year plus free board and lodgings. Linnaeus could not refuse and on the 13 September 1735 moved to Hartecamp. For the next two years he worked for Clifford at the Hartecamp from where he made trips to gardens in Utrecht, Leiden and England, but by the autumn of 1737 he decided it was time to

return to Sweden and his fiancée. However, he stopped off at Leiden and there he remained until the end of February 1738 receiving money from Professor van Roijen. He then briefly returned to Hartecamp and once again set out for Sweden, but this time via Delft and Paris. He arrived at Falun in August 1738 where he was at last formally betrothed to his fiancée who had waited for him for some four years!

In September, on the advice of his future father-in-law, he set up in practice as a physician in Stockholm. However, few patients would trust themselves to him and he was ridiculed because of his botanical interests. By winter 1738 he was forced to go in search of patients and was reduced to scouring the more seedy parts of Stockholm especially around the docks. His luck changed when he seemingly cured a young rake of gonorrhoea (more probably a non-specific urethritis) and from then on he was inundated with clients.

Realizing that there was a great deal of money to be earned in the treatment of venereal diseases he wrote for advice to the eminent physician and naturalist François Boissier de Sauvages de la Croix at Montpelier and Sauvages very kindly supplied him with the recognized remedy (mercury ointment). The 'successful' treatment of venereal diseases coupled with his seemingly infallible diagnoses of such complaints as smallpox and malaria rapidly earned Linnaeus a considerable reputation. Then through the influence of Count Carl Tessin (who took a special interest in science) he was appointed, in 1739, Admiralty-Physician to the Stockholm Hospital.

In October 1741 after much intrique Linnaeus was finally freed from the drudgery of his medical practice in Stockholm by his appointment to the Professorship of Medicine and Botany at the University of Uppsala, following the death of his former patron, Rudbeck and the resignation of Roberg. It was soon mutually agreed that Linnaeus should teach pharmacology (materia medica), pathology and dietetics while his colleague, Professor Nils Rosen was to be responsible for practical medicine, anatomy and physiology. Linnaeus also taught botany and mineralogy. From the time of the appointment of Linnaeus, Uppsala became the central point for the study of natural history and botany for more than a third of a century and students came from many parts of Europe.

Linnaeus taught in Uppsala for the rest of his working life although he asked to be released from lecturing in 1775 because of his old age and toothless condition. As late as 1776 he was still acting as Dean and examiner in the Medical Faculty. During his years at Uppsala Linnaeus's medical contributions included three books, three papers, 61 dissertations (or academic theses) and five contributions on medicine to Swedish Almanacks, including epilepsy in Skåne, intermittent fever, the causes of leprosy and a treatise on coffee.

Pathology

From the very outset of his medical career Linnaeus was meticulously compiling information. He kept the most elaborate case notes on the development and courses of diseases as well as their treatment, and was constantly bringing them up to date. The case notes enabled him to accurately discriminate between various diseases and was undoubtedly the reason for his rapid rise to fame in the medical profession. His greatest interest judging from his notes (housed in the Linnean Society strongroom) lay in fevers, the pox and the great pox, while he was least interested in skin diseases.

One of his first duties as Professor of Medicine at Uppsala was to teach the Diagnosis Morborum. This he enjoyed, and he quickly adapted Sauvages's 1731 classification of diseases (*Nouvelles classes des maladies . . .*) and drew up his own nosology based on symptoms alone. This symptomatic plan of arranging diseases was eventually published as a dissertation by one of his pupils in 1759 and later (1763) in an expanded form as his *Genera Morborum.*

The syllabus of his remaining medical lectures, together with his theory of medicine (which distinguished between the vascular and nervous systems of the body) was published in 1766 as *Clavis Medicinae duplex, exterior et interior.*

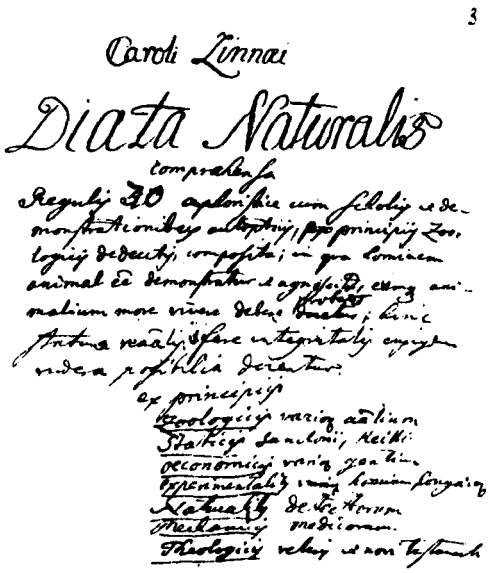
Pharmacology

One of Linnaeus's lasting interests was pharmacology and throughout his teaching career he was forever adding to his lecture notes, thereby keeping his students abreast of the times. His ability to amass and synthesize information enabled him to present his students with the names and synonyms of all the plants of medicinal value; to list their countries of origin and catalogue their pharmaceutical effects and the illnesses they may be used to treat.

He published all of this information in 1749 in *Materia Medica* which soon became an invaluable medical reference book. It is a great pity that he never republished this classic work with the addition of the copious notes which he added to his own interleaved copy. (See copy in Linnean strongroom).

Dietetics

Dietetics was an early interest of Linnaeus's, but one in which he did not always practise what he preached. Thus in his *Diaeta Naturalis* (Fig. 2) started in 1733, and which he later (1741) used as his lecture notes on dietetics, he lists some 70 aphorisms including the one that tobacco should be considered a medicine rather than a regular diet and smoking is poisonous. Nevertheless he himself was a heavy smoker for most of his life.


3

Caroli Linnæi

Diæta Naturalis

Figure 2. Title page of Linnaeus's unpublished 'first edition' of *Diaeta Naturalis.*

From this 1733 edition Linnaeus eventually produced another set of lecture notes, part of which was published by Lindfors in 1907 under the title *Linné's Diaetetik* while a more complete set was published in 1958 by Uggla as *Diaeta Naturalis.*

Amoenitates academicae

During the period in which Linnaeus was Professor of Medicine and Botany at Uppsala, 186 dissertations on natural history and medicine were issued. Each dissertation formed an independent pamphlet and bore the name of a different pupil as the respondent, but all with the "viro cèlebèrrimo et experientissimo Dn. Doct. Carolo Linnaeuo" as *praeses.* These dissertations were collected together and reprinted, sometimes unchanged and sometimes considerably altered to form Linnaeus's *Amoenitates academicae* 1749–1790 (10 vols).

All of these theses were selected by Linnaeus who was also responsible for their contents, while the student's responsibility was to have the thesis printed and to defend it in Latin in public debate. This custom, common in many universities at that time, enabled the professor to publish quickly and free of charge any work of special interest to him.

Of the 186 dissertations, 26 referred to pharmacology (materia medica) and 35 to more general medicine. The titles include: Suitable specifics to the venom of the rattle-snake, Diseases of the Swedish winter season, Advantages of breast feeding, Diseases of the Navy, Origin of contagious diseases, The influence of climate on health, The importance of proper exercise, The medicinal leech, Leprosy, Raphania, The abuse of fermented liquors and their influence on society, and Tapeworms. The last medical thesis defended under Linnaeus's presidency was *Canones Medici* in 1775.

Figure 3. Illustration from Linnaeus's article on coffee in Hjorter's Almanack for 1747.

Almanacks

Linnaeus contributed lively, popular articles in Swedish to Hjorter's Almanack (Fig. 3), on domestic medicines for the Ague (1742), on tea (1746), on coffee (1747), and on brandy (1748). These were eventually put into a scientific format and used as the basis for student dissertations and then reprinted in *Amoenitates academicae* (see above). Thus in his 1747 article on coffee, Linnaeus gave a poetic account telling us it induces insomnia, gives us tremulous hands and that those of us who drink strong coffee are more subject to strokes. He also maintained that coffee is good for hangovers, migraine and for those tormented by worms. However, the *Amoenitates academicae* dissertation on *Potus Coffeae* of 1761 which gives us a botanical and medical history of the coffee-tree and its fruits, concludes that coffee destroys the appetite, promotes flatulence and indigestion and is noxious to melancholic, hypochondriacal and hysterical people.

B. G. GARDINER

RECORD OF THE PROCEEDINGS OF THE LINNEAN SOCIETY OF LONDON FOR THE SESSION 1982–83

General meetings

24 June 1982. Professor R. J. Berry, President, in the Chair.

Professor Ernst Mayr F.M.L.S. (Museum of Comparative Zoology, Harvard University)—*The Evolutionary Synthesis: its history and subsequent fate.* Most appropriately the paper was read in the Meeting Room which had been altered temporarily for the filming of a series of programmes by Thames Television entitled "The Evolution of Darwin".

21 October 1982. Professor R. J. Berry, President, in the Chair.

The Rehabilitation of the Thames Estuary

Mr A. C. Wheeler, F.L.S. (Department of Zoology, British Museum (Natural History)—*Introduction.*

Mr I. M. Adams (Manager, Pollution Control, Thames Water Authority)—*Improvements in chemical condition of the Thames estuary.*

Abstract

This communication considered the background to the biological recovery of the river. Increased dissolved oxygen levels in the Thames have resulted from improved sewage treatment processes at London's two largest works at Beckton and Crossness.

Dr J. Price (Department of Botany, British Museum (Natural History)—*Marine algae of the tidal Thames.*

Abstract

There is considerable circumstantial evidence that benthic marine algae, especially fucoid, populations have been re-established in 'lost' areas and also manifested increased density and vigour where previously still hanging on in

saline areas of the Thames over the 1960s and 1970s. These phenomena can be correlated with the impressive amelioration of water conditions in the river and estuary over that similar period. The spread and re-invigoration can now be said to have flattened out; variations recently and in the future will therefore represent either natural fluctuations and/or the introduction of varying artificial structures in the course of river-side building or bank reinforcement. Where changes in the intertidal substrata have altered the moisture conditions through water-absorption and released characteristics of artificially introduced surfaces, the reasons for change in an otherwise apparently 'stable' environment are possible to identify and assess, although they still require long-term study to delimit both qualitative and quantitative aspects.

Dr D. G. Rickard and Mr J. E. C. Steel (Pollution Control (South), Thames Water Authority—*The return of the macroinvertebrates.*

Abstract

This paper described changes in macroinvertebrate populations and communities in the middle Tideway, following the recovery from a period of gross pollution, by reference to selected annelids, crustaceans, and molluscs. It was based on surveys carried out by Thames Water Authority Biologists from 1974 onwards.

Dr M. J. Andrews, F.L.S. (Pollution Control (South), Thames Water Authority)—*The recovery of fish populations with special reference to the period 1975–1980.*

Abstract

A study of fish trapped on the circulating water screens at C.E.G.B. West Thurrock Power Station showed how selected species have increased in abundance.

Changes in community structure and species diversity were looked at in relation to water quality, and attempts to separate the effects of pollution induced and natural changes in the estuarine fish populations were discussed.

Dr W. Latimer (Biology Department, Goldsmiths' College, University of London)—*Waterfowl of the Tideway.*

Abstract

Over the last two decades the remarkable improvement in the water quality of the Thames has produced significant changes in the wildfowl and wader populations of the river, especially in the inner reaches of the estuary. Such improvements have afforded the wildfowl both a clean refuge on the Thames and, more importantly, new food resources. The estuary as a whole is an area of both national and international significance for certain bird species. Despite the fragmented nature of the remaining natural and semi-natural habitats along the estuary, the Thames is an important ecological unit for birds.

18 November 1982. Professor R. J. Berry, President, in the Chair.

Seeds: their preservation and physiology

Mr R. D. Smith (Physiology Section, Royal Botanic Gardens, Kew, Wakehurst Place, West Sussex, with members of his staff).

Introduction: Since its transfer from Kew in 1974, the work of the Physiology Unit

has been directed towards the establishment of an operational Seed Bank for wild species.

Mr S. H. Linington.
Abstract

The possibilities for banking seed stem from the fact that the longevity of a large majority of seeds is prolonged to a decade or more by reducing their moisture content to 5% and the storage temperature to deep-freeze levels. This trait allows a working seed bank to be established.

Dr J. B. Dickie.
Abstract

In spite of the hilar valve in the *Papillionoideae* which ensures the establishment and maintenance of a low seed-moisture content, some members of the *Leguminoseae* exhibit damage which can lead to loss of viability at moisture contents normally accepted as suitable for the long-term maintenance of viability. The techniques available to recover this damage were discussed.

Mr R. J. Probert.
Abstract

Dormancy, which prevents seeds from germinating in adverse conditions, is widespread in wild species. Experiments investigating the interaction of light and fluctuating temperatures have shown differences in the levels of dormancy in populations of *Dactylis glomerata* from different parts of Europe.

Mr H. W. Pritchard.
Abstract

The minute size of most orchid seeds make the quantitative analysis of germination difficult. In terrestrial orchids the germination of the undifferentiated seed in its natural environment depends on mycorrhizal association with a fungus. The prospects for overcoming these problems by the use of axenic culture using a defined nutrient medium were discussed.

Dr P. B. Tompsett.
Abstract

A small proportion of seeds are killed by desiccation. Such seeds, most often large fleshy tree seeds, are described as 'recalcitrant'. This has hindered re-afforestation programmes and provenance trials of tropical timber trees. The seed physiology of two *Araucaria* species from Papua New Guinea, one 'orthodox' the other 'recalcitrant' has been investigated in an attempt to solve these problems.

9 December 1982. Professor R. J. Berry, President, in the Chair.

Dr Alan J. Charig, F.L.S. (Department of Palaeontology, British Museum (Natural History)—*The Triassic explosion in tetrapod evolution and the origin of dinosaurs.*
Abstract

Sequences of hypothesized prehistorical events ('scenarios') based on conjectural interpretations of palaeontological data are unprovable in the strict logical sense. They are nevertheless valuable if formulated scientifically and

parsimoniously, and if their limitations are clearly understood; it is especially important to distinguish between facts and interpretation.

The chronological distribution of the various Triassic tetrapod groups indicates an explosive radiation of diverse, highly specialized new forms ('neotetrapods'). These almost completely replaced their more conservative Palaeozoic predecessors ('palaeotetrapods') on land, invaded the sea and air (formerly colonized by very few tetrapods) and initiated nearly all the major tetrapod lineages of the Mesozoic, the Tertiary and the present. In particular, the archosaurs superseded the therapsids as the dominant group of large terrestrial vertebrates, the ecological replacement of the carnivores preceding that of the herbivores; the archosaurs included the dinosaurs.

It has been suggested in the past that the archosaur dominance arose through some alleged physiological improvement, e.g. by the acquisition of endothermy or of uricotelic nitrogen excretion. A new, more likely interpretation of this macroevolutionary change is that its main causal agency was the high selection pressure produced by the extremely successful predatory pseudosuchians of the Middle Triassic with their superior locomotor adaptations.

20 January 1983. Professor R. J. Berry, President, in the Chair.

Aspects of conifer and flowering plant cuticles

Dr K. A. Alvin, F.L.S. (Department of Pure & Applied Biology, Imperial College, London)—*Micromorphology of the leaf cuticle in conifers.*

Abstract

Conifers usually have a thick leaf cuticle, the bulk of which develops by progressive cutinization of the cellulosic cell wall during epidermis development. It is easy to isolate the cuticle by maceration, and such isolated membranes when viewed in the light-microscope reflect the epidermal structure, often in great detail. Scanning electron microscopy has revealed that there may also be considerable cuticle topography which appears to be remarkably constant within species.

Miss C. Faggetter, A.L.S. (Department of Pure & Applied Biology, Imperial College, London)—*Inner surface sculpture patterns of selected angiosperm leaf cuticles.*

Abstract

Leaf cuticular studies of representatives of the Lauraceae and related families (Austrobaileyaceae, Gomortegaceae, Hernandiaceae and Trimeniaceae) using scanning electron- and light-microscopy, indicate that there is great variation in inner surface sculpture patterns. The differences occur in shape, prominence and microrelief of anticlinal intercellular flanges, periclinal ornamentation and in stomatal features. Such a range of inner surface sculpture has strong potential for species diagnoses, although intraspecific variation has not been fully investigated. Many of the configurations observed in the selected angiosperms have been recorded previously in conifers, which suggests parallel evolution of characters.

Dr D. F. Cutler, F.L.S. (Jodrell Laboratory, Royal Botanic Gardens, Kew)—*Cuticle, habitat and inter-relationships in Haworthia.*

Abstract

Haworthia is a small genus of succulent, zerophytic plants from the Liliaceae,

restricted to southern Africa. Traditionally gross morphology has been used in its classification, since flowers provide few useful characters. However, cuticle sculpturing shows a wide range of variation and, in *Aloe* and *Haworthia* species at least, sculpturing is under strong genetic control. Not only are interrelationships between some small, isolated populations of certain species evident from the cuticular sculpturing types as seen with the SEM, but interesting possibilities of possible links between sculpturing and ecology have emerged.

17 February, 1983. Professor R. J. Berry, President, in the Chair.

Evolution of the fauna and flora of the Madeiran Islands

Dr M. V. Hounsome (Manchester Museum), Mr M. Jones and Mr A. R. Swash (Department of Zoology, University of Manchester)—*Biometrics and habitat selection in birds.*

Abstract

Four approaches to niche occupation in birds were described: firstly, birds were captured, ringed and measured, and the data used to try to answer questions such as, do island populations have shorter, rounder wings than continental, possibly migratory, ones; do impoverished assemblages exhibit wider niche occupation, and can this be demonstrated biometrically; is sexual dimorphism attenuated or enhanced; are moult strategies modified in island populations? Secondly, transect counts were made so that zonation, density and diversity could be compared with British data. Thirdly, assessments of status were carried out, so that indications of colonization and extinction could be obtained. Lastly, efforts were made to ring and measure Desertan seabirds and to assess their numbers and vulnerability.

Dr R. R. Askew and Mr J. G. Blower (Department of Zoology, University of Manchester)—*Endemic, indigenous and introduced arthropods.*

Abstract

The volcanic island of Madeira has been colonized by insects, mainly from Europe. The island has been sufficiently isolated to have permitted the evolution of many endemic forms, especially in the less mobile insect groups, but colonization continues, and at perhaps an increasing rate. Studies of butterflies and chalcids indicate a relatively low species diversity in these groups; the establishment during the last twenty years of two butterfly species and their co-existence with allied endemic forms suggest that the fauna is not saturated. Conversely, the endemic earwig fauna may be decreasing as non-endemics expand their ranges. In both butterflies and chalcids, endemic forms are most numerous in areas of native vegetation although a few occur in the much-modified coastal region.

Twenty-five species of the millipede genus *Cylindroiulus* constitute the largest of the endemic species swarms of arthropod. There is another endemic group of four species of diplopod and a further 24 species which are recent introductions. Endemic species of *Cylindroiulus* have radiated into the full range of niches occupied in Europe by species of several genera. They exhibit greater interspecific differences in somatic characters but are more conservative in gonopod structure. These facts do not readily conform to models of either sympatric or allopatric speciation.

Dr L. M. Cook, Miss L. Lace (Department of Zoology, University of Manchester) and Miss R. Hampshire (British Museum (Natural History))—*Habitat discontinuities in mollusc fauna and flora.*

Abstract

There are about 200 species of land snails in the Madeiran archipelago, over two-thirds of which are endemic. Some of these are restricted to particular islands or to the damp highlands of Madeira. There is also an apparent discontinuity in flora and fauna in the xerophytic zone between the south coast of the island and its eastern peninsula. The locality of this change has been mapped; its significance in relation to possible modes of species formation was discussed.

17 March 1983. Professor R. J. Berry, President, in the Chair.

Taxonomic databases

Professor V. H. Heywood, F.L.S. (Department of Botany, the University of Reading)—*The ESF taxonomic documentation system.*

Abstract

The aim to establish a computerized database on a European scale for taxonomic, floristic and biosystematic information was described with comments on its relevance to the design of taxonomic information systems in general.

Mr R. J. Pankhurst, F.L.S. (Department of Botany, British Museum, (Natural History))—*The construction of a database for floristics.*

Abstract

Several data bases already exist for monographical studies. However, a floristic database must describe a very wide range of morphology. Such a scheme has been constructed for vascular plants in Great Britain and tested with a pilot database. The scheme includes a logical hierarchy of dependent characters which is applied in a questionnaire program for the collection of data concerning additional taxa. Such a scheme based on morphological descriptions points the way to a new kind of standard.

Dr F. A. Bisby, F.L.S. (Department of Biology, Southampton University)—*The* Vicieae *database project.*

Abstract

The aims of the *Vicieae* database project (to operate an experimental monographic database for pea and vetch species in the tribe *Vicieae,* and to experiment with novel taxonomic information services using the database) were described.

12 May 1983. Professor R. J. Berry, President, in the Chair.

Short communications on plant-animal relations

This meeting was a trial venture to encourage younger biologists to present brief papers on current work.

Dr M. E. Adey (Biology Department, University of Southampton)—*Pollination relations in the brooms and gorses.*

Mr M. A. Ford (Department of Botany and Microbiology, University College, Swansea)—*Pollination behaviour and interspecific interactions among the mayweed.*

Mr A. N. E. Birch (Jodrell Laboratory, Royal Botanic Gardens, Kew)—*Patterns of aphid resistance amongst wild* Vicia *species.*

Mr P. J. Edwards (Biology Department, University of Southampton)—*Induced chemical defences and insect grazing.*

Miss C. M. Janis (Zoology Department, University of Cambridge)—*Relationships between vegetation and mammalian evolution during the Tertiary.*

OBITUARIES

Thomas Maxwell Harris, F.R.S., P.-P.L.S. (1903–1983)

Tom Harris, who died on May 1st 1983 at the age of eighty, had been F.L.S. since 1937, served on Council from 1939 to 1943 and from 1961 to 1965; was President during 1961–1964, Vice-President from 1964 to 1965, and was awarded the Linnean Medal in 1968. He was a palaeobotanist of great distinction, and held the chair of Botany in Reading University for 33 years, from 1935 to 1968.

Harris was born in Leicester, and after school in Leicester and York went to University College, Nottingham, where he gained a first-class London external B.Sc. and in 1922 won a scholarship to Christ's College, Cambridge. At Nottingham, Harris was influenced by Henry Holden and at Cambridge he took up botany in A.C. Seward's department. But Seward was soon elected Vice-Chancellor and was not much in evidence in the Botany School. In 1926, after he had graduated with first-class honours in both parts of the Tripos and had begun postgraduate work on Triassic plants from east Greenland (sent to Seward by mistake!), Seward introduced Harris to Lauge Koch, Director of the Danish Greenland Geological Survey. Koch invited Harris to join that year's expedition to east Greenland. Harris, recognizing "one of those situations where thought doesn't lead to a wiser decision", agreed, and so joined that select band of Europeans who have overwintered in Greenland. His study of the east Greenland Rhaetic flora was published in five parts in *Meddelelser om Grønland* (1931–1937). In 1935, at the age of 32, he was appointed to the chair of Botany at Reading, and held that post until he retired in 1968, the year in which he was awarded the Linnean Medal (see the affectionate citation by Prof. A. R. Clapham, then President, in *Biological Journal of the Linnean, 1:* xiii–xiv). After completing his work on the Greenland fossils, Harris turned to the Jurassic plants of Yorkshire, a project based largely on his own energetic fieldwork and which culminated in the five-volume British Museum monograph *The Yorkshire Jurassic Flora* (1961–1979). Among his many other publications, two notable pieces of Linneana are his 1970 history of the Linnean Club, based on the 1811–1955 minute books (*Biological Journal, 3:* 343–368), and his 1963

Presidential Address, "The inflation of Taxonomy" (*Proceedings, 175:* 1–7), as good to read now as when it was published, both for its content and for a glimpse of a pragmatic and plain-spoken man.

At Reading, and in the palaeobotanical world at large, Harris had a profound influence on generations of students and colleagues. One can get some idea of this influence from the appreciations collected in *IOP Newsletter 21* (published by the International Organization of Palaeobotany, July 1983). Here, contributors to Harris's Festschrift (*Journal of the Linnean Society, Botany, 61*) and others give fond sketches of a man of extraordinary energy, spartan style, notable eccentricity, and great integrity. Harris made great advances in palaeobotany, with technical facilities that would now be regarded as laughable, if not suicidal: he "revelled in showing what can be achieved with a flower-pot and a bunsen burner, a jam-jar and a coffee-strainer", as Prof. Clapham put it.

He was elected to the Royal Society in 1948, served on its Council from 1959 to 1961, and was Vice-President from 1960 to 1961. He was a Trustee of the British Museum (Natural History) between 1963 and 1973. He leaves a widow, three daughters and a son.

For other obituaries, see *The Times* (3.5.83), the *IOP Newsletter* cited above, and the forthcoming volume of *Biographical Memoirs of Fellows of the Royal Society.*

George Eric Howard Foxon (1908–1982)

Eric Foxon, F.L.S. since 1934, member of Council from 1971 to 1973 and of the Linnean Editorial Committee between 1974 and 1978, died on November 16th 1982, aged 74. He was brought up in London, and after school at King's, Wimbledon, he went to Queen's, Cambridge, and gained a first in zoology. His first interest was planktonic crustaceans, and after leaving Cambridge he studied them for some time in the British Museum (Natural History), where he was much impressed by W. T. Calman. Although offered a job in the Museum, he went instead to Glasgow and worked for five years in (Sir) John Graham Kerr's department. Graham Kerr, an even more impressive zoologist than Calman, remained a strong influence throughout Foxon's professional life. In 1937 he moved to University College, Cardiff, and began the research for which he will be best remembered, on the comparative and functional anatomy of the vertebrate circulatory system, especially the heart. In 1948 he returned to London as head of Biology in Guy's Hospital Medical School; first appointed as Reader in the University of London, he was made Professor in 1955. He retired early, because of ill health, in 1972, but continued to help the Linnean after that, notably at the 'Interrelationships of fishes' symposium in 1973, and on the Editorial Committee.

Foxon was a pioneer of cineradiography, devising methods which allowed him to visualize the function of the heart in experimental animals. Through this work he became interested in cinematography, and was chairman of the British Universities Film Council from 1959 to 1963 and from 1967 to 1969. Among his many publications, he was best pleased with the 1955 *Biological Reviews* on problems of the double circulation in vertebrates.

The writer has cause to remember Foxon, as head of department at Guy's,

with great affection, and with gratitude for the humanity with which he initiated a green assistant in university teaching. A cheerful, kind and gentle man, he will be missed. He leaves a wife and two children.

COLIN PATTERSON

LIBRARY

New 'Library Regulations' have been approved by Council and now supercede the previous rules which only governed loans. These bring the Society's practice into line with other Libraries in requiring readers to use pencil only when consulting books or manuscripts and prohibit smoking in the Reading Room. Other regulations provide for security measures to be enforced if necessary. No changes have been made that affect the accessibility of the Library to Fellows. Copies of these 'Library Regulations' are available for any Fellow requiring them.

Suggestions for Library purchases are always welcomed. In general the Library still tries to acquire books on taxonomy and systematics, the flora and fauna of the Palearctic together with books on evolution and evolutionary theory, Linnaean studies and essential reference books. Costs are kept to a minimum and donations are always welcomed and fully acknowledged.

Accessions

Accessions to the Library during 1983 include the following items:

Ayensu, E. S. *Medicinal Plants of the West Indies,* 282 pp. Michigan, 1981

Benson, L. *Cacti of the USA and Canada,* 1044 pp. Stanford, 1982

Boulos, L. *Medicinal Plants of North Africa,* 286 pp. Michigan, 1983

Bureau of Flora and Fauna. Flora of Australia, Canberra, Vols. 8 & 29.

Chandler, M. E. J. *Supplement to the Lower Tertiary Flora of Southern England,* part 5, 1978.

Cramp, S. (Ed.) *Handbook to the Birds of Europe and North Africa,* Vol. 3, 913 pp. Oxford, 1983.

Dahlgren, R. M. T. & Clifford, H. T. *The Monocotyledons, a Comparative Study,* 378 pp. London 1982

Dance, S. P. & Abbott, R. T. *Compendium of Sea Shells,* 411 pp. New York, 1982.

Dassanayake, M. C. & Fosberg, F. R. *A Revised Handbook to the Flora of Ceylon,* Vol. 4. Rotterdam, 1983.

Eltringham, S. K. *Elephants,* 262 pp. Poole, 1982.

Etchecopar, R. D. & Hüe, F. *Les Oiseaux de Chine, de Mongolie et de la Corée: Passereaux,* 704 pp. Paris, 1983.

Flora Europaea, Consolidated Index, 210 pp. Cambridge 1983.

Gentry, H. S. *Agaves of Continental North America,* 670 pp. Tucson, 1982.
Grassé, P. (Ed.) *Traite de Zoologie Tome XVI,* Fasc. 7, Paris 1982.
Kemp, T. S. *Mammal-Like Reptiles and the Origin of Mammals,* 363 pp. London 1982.
Kingdon, J. *East African Mammals,* Vols. 3c and 3d. London, 1982.
Metcalfe, C. (Ed.) *Anatomy of the Monocotyledons,* Vol. 7, London 1982.
Morton, A. G. *History of Botanical Science, an Account of the Development of Botany from Ancient Times to the Present Day,* 474 pp. London 1981.
Morton, B. & Morton J. *The Sea Shore Ecology of Hong Kong,* 350 pp. Hong Kong, 1983.
Morton, B. & Tseng, C. K. (Eds) *The Marine Flora and Fauna of Hong Kong and Southern China,* 933 pp. Hong Kong 1982.
Pignatti, S. *Flora d'Italia,* 3 Vols. Bologna, 1982.
Pottier-Alapetite, G. *Flore de la Tunisie,* Vols. 1 & 2, Tunis, 1979 & 1981.
Sauer, G. John Gould, *The Bird Man.* 416 pp. London, 1982.
Stafleu, F. A. & Cowan, R. S. *Taxonomic Literature,* Vol. 4, P-Sak, Utrecht, 1983.
Webb, D. A. & Scannell, M. J. *Flora of Connemara and the Burren,* 322 pp. Cambridge, 1983.
Zohary, M. *Plants of the Bible,* 223 pp. Cambridge 1982.

BOOK REVIEWS

Plant portraits from the Flora Danica 1716–1769. Plates by Martin & Michael Rossler. Text by Professor William T. Stearn Mendip Press, Bath, published August 1983, Price £9.95.

This folio volume of twelve colour plates from the Flora Danica of 1716–1769 together with its accompanying scholarly text on the history of the Flora Danica, the porcelain service still produced by the Royal Copenhagen Porcelain Factory and the notes on the twelve plants chosen for this selection form an attractive and accessible book. The historical account alone is of great value in clarifying the background to this important and beautiful Flora, with additional sources of information cited for those wishing to go into further detail. The twelve plates range from *Linnaea borealis* to the Royal fern *Osmunda regalis* and are well reproduced and the text informative. Apart from its usefulness to the Librarian, its modest price brings an acceptable facsimile of some of the plates available to those interested in the art and history of botanical illustration.

Bonner, W. N. & Berry, R. J. 1980. *Ecology in the Antarctic.* Papers presented at a meeting held on 11 October 1979, organized by the Linnean Society of London. London, Academic Press. (Reprinted from *Journal of the Linnean Society 14 (1):* 1–150 (1980).

British Antarctic Survey (BAS) operates in British Antarctic Territory—the sector of the southern polar region that includes Antarctic Peninsula, neighbouring island archipelagos, and the shores of the Weddell and Scotia Seas—and in the Falkland Islands Dependencies, which include South Georgia and the South Sandwich Islands. BAS has for many years maintained permanent bases, some of which are well equipped for long-term biological investigations, and its survey ships work offshore waters which are reputed to include some of the world's richest patches of ocean. BAS biologists from time to time hold symposia under the patronage of one of the learned societies. Their 1980 meeting at the Linnean Society is reported in the ten papers that make up this volume.

Nigel Bonner, head of BAS Life Sciences Division, introduces the symposium with a note in the history and development of biological work in this sector of Antarctica. There follow papers on seasonal fluctuations in microbial activity in moss peat (Wynn-Williams), respiration and decomposition in mosses (Davies), and survival strategies in polar terrestrial arthropods (Block), all based largely on research at Signy Island in the South Orkneys. A paper on the evolution of Antarctic lake ecosystems (Priddle & Heywood) ranges more widely, recognizing and reviewing work done elsewhere in Antarctica. The remaining five papers are maritime. Three concerned with invertebrates cover reproductive adaptations of benthic gastropods (Picken), cold adaptations in marine ectotherms (Clarke) and aggregation phenomena and other aspects of zooplankton distribution in the Scotia Sea (Everson & Ward). The last two papers discuss the feeding ecology and ecological segregation of seabirds of South Georgia (Croxall & Prince) and the population structure and social organization of southern elephant seals on South Georgia (McCann).

These are thoughtful papers, adding up to a curious but successful mixture of work-in-progress and useful mini-reviews. None is trivial, and there is merit in their publication as a slim volume within a series of research symposia.

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LAW, R. AND LEWIS, D. H., Biotic environments and the maintenance of sex—some evidence from mutualistic symbiosis.

TURNER, J. R. G., Mimetic butterlies and punctuated equilibria: some old light on a new paradigm.

ACKERMAN, J. D., Specificity and mutual dependency of the orchid–euglossine bee interaction.

Reviews of publications.

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Report of Symposium on Evolution in the Galapagos Islands.

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ABDEL-REHIM, A. H., The effects of temperature and humidity on the nocturnal activity of different shell colour morphs of the land snail *Arianta arbustonm.*
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CROTHERS, J. H., Some observations on shell-shape variation in pacific *Nucella.*
COOK, L. M. AND JAFFER, W. N., Spire index and preferred surface orientation in some land snails.
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Botanical Journal

Forthcoming papers:
OKOLI, B. E. AND OLORODE O., Cytogenetic Studies in the *Andropogon gayanus*–A. tectorum complex (Gramineae).
EDMONDS, J. M., Seed-coat structure and development in *Solanum.*
TANNER, E. V. J., Leaf demography and growth of the tree-fern *Cyathea pubescens* Mett: ex Kuhn in Jamaica.
COBON, A. M. AND MURRAY B. G., Unstable B chromosomes in *Silene Maritima* With. (Caryophyllaceae).
GALE, R. M. O. AND OWENS, S. J., Cell distribution and surface morphology in petals, androecia and styles of Commelinaceae.
SEALY, J. R., A revision of the genus *Nomocharis* Franchet.
ANDERS NILSSON, L., Processes of isolation and introgressive interplay between *Platanthera bifolia* (L.) Rich. and *P. Chlorantha* (Custer) Reichb. (Orchidaceae).

Zoological Journal

Volume 79, Number 3, November 1983
RIBBINK, A. J. *et al.*, The zoogeography, ecology and taxonomy of the genus *Labeotropheus* Ahl, 1927 of Lake Malawi (Pisces: Cichlidae).
KNIGHT-JONES, P., Contributions to the taxonomy of Sabellidae (Polychaeta).
LINCOLN, R. J. AND BOXSHALL, G. A., Deep-sea asellote isopods of the north-east Atlantic: the family Dendrotionidae and some new ectoparasitic copepods.

Volume 79, Number 4, December 1983

FORSYTHE, T. G., Mouthparts and feeding of certain ground beetles (Coleoptera: Carabidae).

CLARK, B. J., A morphological re-examination of the genus *Nannophrys* (Anura: Ranidae) with comments on its biology, distribution and relationships.

MCLACHLAN, A., Habitat distribution and body-size in rain pool dwellers.

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COTTRELL, C. B., Aphytophagy in butterlies: its relationship to myrmecophily.

DEVRIES, P., Of crazy-ants and Curetinae: are Curetis butterlies tended by ants.

MALLETT, J., Sex-roles in the ghost moth *Hepialus humuli* (L.) and a review of mating in the Hepialidae (Lepidoptera).

DAY, M. C., Male polymorphism in some Old World species of *Cryptocheilus* Panzer. (Hymenoptera: Pompildae).

Volume 80, Numbers 2 and 3, February and March 1984

WYN KNIGHT-JONES., Festschrift.

CONTEMPORARY ISSUES IN SYSTEMATICS

An international meeting to discuss cladistic theory and its application to systematics, organized jointly by the Willi Hennig Society, Systematics Association and Linnean Society

The fifth annual meeting of the Willi Hennig Society will take place in London in July 1984. The meeting invites discussion among various disciplines within cladistics. Invited speakers include David Hull, Wisconsin; Claude Dupuis, Paris; Elliot Sober, Wisconsin; Joel Cracraft, Chicago; Elizabeth Thompson, Cambridge; Steven Farris, New York; Robin Craw, Auckland; Norman Platnick, New York; Kare Bremer, Stockholm; Warren H. Wagner, Michigan; Rolf Dahlgren, Copenhagen; Arnold Kluge, Michigan; Dan Brooks, Vancouver; Richard Vari, Washington; William Duellman, Kansas; and Vicki Funk, Washington.

The purpose of this five-day meeting is to get to grips with the current theory—and practical uses—of cladistics, and to answer some of the questions which surround this controversial topic. For example, is there really a split between transformed and evolutionary cladistics? How can successful classifications be evaluated? What do cladistic methods have to say about biogeography? What do cladists have to say about evolutionary theory? Cladistics has come a long way since Hennig and the 1950s. Different schools of thought and sub-groups proliferate. What are these various approaches, how do they relate to other fields—and where are they taking us?

Conference fee £15.00, students £7.50.

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