



The Linnean



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A forum for natural history

THE LINNEAN SOCIETY OF LONDON

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THE LINNEAN

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of the Linnean Society of London*

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Edited by Brian G Gardiner

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Editorial

Our apologies to those who wondered if their July *Linnean* was ever going to arrive. It is still not clear why it arrived so late into August since it was apparently dispatched on 24 July. Perhaps the weight of the Special Issue caused the Post Office to class it as a parcel! Nevertheless, the general reaction has been very appreciative and we hope that all Fellows enjoyed reading both *The Linnean* and the Special Issue on *The Linnean Legacy*.

This issue of *The Linnean* contains four articles, two on *Buddleja* by different authors, one on genes and one on a short-lived Marine Station on the Isle of Bute which was built by Lord Bute himself, with the main objective of making a systematic study of the fauna and flora of Bute and the Clyde Sea. This last article makes clear that eventually the Bute Marine Station sold its several boats and donated the proceeds to the Scottish Marine Biological Station; in other words to Millport Marine Station, “One of the most favourable centres in the world for the prosecution of marine research”. Of the two articles on *Buddleja* the first deals with the Rev. Adam Buddle, a seventeenth-century botanist commemorated in the genus which includes the butterfly bush – *Buddleja davidii*. The second paper deals with the history of the generic name, its correct spelling and the riches of pre-Linnean botanical literature. Moreover, it points out that in *Species Plantarum* Linnaeus described the single species, *Buddleja Americana*, and concludes with the deduction that DNA analysis best places it in the Scrophulariaceae.

Finally, the article on genes broaches the topic of single nucleotide polymorphism, diseases caused by single mutations, and examines the dilemma of doctors divulging genetic information to insurance companies and, lastly, will genetic testing ever become routine? In all, a short but thought-provoking paper. Sadly, its author, John Marsden has not lived to see it in print. He died on August 19th and his obituary (see p. 44) is already on the Society website.

The issue also includes two letters to the editor. The first deals with a little ancient natural history, commencing with the Trojan War and concluding with a Wordsworth quote: “A constant interchange of growth and blight”. The second is in the form of an announcement: Stuart Baldwin FLS of Baldwin’s Scientific Books is winding down and giving away many thousands of reprints and journal runs. The offer remains open till the end of the year – see <http://ukbookworld.com/members/fossil>. Stuart’s own website is: www.secondhandsciencebooks.com

He is not the only one who is beginning to wind down, although our plan to do so is on a much smaller scale. Next year there will be only three issues of *The Linnean* – in January, April and October. In between, Fellows will receive smaller newsletters produced in-house and circulated in February, June, August and December to keep you in touch with what is going on in the Society and what is planned for the future.

BRIAN GARDINER

Society News

The Society has seen a number of changes to both people and premises over the summer months. Dr Ruth Temple, the new Executive Secretary, takes up her appointment at the beginning of September and we welcome her arrival. Ruth has already been able to attend a number of meetings on behalf of the Society. In view of the growing work-load in the office we have also been recruiting for new part-time help. We hope visiting Fellows and guests will be patient when our newcomers do not recognise them or seek more information in responding to requests.

Sadly, as this was being written, the news came of the death of John Marsden, Executive Secretary of the Society from 1989 to 2004, from cancer. We extend our sympathy to his widow, Hazel, and all the family. An obituary notice can be found on page 43. The Society will be planning a meeting to celebrate his life, to be held some time in the not too distant future, and is commissioning a portrait to add to other images of past Executive Secretaries.

Changes in the building have continued throughout the summer, with the ground floor offices now redecorated after flood damage in May. Like the celebrated “Bluebell” Club during the war, we “never close” and Victoria and Kate took up temporary residence in the Meeting Room for much of July and early August, to enable the decorators to work without encumbrances. Installation of a new server, extensive re-cabling and a new phone system added an additional layer of complexity! Meanwhile, up in the Library, staff moved out of the Library Annexe to enable that to be repainted, while work continued on the floors and windows of the Reading Room, with some remaining finishing jobs still being done in late August. Finding accessible work stations proved a daily challenge and only now is the Reading Room coming back into order, with a new carpet to complement the finished redecoration. Other improvements there include additional power points in each of the bays and a hard-wired projector and drop-down screen to enable high-quality relays of presentations from the Meeting Room to provide extra capacity for popular meetings. We hope that it will be possible to re-hang some of the pictures on the stairs and Reading Room as soon as we say farewell to the decorators and their ladders!

Meanwhile, a major dismantling job freed the Inner Office from the large Linnaean Cabinets which occupied two walls. Those have now been moved to the larger Tower Room where they will eventually form appropriate furnishings for what will be an additional meeting room. Amazingly, the vintage carpentry permitted disassembly of most of the cabinets, with only the massive pediments and bases needing to be “shoe-horned” through the narrow stairwell to reach their new home. They will be reassembled in their new location soon while the team undertaking the work remember what goes where!

Late summer meetings included the *Conversazione*, which was combined with the celebration of the 150th anniversary of the presentation of the Darwin-Wallace papers on 1 July 1858. Delays in completing cabling, redecoration and building work meant that unfortunately we were unable to accommodate as many as we wished, with some facilities unavailable or inaccessible, but the two speakers kindly agreed to make two presentations and the staff managed to provide ample refreshments. This

Dr Ruth Temple, Executive Secretary
of The Linnean Society of London.



was followed by a two day meeting on *The Driving Forces of Evolution: From Darwin to the modern age* with a wide-ranging series of presentations by an international group of speakers. Evening meetings included a book launch and talk by Aljos Farjon on 26 June, in which he enlightened us on *A Natural History of Conifers*. Before the summer break we also had an extremely interesting talk by Dr Gerard Evan on 10 July: *Keeping cancers at bay the evolutionary way*.

Earlier in the year the Society was asked to contribute evidence to the House of Lords Committee on Systematics and Taxonomy, We welcome the resulting publication: *House of Lords S&T Committee on Systematics and Taxonomy: Follow-up Report with evidence* which appeared on 13 August. This is available both as print from the Stationery Office and online from <http://www.publications.parliament.uk/pa/ld200708/ldselect/ldsctech/162/162.pdf>

The Society's evidence made significant contributions to the Committee's report and thanks are extended to Professor David Cutler PLS and Dr Sandra Knapp FLS for all the work involved in representing the Society before the Committee.

Lastly, Fellows should know that changes in the security arrangements at Burlington House now mean that the main gates will be locked at 18.30 and side gates will be closed unless the Royal Academy (or one of the Societies within the Courtyard) has an evening event. Visitors will be able to exit through the side gates (but not re-enter) until 20.00, when they too will be locked. We will make arrangements for our own evening meetings when necessary.

GINA DOUGLAS
Acting Executive Secretary (to 31st August 2008)

Development News

The Society has been busy over the summer with its many development activities and continues to make strong progress on its initiatives. The most exciting news has been the results showing the usage figures for the Linnaean Online collections (www.linnean.org) which are now being accessed over 135,000 times a month, over 4,000 times a day, from 44 countries worldwide. The site itself is receiving 500,000 hits a month. This is a truly remarkable result from just seven months of availability for the herbarium specimens and three months for the insects (butterflies and moths). For your interest we have included the usage statistics in the table below.

	Nov-07	Mar-08	Apr-08	May-08	Jun-08	Jul-08
Number of requests	68,873	116,441	137,119	210,099	408,352	524,506
Average requests/day	2,304	3,757	4,572	6,779	13,617	16,925
Page requests	34,616	26,979	48,958	104,745	92,271	135,833
Average page requests/day	1,158	870	1,632	3,379	3,076	4,383
Data Transferred	737.72 Mb	831.77 Mb	1.05Gb	2.01Gb	3.65Gb	3.27Gb
Average data/day	24.68Mb	26.84Mb	35.91Mb	66.47Mb	124.5 Mb	107.96 Mb
Number of countries	34	44	44	42	42	44

The launch of the insect specimens received international coverage during National Insect Week in June and has been reported in numerous publications and science blogs. A second launch is planned for February 2009 with the final set of data and images being made available during the summer of 2009. The images for digitizing the Linnaean Fish Collection and the associated data have now been completed and have been transferred to the University of London Computer Centre to be integrated into the repository and prepared for web release. We are still fundraising for the digitisation of the Linnaean Shell Collection.

The Linnaeus Link Project, hosted by the Linnean Society, is an international collaboration between libraries with significant holdings of Linnaean material to produce a comprehensive, online union catalogue of Linnaean publications. The records from the Botanic Garden and Botanical Museum Berlin-Dahlem have recently been added and can now be harvested through the internet.

At the Society's Offices, Julia Hoare has overseen the upgrading and recabling of the office network with a substantial increase in the number of access points on the network. Part of the re-cabling works involved the removal of all the network equipment from the administration office down into the computer room in the basement. An

upgrade to the servers was completed in July and following a few minor hiccups the system now appears to have settled down well. These changes should see us through the next 5 to 10 years.

We have been working over the summer on developing an approach for the digitisation of the Smith Herbarium which has now been submitted as an application for review. I should like to thank all the Fellows who have supported the process for their time and support. We will continue to develop our approaches for capital projects that will be completed when the projected costs for the building work have been finalised. If you have any recommendations for funding opportunities relating to any of our projects, please do let me know at elaine@linnean.org.

Our Tercentenary Appeal is just short of the £100,000 mark!!! The Appeal will remain open until November this year, as all the money raised by ourselves as a Fellowship strengthens our case with external funding bodies and supports our development projects. For those Fellows yet to contribute, we encourage you to help us to reach £100,000!

Thank you again for your support and encouragement for our many and varied activities and I look forward to hearing from you on any of our initiatives listed above.

ELAINE SHAUGHNESSY

Library

We are delighted to report that the Library building work and redecoration has been completed and with the last of the French polishers scheduled to leave in early September, we are now properly open for business again.

However, even completion of the finishing touches sometimes resulted in a good deal of upheaval: the fitting of a new carpet in the Reading Room necessitated the dismantling of the large periodicals tablecase and its removal from the centre of the room and the archive boxes stored in the two massive cupboards from the Executive Secretary's Office (now relocated to the Tower Room) have all had to be transferred to temporary locations.

Now that the dust has settled (literally), we have a team of people cleaning the books and shelves in the Reading Room, on the galleries and in the Library Annexe. Library staff have almost completed re-shelving the floras on the Piccadilly-side gallery, expanding them onto the cross gallery to alleviate the overcrowding problem. We are also preparing for the return of our water-damaged books from Harwell's.

It was decided that, in view of the 250th anniversary next year of the birth of Sir James Edward Smith, it would be appropriate to display his portrait more prominently. He has been placed on the west wall of the Reading Room and the portrait of Solander has been relocated to the Library Annexe. New portrait storage space has been created in the voids behind the bookshelves on the courtyard-side galleries for those portraits not currently on display.

Despite all the difficulties, we have been doing our best to accommodate those researchers from abroad who were only in the UK for a short time and needed to consult our Library materials. Whenever the Reading Room was out of commission, we made every effort to find these readers a quiet corner where they could work relatively undisturbed – in the top floor Council Room, Committee Rooms and even occasionally at staff desks. Tours of the Society have also continued, although they have sometimes had to be limited to the Collections Store only and on condition that the visitors were willing to side-step paint pots and ladders! During these three months, we have had readers and visitors from Holland, Germany, Spain, Italy, Sweden, Hungary, Australia, Taiwan and the USA (Massachusetts, Maryland and Alaska).

A major server upgrade was undertaken in July. This work has ensured far greater capacity for all our IT systems, but, unfortunately, it resulted in the Library catalogue being unavailable for some time. Apologies for that, but the WebOPAC is now available once again and should be far more stable than it has been in the past.

There have been some staff changes in the last three months. Our temporary cataloguer, Kristine Kozsicki, left us at the end of June to spend the summer with her family in Canada. She will return to London in September to start a Masters course in the History of Science and we wish her every success with that. We have at last acquired our promised Honorary Archivist (aka Gina Douglas) and a work-space has been created for her on the first-floor cross gallery.

I should like to record here my thanks to all the Library-based staff who have soldiered on so cheerfully over the last few months. In addition to maintaining a Library service under very difficult working conditions, they have willingly turned their hands to all sorts of heavy manual work to ensure that the renovations could progress smoothly. Our thanks also go to all our Fellows for their patience over the last eight months or so, especially to those who have shelved queries and deferred visits to the Library during the period of the building work. Do call in to see the Reading Room when next you are passing, we think you will agree with us that the results have been well worth the disruption.

LYNDA BROOKS

Donations June-August 2008

Tim S. Bailey: Bailey, Tim S. *Venus's Flytrap*. 279p. [UK]: Trafford Publishing, 2008. ISBN 9781425132675.

Fausto Barbagli: Barbagli, F. and Vergari, D. *I Targioni Tozzetti fra '700 e '900*. 110p. Florence: Accademia dei Georgofili e Gruppo di Ricerche Storiche del Museo di Storia Naturale, 2006.

A.G. Blanco and J.J. Llorca: Blanco, A.G. and Llorca, J.J. *Bibliografía crítica ilustrada de las obras de Darwin en España (1857-2005)*. 439p. Madrid: Consejo Superior de Investigaciones Científicas, 2007. Estudios sobre la ciencia, 42. ISBN 9788400085179.

George Beccaloni: Beccaloni, G. [et al]. *Catalogue of the host plants of the neotropical butterflies*. 536p. London: Natural History Museum, 2008. M3M vol.8. ISBN 9788493587222.

Gina Douglas: Cassidy, V.M. *Henry Chandler Cowles: pioneer ecologist*. 354p. Chicago: Kedzie Sigel Press, 2007. ISBN 9781934087203.

Eldredge, Niles. *Darwin: discovering the tree of life*. 256p. New York: W.W. Norton & Company, 2005. ISBN 0393059669.

Garbari, F. [et al]. *Hortus pictus: acquerelli botanici di Maria Rita Stirpe*. [Exhibition catalogue]. 57p. Altari: [Comune di Altari], 2008. ISBN 8886681100.

Hesse-Honegger, Cornelia. *Heteroptera: the beautiful and the other, or, images of a mutating world*. 309p. Zurich: Scalo, 2001. ISBN 3908247314.

Images of nature: an Anglo-Japanese review. 175p. London: Pilkington Foundation Publications, 1992. ISBN 0948308117.

Jaffé, D. *Ingenious women*. 210p. Stroud: Sutton Publishing, 2003. ISBN 9780750930314.

Munger, S.H. *Common to this country: botanical discoveries of Lewis and Clarke*. 128p. New York: Artisan, 2003. ISBN 1579652247.

Pettigrew, Jane. *A social history of tea*. 192p. London: National Trust, 2001. ISBN 070780289x.

Terres Australes: catalogue de l'exposition. 120p. Le Havre: Editions du Muséum du Havre, 2007. Annales du Muséum du Havre, no.76. ISSN 0335 5160.

Rev Tom Gladwin: Reynolds, A. [et al]. *Dragonflies and damselflies of Hertfordshire*. 143p. Welwyn Garden City: Hertfordshire Natural History Society, 2008. ISBN 9780952168560.

Franca Guidali: Università degli Studi di Milano. *Le tavole parietali del Dipartimento di Biologia ...* 206p. Milan: Università degli Studi di Milano, 1997. ISBN 8820324938.

Professor I. Gureyeva: [Proceedings of the first ever conference on Russian pteridology]. 186p. Tomsk: [Tomsk University], 2007. [In Russian]. ISBN 5751119436.

IK Foundation: Landell, Nils-Erik. *Doctor Carl Linnaeus, physician*. 316p. London: IK Foundation, 2008. ISBN 9781904145141.

Ray Society: Redfern, Margaret. *De gallis – On galls, by Marcello Malpighi*. [Facsimile]. 110p. London: Ray Society, 2008. ISBN 0903874415.

Real Jardín Botánico, Madrid: Bueno, Antonio G. *José Celestino Mutis (1732-1808)*. 127p. 150p. of plates. Madrid: Real Jardín Botánico, 2008. ISBN 9788483470695.

Dr Sandra Knapp: Perolta, Iris E., Spooner, David M. and Knapp, Sandra. *Taxonomy of wild tomatoes and their relatives*. 186p. [USA]: American Society of Plant Taxonomists, 2008. Systematic Botany Monographs, vol. 84. ISBN 9780912861845.

Professor David Mabberley: Mabberley, D.J. *Mabberley's plant-book*. 3rd ed. 1021p. Cambridge: CUP, 2008. ISBN 9780521820714.

Professor Alessandro Minelli: *La curiosità e l'ingegno*. 257p. Padua: Università degli Studi di Padova, Centro Musei Scientifici, 2000.

Il metodo sperimentale in biologia da vallisneri ad oggi. [Symposium] 29-30 Settembre-1 Ottobre 1961. 317p. Padua: Accademia Patavina di Scienze, Lettere ed Arti, 1962.

Turchetto, M. *Morte di un elefante a Venezia: dalla curiosità alla scienza*. 79p. Padua: Università degli Studi di Padova, 1981. ISBN 9788884090867.

Wildlife in Italy. 448p. Rome: Ministry for the Environment and Territory, 2004.

Dr Pat Morris: Morris, P.A. *Walter Potter and his museum of curious taxidermy*. 112p. Ascot: MPM Publishing, 2008. ISBN 9780954559694.

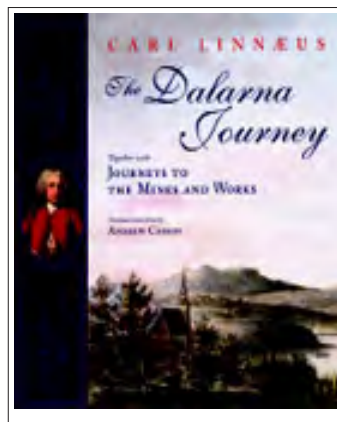
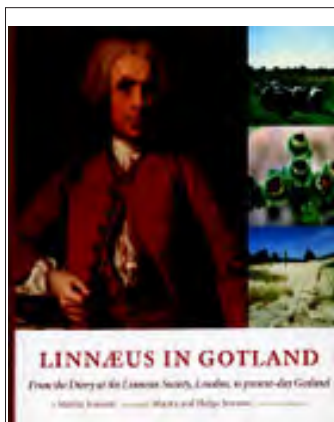
Dr Henry Oakeley: Oakeley, Henry Francis. *Lycaste, Iola and Anguloa: the essential guide*. 445p. Beckenham: The Author, 2008. ISBN 9780952146117.

Edoardo Razzetti: Lanza, B. [et al]. *Fauna d'Italia vol.42: Amphibia*. 537p. Bologna: Edizioni Calderini, 2007. ISBN 9788850652563.

Jean-Pierre Reduron: Reduron, Jean-Pierre. *Ombellifères de France 5*. [655]p. Jarnac: Bulletin de la Société Botanique du Centre-Ouest, 2008. ISSN 0759-934x.

Systematics Association: Wheeler, Quentin D. [ed.]. *The new taxonomy*. 237p. Boca Raton: Taylor and Francis, 2008. ISBN 9780849390883.

Yu Jiao (via Bill Chaloner): Yu Jiao and Cheng-Seuli. *Yunnan ferns of China. Supplement*. 328p. [China?]: [s.n.], 2007. ISBN 9787030170040.



*Linnaeus in Gotland, The Dalarne Journey and
Linnaeus' Öland and Gotland Journey 1741*

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For reviews of these books see *The Linnean* 24-3 pages 31-36.

Commemorating Linnaeus' visit to Britain – the Swedish Linnaeus' Society's London – Oxford excursion, June 2008.

The deepened contacts established between the Linnean Society of London and the Swedish Linnaeus' Society which followed the exchange of ideas both on a personal and scientific level during the jubilee year of 2007, inspired the Swedish Society to visit London and Oxford during some eventful days in June 2008. There were 22 participants who enjoyed four exciting days visiting botanical gardens, museums and libraries in London and Oxford, thanks to arrangements made by our hosts, the Linnean Society of London. Gren Lucas had made a great effort to suggest interesting goals to visit, all related to the world of 18th century natural history. On all occasions we were taken around by excellent guides and specialists. On the first day in London we started at the Linnean Society, where we were welcomed by David Cutler, Gren Lucas, Gina Douglas and Lynda Brooks. In spite of the ongoing refurbishment works we all got a good view of the premises as a whole and particularly the invaluable collections. In addition we all got an excellent retrospective of the history of the Society. We were also acquainted with the history of botanical illustrations from G.D. Ehret to the present time by a display of meticulous flora illustrations. In the “strong room” where the original Linnean collections are kept were letters, other manuscripts and herbarium specimens on display. A feeling of solemnity appeared among all participating Swedes. For all participants, and especially those who had not visited Burlington House before, this was the highlight of the trip. Refreshed by an excellent sandwich lunch with drinks offered by the Society we continued to the Chelsea Physic Garden led by David Frodin. His detailed knowledge of plants in that garden and their applications for medical purposes was impressive and he spent a good deal of time answering questions



David Frodin guiding the Swedish group around the Chelsea Physic Garden.



Tim Walker amongst the Euphorbias in the Oxford Botanic Garden, where he is Horti Praefectus!

from the audience that really showed an inquiring mind. The main reason for Linnaeus' trip to England was in fact to meet with Philip Miller, the curator of the garden, and acquire North American plants for George Clifford's garden in Holland. This small garden in the centre of London is not so well-known for the average Swedish tourist, a fact that made this visit even more precious.

Contrary to the small-scale character of the Chelsea garden was that at Kew Gardens where we spent a whole day. Guided by David Cutler and Gren Lucas we all got inside

information and an excellent general view of the grandeur of the area. After the morning's guided tour we decided to spend the rest of the day there, following our own choice that among others included a visit to the tree-top walkway – a real challenge for some of us.

A further botanical garden that Linnaeus visited during his stay in Britain was that in Oxford where he met with another botanical authority, Johann Jacob Dillenius. He was a man that Linnaeus had long wanted to meet – a meeting which was a special goal of Linnaeus' British visit. Even if their first meeting was a bit frosty their acquaintance improved and ended in friendship. The well organised Oxford garden presented by its director Tim Walker charmed us all with its intimate atmosphere and we got a well presented insight into the history in addition to the present intentions of the garden's management.

Natural History Museums generally attract many visitors, and a great interest that also was the case for the Swedish group. A special arrangement was made for us to go behind the scenes in London of both the botanical and zoological departments with presentations of the collections given by Steve Cafferty (botany) and Philip Rainbow (zoology). The modern way of storing zoological specimens displayed in the recently erected Darwin Wing was admirable and gave impressions to forward to Sweden. Among the botanical documents was the Ceylon herbarium once brought together by Paul Herrmann in the 1670s this was especially fascinating – a herbarium that later formed the basis for Linnaeus' *Flora Zeylanica* published in 1747. This Ceylon herbarium changed owners a couple of times and was at last bought by Joseph Banks and eventually forwarded to the museum. Banks also bought the Clifford herbarium with specimens mounted in decorative paper urns which in part was also shown to us.

Serena Marner showing the botanical collections to the group, in the Department of Plant Sciences, Oxford University.



On the whole we felt the wing-flap of botanical history at the sight of these old herbaria that we immensely valued.

We experienced other herbaria and botanical illustrations at the Department of Plant Sciences in Oxford where an outstanding display of *Flora Graeca* specimens was arranged by Stephen Harris as a background to the impressive new volume with photos of Sibthorp's original material. At the same institute Serena Marner showed a superbly chosen collection of specimens, some of which were collected by

Linnaeus and forwarded to Dillenius. Here Eva Nyström, working scientifically in the Linnean Correspondence project in Sweden could confirm the writing from Linnaeus' own hand on some sheets. Dillenius' illustrations in his *Historia Muscorum* could, in an excellently arranged display, be compared with original herbarium sheets – a pedagogic hit. The day in Oxford ended with a visit to the attractive building containing the Natural History Museum where its former director George McGavin gave us an inspiring tour. His final speech commemorating the event with the first public response to Darwin's evolutionary ideas was a memorable highlight especially as he made this in the partly restored room where this event took place. We all felt the historical strokes of the wing.



George McGavin talking to the group in the Oxford University Natural History Museum.

For a final lunch before our trip back to London St. Catharine's College was visited – a college drawn-up by the Danish architect Arne Jacobsen – a more suitable place could not have been chosen. A short guided tour headed by Rosemary Wise through the oldest parts of Oxford concluded our British tour and a very satisfied company returned to Sweden the following day.

EVA WILLÉN, EVA NYSTRÖM AND ROLAND MOBERG

Correspondence

From Tyrrell Marris

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A Little Ancient Natural History

The Trojan war, that epic conflict first set down in writing by the poet Homer is the source of a surprising tale of natural history, of tragic lovers reunited in death, and of a mighty tree afflicted. Picture the Grecian army assembled, ready to embark for Troy. At last the Gods sent them a favourable wind and the great fleet set sail over the wine dark sea. They reached the Trojan shore, eager to land, to fight, to conquer and so recover the beautiful Helen. Brave as they were, the Greek warriors hesitated. Of course the mighty Trojan army was lined up to stop their landing; but that was not the deterrent. An awkward prophecy was the problem. An oracle had foretold that the first of them attempting to land would meet an instant death.

Undaunted, one Protesilaus whom we must commend for his self-sacrifice sprang ashore. He was indeed killed at once. If, as seems likely, he was on his own then such an abrupt end was likely – so much for self-fulfilling prophecies. When his loving wife Laodamia heard of his death she was distraught. She begged the Gods to let her die, or see her husband once more if only for a moment. The Gods were moved. They sent Mercury to bring her husband's shadowy spirit back to earth from Hades, for just three hours. When Mercury came to return Protesilaus to Hades, his devoted wife could not endure a second and final parting. Laodamia died of grief. So husband and wife were put in the same grave on Trojan soil. The story is that kind-hearted nymphs planted elm trees over their grave. The elms grew "until they were high enough to command a view of Troy, and then withered away, while fresh branches sprang from the roots". As Wordsworth put it:

"A constant interchange of growth and blight!"

This tale is from 'The myths of Greece and Rome' by H.A. Guerber published in 1912. That was long before the invasion of Dutch Elm Disease in the early 1970s. Surely we have in this touching myth the first written account of that disease, from three thousand years ago.

Of the Greeks and Trojans: the rest is human history, as Homer wrote. And within his poem we find a little ancient natural history too.

From Stuart Baldwin:

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Moss-Cropper Extraordinaire: the Rev. Adam Buddle (1662–1715)

B.M. Buddle

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Without necessarily being aware of it, the name of the Rev. Adam Buddle, a seventeenth-century Lincolnshire scholar and botanist specialising in mosses, is familiar to many, as his name is commemorated in a genus that includes a conspicuous summer-flowering shrub, much favoured by butterflies – *Buddleja davidii*. This paper records what it has been possible to discover of his family background and early career.

Adam Buddle was baptised on 17 April 1662 in Deeping St James, Lincolnshire¹. He was the first son, and second child, of the hemp dresser, Richard Buddle and his wife Margaret. Almost unheard-of today, the process of hemp dressing would, then, have been familiar to most Lincolnshire families. Both hemp and flax were cultivated in the neighbourhood of Deeping St James: both required similar treatment when fully grown². Once harvested the sheaves were soaked in ‘retting’ ponds to loosen surplus material. After drying they were carted back to the farm for ‘dressing’. This involved removing the pithy portions of the plant by drawing them through metal combs, then straightening the long fibres. They were then ready to be passed on to spinners and finally weavers. The whole process could be carried out on a single property employing various members of the household.

Richard Buddle, one of several of that surname in Deeping St James, was a prosperous businessman. The 1704 inventory of his property shows that he had linen sheets for his bed³. In addition there were three blankets, an ‘ordinary feather bed’, pillows and two bolsters. The ‘coverlid’, a pair of curtains and valence, also mentioned, would have helped to keep draughts at bay in his bedchamber. That weaving had been carried on in the house is clear from his will (1704)⁴. One bequest was to his granddaughters, Mary and Elizabeth, who were to receive: ‘all the goods ... in the Loom Chamber which is called my chamber’.

Outside the house, in the ‘Hempshopp’, the inventory listed the stores of flax and hemp: two stone of ‘Best Flax’ was valued at £1.5.00d, a stone and a half of coarse hemp and flax rated only three shillings. The inventory of stables and byres showed that Richard Buddle could afford to keep two black mares and two bay ‘filleys’, worth £8.10.00d. Four sheep were assessed at £1.6.8d and three cows were worth £6. Debts due to him amounted to £28.15.03d and for ‘Things unseen and forgotten’ an allowance was made of six shillings and eight pence.

In his will of 1704 Richard Buddle left money to his children and grandchildren and property to an eponymous grandson. As his wife received no mention, she would appear to have predeceased him – after bearing him four sons and two daughters.

Adam, the eldest son, proved to be the scholarly member of the family. He was admitted as a Pensioner to Catharine Hall (later St Catharine’s College), Cambridge,

on 5 July 1678⁵, and progressed to become a fellow of the college (1686–91). As a ‘non-juror’ he refused to take the Oath of Allegiance to King William of Orange and was ejected from his fellowship. Although he later conformed, any possibility of a return to the college was scotched by his marriage to Elizabeth Eveare, at Friston in Suffolk, on 11 February 1695. Their daughter, Elizabeth, was born the following year⁶, at Henley in Suffolk – their home for many years. A son, Adam, was christened on 11 February 1697, but sadly this infant survived only a few days and was buried a week later. There is record of another son called Adam, born to Adam and Elizabeth on 7 November 1699,⁷ and christened on 23 November at St Giles, Cripplegate, London. This ties in with an undated note in which Buddle apologises for not being able to attend a meeting as: ‘I am obliged to be hard-by expecting my wife being brought to bed ... I was awaiting the coming of the midwife’. Another undated note in the Sloane MSS in the British Library is addressed to a friend saying: ‘Tomorrow my child shall be made a X [i.e., Christian]. The leg of pork must be eaten at exactly one of the clock’⁸. No further evidence remains of the progress of this infant or of any further children born to Adam and Elizabeth. Buddle’s concern for youth and education is revealed in the preface to his ‘Methodus’, which he hoped might contribute to ‘the more quick discovery of plants, help to remember them better, and make them more regular and easy in the heads of young simplers [herb-gatherers]’.⁹

There is no evidence of how Buddle supported Elizabeth and their daughter while they were living at Henley. Henley is close to Ipswich but not far away, in another direction, is the busy town of Hadleigh, the Suffolk home of his father’s brother – another Adam. It seems likely that this uncle provided the solution to his nephew’s problem.

Adam Buddle of Hadleigh, ‘Gentleman’, was a man of substance whose name appeared amongst the aldermen attending the annual town audit in 1665 and 1669. He was for a time the Chief Collector for the town’s charities – an office also carried out by his nephew Richard. His home was Benton End, an imposing sixteenth-century house at the end of Benton Street.

The house still stands, though ‘Georgianised’ in the eighteenth century. (From 1940 to 1982 it was the home of Sir Cedric Morris, artist, gardener and breeder of irises). Buddle and his brother Richard would have been familiar with the house in its original state and their uncle’s other properties in Hadleigh and its neighbourhood. They were made sole executors of his will of 1686,¹⁰ and it would seem likely that they had acted as secretary and steward to their childless uncle for a number of years. Buddle inherited considerable property in the Hadleigh neighbourhood; also the presentation of the living of Whatfield. Provision on a similar scale was made for Richard including the house at Benton End where he went to live. Other young relations were to receive money from the sale of property in Deeping St James, and a sum of money was provided for the poor of Hadleigh and Deeping St James.

An important move in a different direction occurred when Buddle took Holy Orders at the relatively late age of nearly forty. He was ordained in Ely Cathedral in December 1702.¹¹ The following year he obtained the living of North Fambridge in Essex. The same year Buddle was appointed to the sinecure of Chapel Reader at Gray’s Inn, London. There is record at the Inn of instructions for a chamber to be prepared for

him. Two years later he was granted £5 for expenses¹². Permanent accommodation was thus secured for him for the rest of his life, and it was at Gray's Inn that Buddle died on 15 April 1715. He was buried at St Andrew's, Holborn – a London church that was bombed in 1941. Elizabeth survived him for a number of years and on 12 May 1724 the Chapel Bench of Gray's Inn was instructed to pay £4 a year to her out of the Collections at Communion.¹³ There is no further record of her.

Shortly before Buddle's death his wife, Elizabeth, wrote an anxious note (which still remains in the Sloane collection) to James Petiver, Demonstrator of Plants at the Chelsea Physic Garden:

I desire you will send by this bearer Mr Buddle's volume of plants and his manuscripts for he has charged me to send them to Dr Sloane which I desire to do this day for to my great sorrow I find I must lay aside all hopes of his recovery and my misfortune is such that I know not into whose hands they may fall if the fatal hour is once past. I would be glad to send the complete selection not doubting but if Mr Petiver has any occasion Dr Sloane will not deny the perusal. If you have any books here I desire you will send for these while they are in my power for God knows what I am to do or what to suffer but am your distressed humble servant, Eliz. Buddle – Wednesday morning 10 o'clock.¹⁴

This 'volume' refers to Buddle's herbarium of dried plant specimens (or at least a part of it), which will be discussed further below. A generous spirit, Buddle had lent his collection to other botanists before Petiver, doubtless in exchange for their comments and spare specimens from their own collections. In April 1707, for example, it had been lent to Joseph Bobart of the Oxford Botanic Garden. The latter in writing back paid tribute to its outstanding quality: 'I am now to be thankful to God and my friends that I have not only seen but had the perusal of (as I think) the best collection of its kind in the world and is as instructive as admirable'. Apart from compliments, Bobart's letter included a substantial list of items he hoped to acquire from Buddle for his own small collection of mosses¹⁵. The other, internationally famous, botanist to whom Buddle is recorded as having lent his herbarium was the great Joseph Pitton de Tournefort (1656–1708) of Paris.

In 1699 Buddle had been introduced to Dr Hans Sloane, the most influential and affluent member of the London circle of botanists, and a long-time friend of John Ray. It was Ray who in 1687 had encouraged the young Sloane to go to the West Indies, as physician to the governor, the Duke of Albemarle. This appointment ended with the Duke's death and Sloane returned to England in 1689 bearing many new plants, including the cocoa. These were listed in Sloane's first publication, the *Catalogus plantarum quae in insula Jamaicae sponte proveniunt* (1696), which, intriguingly, includes the plant later to be named *Buddleja americana*. Buddle, in his first letter to Sloane from Henley dated 18 July 1699, besides offering any service of which he was capable, revealed two of Buddle's special interests, remarking that while Ray's history (i.e. taxonomic treatment) of the grass tribe might be nearly complete, as for mosses, 'for want of his [Ray's] own conversation amongst them and his descriptions taken I presume most of them from dry'd specimens or from the mouth of not very skilful moss-croppers, has still left us in the dark'.¹⁶

It was in another letter to Sloane that the loan of specimens to Tournefort was mentioned; Buddle wrote that he would have sent Sloane grass specimens but for the

fact that 'I waited for the return of mine from Mr Petiver ..., but they are gone (I am afraid never to return) to France to Mr Tournefort'.¹⁷ In this letter he also reported that the previous week he had travelled to Black Notley in Essex to visit John Ray. Buddle, however, had been disappointed in the hoped-for conference on grasses. James Petiver, visiting at the same time, had monopolised the great man's attention with samples of foreign plants.

Irritations, it appears, were soon forgotten for in the Sloane collection are many notes between Buddle and Petiver. Often they concern convivial meetings, sometimes with fellow botanists, at the Greyhound Tavern, Salisbury Court, Fleet Street,¹⁸ showing the contemporary importance of public (and coffee) houses as venues for important scientific communication. A tavern in Bloomsbury Market was another such. A 'pub meal' was also evidently intended in an invitation to a kinswoman Madam Cary: 'If this note finds you, if you will come to the Ship Tavern in Bartholemew Street you will be kindly received by your kinsman and servant Adam Buddle. Here is only Mr Petiver with me'.¹⁹ On another occasion Adam wrote to a friend: 'Though you failed me last night I hope I shall see you this evening ... To encourage you I have a pot of pigeons come to Town this day which I believe will eat well'. Later, 'Mr [Samuel] Doody [Curator of the Chelsea Physic Garden] and I have pitched upon Monday to look over all the families of English plants ... a great leg of country pork and peas is for dinner'.²⁰ These culinary encouragements doubtless referred to home entertaining. Much conviviality led to inevitable consequences and Buddle developed gout. In a note to an 'Honest Friend' he excused his absence as 'I have been confined by the gout about a week. I am pretty well at present and begin to go about the house'.²¹ A countryman born, a good trencherman, Buddle could well have worked off the after-effects of convivial evenings on herb gathering expeditions. Some of the places visited are revealed in the localities given for specimens in his herbarium: the vetch *Lathyrus palustris*, for example, was found 'under Burgh Castle an old Roman fortification not far from Yarmouth'. Coriander (*Coriandrum sativum*) was to be found 'Round Coggeshall, Tolesbury and plentifully in the fields of Essex'. In 1711 he found a narcissus 'in some orchards and closes adjoining, near Hornsea Church four miles from London'.

Apart from botanising expeditions around London, and further afield, there was plenty of correspondence to be dealt with, and the exchange of specimens with fellow botanists. Buddle also took an interest in the progress of the Apothecary's Garden at Chelsea. Welcoming an offer of seeds and plants from a Yorkshire botanist, he remarked that the garden, 'which is now putting into very good order ... we design to cultivate all the rare English plants we can get to grow there'.²² It was not until 1722, seven years after Buddle's death, that the Apothecary's Garden in Chelsea acquired a secure financial footing. Sir Hans Sloane conveyed to them a piece of his Chelsea estate for a yearly payment of £5. A further stipulation was that every year 50 specimens of plants grown in the garden were to be supplied to the Royal Society, of which Sloane was already a fellow (becoming its President in 1727). Many of these specimens, like Buddle's herbarium, still survive at the Natural History Museum.

Physicians, Apothecaries, Botanists, Gardeners and Nurserymen all required an authoritative and accepted system of classification, and one which provided names

for species that could be used unambiguously. The systems of Ray and Tournefort, both correspondents of Buddle, were of particular importance. In 1670 Ray had published the first edition of his *Catalogus plantarum Angliae*, describing English plants, to be followed by the three volumes of his great *Historia plantarum* (first edition 1686–1704) providing a treatment of plants on a worldwide basis. Tournefort's *Institutiones rei herbariae* (first Latin edition, 1700) was of huge importance in its innovative use of floral characters and making a distinction between species and genera.

Buddle's herbarium and papers were bequeathed to Sloane. Although, as described above, there was some difficulty in extracting the herbarium from Petiver, they eventually reached Sloane's safe hands, and thereby became part of the founding collections of the British Museum. Buddle's specimens remain as one of the most important components of Sloane's extensive herbarium, one of the greatest treasures of the Natural History Museum's botany department, stretching to 334 bound, folio, volumes. Buddle's main collection of British plants is bound into four volumes,²³ but a further five include important Buddle material.²⁴ One of the latter (H.S. 127) contains grasses and sedges, many of which were sent to him from around Fort St George (Madras) in India; there are also many Buddle specimens of non-flowering plants in the volumes of Petiver's herbarium. The specimens are beautifully mounted, conspicuously well annotated, and in incredibly good condition. The extent and range of this collection proves that Buddle was expert, and recognised as such, in far more than mosses and grasses, deserving better than William Vernon's condescending contemporary appellation 'The top of all the moss-croppers'.²⁵ The specimens are arranged according to Buddle's own classification system, and it is fascinating to see how many of his 'genera' correspond to modern plant families. This classification system was written up by Buddle under the name '*Methodus nova stirpium Britannicarum ex methodis Raij et Tournefortij longe optimis collatis correcta cum nominibus et synonymis autorum maxime celeberrimum additis*'. This 'Methodus' was an arrangement (and synonymy) of British plants, grouping them in a way that he considered an improvement on those of both Ray and Tournefort; it formed a catalogue of his herbarium, and was intended to be kept with it. However, in the Enlightenment-period division of spoils, written works were separated from specimens: the specimens have ended up in the Natural History Museum at South Kensington, and the manuscript 'Methodus' in the British Library at St Pancras.²⁶

The 'Methodus' was dedicated to: 'The Chief Botanists of our age'. At the head of these was the Bishop of Carlisle, William Nicolson. The other fifteen names included Sloane, Bobart, Petiver, Philip Miller (from 1722 chief gardener of the Chelsea Physic Garden), Charles Du Bois (Treasurer of the East India Company), William Sherard (English Consul at Smyrna), and lesser known individuals including Joseph Dandridge (a pattern drawer for the silk weavers of London), and 'Mr Billars a Gentleman in Gloucestershire'.²⁷ The 'Methodus' was made use of by contemporary and later botanists – not always with due acknowledgement – but, sadly, was never published. In a letter of 1709 to Richard Richardson, Buddle explained that:

I have jumbled Mr. Ray's and M. Tournefort's [systems] together (they are both dead). Some think I favour too much M. Tournefort, which is a reflection upon Mr. Ray which I am sure I do not design; neither would I offend any of his living admirers; but I find he that would please everybody must never print.²⁸

This is doubtless one reason why the work never saw the light of day, but another is recorded in a letter written by Samuel Dale (one of the dedicatees) to Sloane in 1717: ‘having ... said that the Method was with the Approbation of Mr [William] Stonestreet [another dedicatee] and others, but they not approveing of it, made him decline it’.²⁹

Despite his invisibility as a published botanical author, reminiscences of Adam Buddle and his botanical contemporaries are still around us. Whatever their garden preferences, visitors to the Chelsea Flower Show may travel there via Underground to Sloane Street and thence via Sloane Square; perennial reminders of Buddle’s patron and legatee, Sir Hans Sloane. The Chelsea Physic Garden has several species of *Buddleja* among its collections labelled according to Linnaean principles, though no longer the only species that the Swedish doctor placed in the genus by which he commemorated Buddle’s name. More recently, at Wakehurst Place, the RHS has created the Francis Rose Reserve dedicated partly to mosses and lichens. Modern ecology has demonstrated the significance of these unassuming plants of which Buddle made a pioneering study. A likeable, unpretentious personality and a scholar whose writings and collections have not always received their deserved recognition, the Rev. Adam Buddle most surely qualifies for the title, ‘Moss-Cropper Extraordinaire’.

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Notes

¹ IGI. Index v 50 British Isles. Date of Baptism most likely very soon after birth.

² Janet Roworth, *Flax in the Isle of Axholme*. 2000.

³ Lincolnshire Archives, INV198/91.

⁴ Lincolnshire Archives, 170w/42.

⁵ J. & J.A. Venn, *Alumni Cantabrigiensis*. 1922, Part 1 Vol. 1 p. 249.

⁶ Suffolk County Archives, Henley Baptism Register.

⁷ British Library, Sloane MS 4066 f. 287.

⁸ British Library, Sloane MS 4066 f. 277.

⁹ British Library, Dedication of the Methodus, Sloane MS 2305.

¹⁰ Will of Adam Buddle of Hadleigh 1686. PROB 11/382.

¹¹ J. & J.A. Venn, *Alumni Cantabrigiensis*. 1922, Part 1 Vol. 1 p. 249.

¹² The Honourable Society of Gray’s Inn Trust Fund, letter to author dated 12 Feb 2003.

¹³ *Ibid.*

¹⁴ British Library, Sloane Vol. 31 f. 291.

¹⁵ Natural History Museum, H.S. 115.

¹⁶ British Library, Sloane MS 4037 ff. 188, 203, 245, 302.

¹⁷ *Ibid.*

- ¹⁸ British Library, Sloane MS 4066 f. 283.
¹⁹ *Ibid* f. 286.
²⁰ *Ibid* f. 285.
²¹ *Ibid* f. 287.
²² Hazel Le Rougetel, *The Chelsea Gardener; Philip Miller, 1691–1771*. Natural History Museum Publications, 1990, p. 75.
²³ Natural History Museum, Sloane Herbarium, HS 114–126.
²⁴ Natural History Museum, Sloane Herbarium, HS 54, 127–130.
²⁵ Dawson Turner (ed.) *Extracts from the Literary & Scientific Correspondence of Richard Richardson, M.D., F.R.S.* Great Yarmouth, 1835, p. 73.
²⁶ British Library, Sloane MS 2970–9.
²⁷ British Library, Sloane MS 2980.
²⁸ H. Trimen & W.T. Thistleton Dyer, *Flora of Middlesex*. Robert Hardwicke, London, 1869, p. 387.
²⁹ J.E. Dandy, *The Sloane Herbarium*. British Museum, London, 1958, p. 108.

On the name *Buddleja*: a supplement to B.M. Buddle’s ‘Moss-Cropper Extraordinaire’

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Some months ago I asked Anne Buddle, a friend with shared Indian interests who works for the National Galleries of Scotland, if, by any chance, she was related to the dedicatee of the genus *Buddleja*. The answer was yes – moreover, her mother, Betty, had recently written a paper on their ancestor, the Rev. Adam Buddle. The resulting paper, to which this is a supplement, adds considerable flesh to the bare bones of Buddle’s biography known chiefly from the works of Trimen & Thistleton Dyer (1869) and Dandy (1958), and an entry in the *Dictionary of National Biography* (DNB) originally written by James Britten, updated for the recent edition by Janet Browne (2004).

Not surprisingly, given its ubiquity in modern Britain, Betty Buddle’s botanical starting point was the ‘butterfly bush’, *Buddleja davidii*, but this species was not discovered until 1869 (and formally described almost twenty years after that). Janet Browne ended her DNB article with the curious statement: ‘It is popularly supposed that Linnaeus later named the flowering shrub buddleia (sic) after Buddle, although the attribution is uncertain’. A direct connection between Buddle and *Buddleja davidii*, is clearly anachronistic, and Browne’s challenge led me to look into the history of the generic name. The answers raise several interesting points, not least how easy it is to forget the riches of pre-Linnaean botanical literature, taxonomy and nomenclature, and the importance of North America as the great source of exotic plants in the early eighteenth century (a role not overtaken by China until the latter half of the nineteenth



Figure 1.

century). Corrections to several popular misconceptions also emerged – such as the correct spelling of the generic name, and which was the first member of the genus to be cultivated in Europe.

Despite Browne's doubts, the history of the name is quickly discovered by looking up the relevant Linnaean publications. The starting point for Linnaean nomenclature is taken as the first edition of *Species Plantarum*, 1753, and in that work was described the single species *Buddleja americana*. But, like Newton, Linnaeus stood on the shoulders of giants (notably Joseph Pitton de Tournefort and John Ray) and one of his major aims was to bring order to the vast numbers of names, descriptions and illustrations already existing in the botanical works of his predecessors – and he was scrupulous about citing such earlier work. Thus under *Buddleja americana*, at this

point the first and only member of the genus (and therefore its type), Linnaeus referred to two earlier phrase names, as used by three botanical authors – Leonard Plukenet, Hans Sloane and John Ray. In fact Linnaeus (following Sloane) was incorrect in the synonymy of Plukenet's plant, which will not be discussed here further. Ray's plant was the same as Sloane's, discovered by the latter on his productive Jamaican sojourn of 1687–9, which he called '*Verbasci folio minore arbor, floribus spicatus luteis, seminibus singulis oblongis in singulis vasculis siccis*'. Which, being translated, means: 'the tree with a smaller mullein-like leaf, with spikes of yellow flowers, with single oblong seeds in single dry vessels'. Sloane first published this name in 1696, in his *Jamaican Catalogus*, providing a fuller description and a fine engraving [Fig. 1] in 1725 in the second of the folio tomes of the *Natural History of Jamaica*. The specimens collected by Sloane, and the monochrome drawing by Everhardus Kickius [Fig. 2] on which the engraving was based, are still to be seen in the Sloane herbarium at the Natural History Museum (NHM H.S. ff. 105v, 106*, 106). These specimens have been overlooked, and the species has been typified on later specimens in one of Linnaeus' own herbaria.



Figure 2. © The Natural History Museum, London

So much for the species, but in *Species Plantarum* Linnaeus also provided references for the generic name – to an obscure work (possibly an herbarium catalogue) by Johann Amman (who, for a short time, was Sloane's curator), and to his own *Hortus Cliffortianus* of 1738. The latter is another lavish, illustrated, folio work, and includes descriptions of plants growing in the garden at the Hartekamp belonging to the Anglo-Dutch financier George Clifford, and also, it would seem, specimens in his herbarium. The paper-trail continues, for in *Hortus Cliffortianus* Linnaeus referred back to his own *Genera Plantarum*, another of the works of his productive Dutch period, published in Leiden the previous year, which leant heavily on the work of Tournefort. Here ends our search for the origin (and correct spelling) of the name *Buddleja*, for Linnaeus cited it as 'BUDDLEJA. *Houst. A.A.*'. This may seem cryptic, but in the prefatory material this abbreviated reference is expanded as '*Houstoni Acta Anteata MSS a Millero communicata*' – that is, a manuscript by William Houston, given to Linnaeus by Philip Miller of the Apothecary's garden at Chelsea. Thus it was not Linnaeus himself who coined the name to commemorate Buddle, and the generic name is correctly cited as '*Buddleja* Houston ex Linnaeus'. Linnaeus visited Miller in London in 1736, and this is probably when he obtained the Houston MS (or copy thereof), and probably also herbarium specimens from the Caribbean and Mexico, which he took back to Holland for Clifford's herbarium. Like Sloane's, the Cliffortian herbarium has also ended up in NHM, and in it is the (rather scrappy) specimen, probably collected by Houston in Jamaica, that has been chosen as the 'type' of *Buddleja americana*.

Not much is known of William Houston (c. 1704–33) other than what is recorded in his DNB entry (Boulger & Allen, 2004). Possibly from Renfrewshire, he turns out to be a relatively early example of the enterprising Scottish surgeon-naturalist, who, in 1727, had preceded Linnaeus to Leiden, and later followed in Sloane's wake as a surgeon to Jamaica where he died at an early age. But not, as already stated, before he had sent material, including seed, specimens and a description, of *Buddleja*, to Miller at Chelsea. In 1781, slightly curiously, as by this date the work was 'pre-Linnaean', and therefore of only antiquarian interest – and the more so as Banks was a far from prolific author – Sir Joseph Banks honoured Houston's work by preparing an edition of his MSS in a small, but elegant and finely printed, volume entitled *Reliquiae Houstoniae*, in which may be found Houston's original description and illustration [Fig. 3] of the very first 'butterfly bush'. Houston named many new genera after distinguished botanists, though without explaining why or giving any biographical details. Houston can never have met Buddle, but it is a sign of the latter's reputation in early eighteenth century (metropolitan) botanical circles that he was considered worthy of commemoration in this way. Linnaeus adopted the name (which he was under no obligation to do, and had no more connection with Buddle than did Houston), and thus brought it into the realm of modern botanical nomenclature.

History of Cultivation

It has often been stated that *Buddleja globosa* was the first member of the genus to be cultivated in Europe, introduced from Chile in 1774 (Aiton, 1789). This turns out not to be true, and it seems beyond any reasonable doubt that *B. americana* had been grown at Chelsea more than half a century earlier. One of the conditions of the lease



Figure 3.

of the Chelsea Physic Garden imposed by Sloane was that Miller had to supply herbarium specimens of 50 plants each year to the Royal Society. Many of these have survived both in the bound volumes of Sloane's herbarium and in the general herbarium of NHM, but unfortunately *Buddleia americana* is not among them, though compelling evidence for its cultivation is to be found in contemporary literature. The plant (under a new name, coined by Miller: '*Buddleja frutescens, foliis conjugatis & serratis, floribus spicatis luteis*') appeared for the first time in the 1739, third, edition of his *Gardener's Dictionary*, in an addendum entitled 'A Catalogue of the Most Tender Exotick Plants, which require to be kept in the Degree of Heat in Winter, marked on Mr Fowler's Botanical Thermometer, for the Third Class of Plants'. In the 1759, seventh, edition Miller provided detailed instructions on the plant's cultivation that can only have been based on first-hand experience; it is, moreover, stated that seeds had to be 'obtained from the Countries where they naturally grow *for they do not perfect them in England*'. It was also here that the date of introduction, synonymy, and etymology of the genus, were explicitly stated: 'This was sent me by Dr. *Houston*, from *Jamaica* in 1730, under the Title *Verbasci folio minore ... Sloan. Cat. Jam.* 139. But as this was a vague Title, so the Doctor [i.e., *Houston*] afterwards constituted a new Genus, and gave it the Title of *Buddleja*, in Memory of Mr. *Buddle*, an eminent English Botanist'.

So the first member of the genus, and first species in cultivation, was *Buddleja americana* (a widespread species occurring in the West Indies, and from Mexico southwards to Peru), treasured in stoves as an exotic, but forgotten when the showier, and, more importantly, hardier, *B. globosa* came from Chile, and Asian species (such as the Chinese *B. davidii*, and the far more spectacular *B. colvillei* from Sikkim) in the second half of the nineteenth century.

A curious post-script

The family placement of the genus *Buddleja* has varied – sometimes placed in Loganiaceae, sometimes in its own family, Buddlejaceae. In the most recent phylogenetic classifications, based on DNA analysis, it has been found to be best placed in the family Scrophulariaceae (Stevens, 2001 onwards). There is also zoological support for this treatment, in that the dipteran leaf miner *Amauromyza verbasci* has been found on both *Verbascum* and *Buddleja*, which takes us right back to Sloane – he was not, after all, so very far wrong in comparing his Jamaican plant with a mullein!

References

- AITON, W. (1789). *Hortus Kewensis*. London: George Nicol.
- BOULGER, G.S. & ALLEN, D.E. (2004). Houston, William (c. 1704–1733) in *Oxford Dictionary of National Biography* (eds. H.C.G. Matthew & B. Harrison) 28: 304. Oxford: Oxford University Press.
- BRITTEN, J. & BROWNE, J. (2004). Buddle, Adam (bap. 1662, d. 1715) in *Oxford Dictionary of National Biography* (eds. H.C.G. Matthew & B. Harrison) 8: 554. Oxford: Oxford University Press.
- DANDY, J.E. (1958). *The Sloane Herbarium*. London: Trustees of the British Museum.
- STEVENS, P.F. (2001 onwards). Angiosperm Phylogeny Website. Version 8, June 2007 [and more or less continuously updated since].
- TRIMEN, H. & THISTLETON DYER, W.T. (1869). *Flora of Middlesex*. London: Robert Hardwicke.

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The short-lived Marine Station substitute facility on the Isle of Bute (1914-1922)

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In a series of recent papers, the author and his collaborators have been re-examining in detail the early history of the Marine Station at Millport on Great Cumbrae Island, Firth of Clyde (Moore, 2002, 2005, 2006, 2007, 2008; Moore and Hancock, 2004; Moore and Gibson, 2007). The schism in the membership of the Marine Biological Association of the West of Scotland (M.B.A.W.S.) that happened in 1907 (“the tempestuous period”, see Kerr, 1949), resulted in a “professional” group headed by Professor (later Sir) John Graham Kerr (1869-1957), Regius Professor of Zoology at Glasgow University, seeking an alternative laboratory on the adjacent Island of Bute to dissociate themselves from the perceived “amateur” populist clientele of the Association dominating the Millport laboratory. A catalyst to this schism was the then Director at Millport, Stephan Ion Pace (1872-1941) who, in allying himself with the Kerr camp, ended-up being ousted messily from his position by the amateur membership of the Association, as detailed recently by Moore (2006).

Dr Sheina MacAlister Marshall FRS (1896-1977), in her summary history of the Millport Marine Station (published posthumously; Marshall, 1987), referred only briefly to the proposal for a Bute Marine Station (pp. 26-27). In a letter (archived in the National Marine Biological Library, Plymouth) written to Edward Thomas Browne (1866-1937), dated 20 February 1911, Graham Kerr had opined:

“I am afraid you will think me very foolish to intervene again in the Millport business but I am extremely loth to begin organising a new laboratory for the West Coast of Scotland until there seems absolutely no possibility of the so called Marine Biological Association seeing the error of its ways. So I am making this last effort to stir them up and if it fails there will be nothing for it but to begin and see what can be done in the way of starting a new laboratory. It would have of course to be on the most modest scale at first at all events. We should most likely begin by renting a humble cottage. However it would of course be greatly preferable if the “MBAW of S” could be induced to reform itself.”

Browne’s reply to Kerr (1 March 1911) included the following observations:

“Prof. Kofoid sent me a copy of his Report on the Marine Stations of Europe, and I had read, before receiving your letter, his account of the Millport Station. Kofoid’s remarks about the Station are very much to the point, and he contrasts elsewhere in the book the success of a Station in the hands of one man with that of Millport ruled by the multitude, who nearly all want something in return for the subscription.

I admire your courage in making another attempt to rescue the Station for scientific workers, but I am afraid that my assistance will be of little use. I was talking the other day to Canon Norman about Marine Stations and their sites. He said that Oban would have been a better place for a station than Millport. Even if you succeed in

reforming the Station at Millport I have but little doubt that later on the need for another station directly on the west coast will be felt, as the oceanic fauna is very scarce at Millport”.¹

Looking back now, some might claim these to be prescient words, given the eventual phased transference of the Scottish Marine Biological Association (as it became in 1914) operations from Millport to Dunstaffnage, near Oban (though not until 1970; note Moore, 2006). Granted that being ‘all things to all men’ has never been an exactly easy option for any establishment, Browne had still been guilty of selective quotation, i.e. overlooking the fact that Kofoed had actually been complimentary about Millport’s willingness to widen participation:

“in addition to its contributions to research the Millport station has undertaken *a unique public service, without parallel among other European stations*, namely, the scientific entertainment of classes from the public schools, colleges, and universities, and of field clubs and naturalists’ societies, and even to excursions of railway employees [my italics].”

Graham Kerr made the following statements in a little-known, yet key, paper (Kerr, 1911a) – frustratingly lacking provenance – that exists (seemingly only) as a printed separate in the Special Collections Department of Glasgow University Library (Classmark Sp. Coll. Mu22-c.10, inscribed “February 1911”; part of the extensive David Murray (1842-1928) bequest) and which is neither bound within the three volumes of the Collected Works of J. Graham Kerr in the Special Collections restricted-access bookcase in the Graham Kerr Building (the old Zoology Department) nor referred to in Hindle’s bibliography of Kerr’s publications (Hindle, 1958):

“As this [Kofoed’s] widely circulated report will serve again to direct special attention to the Millport laboratory, with its various strong points and shortcomings, I find myself impelled to appeal again to those in Glasgow and its neighbourhood who are interested in the cause of marine biology to use their influence to secure that our local laboratory shall be placed in a position in which it will be safe from adverse criticism.

Speaking for myself, I have no doubt within the next few years the university departments of Biology will be duly provided with the facilities for marine work of which they are in need. Whether, however, these facilities will be provided by the institution of a new marine laboratory upon the west coast or, on the other hand, by the friendly co-operation of the Marine Biological Association, must depend naturally upon the wishes of the members of the Association....

The need of a definite and continuous line of policy has been alluded to it seems perfectly clear that without such a statement and such guarantee it is vain to expect that the Association will ever receive financial and other help which will alone enable it to fulfil adequately the designs of its founders.” [note: founders (plural), cf. final paragraph below.]

Other voices, however, were more approving of Millport’s wider educational role and critical of Kerr’s attempts to impose a purely research focus. Thus it was, for instance, the contention of Mr Charles R. Cowie (member of the General Committee, the Executive [alongside Gemmill] and the Finance and Endowment Sub-Committees of the Association), strongly voiced at the acrimonious Annual General Meeting of the Association in 1911, that the Association “was originally intended for the encouragement of amateurs in their biological experiments and investigations, and

that it had amply done". He went on in his statement to point also to the valuable achievements in teacher training that had taken place at Millport and to criticise Professor Kerr's single-track aspirations (Anonymous, 1911). The importance of the teacher-training role (see Moore, 2008, fig. 5) would be supported later by comments from the responsible authority concerned, thus "the admirable facilities provided at the Millport Biological Station for studies in Marine Zoology have been highly appreciated by the students". So wrote Mr F. W. Young, His Majesty's Chief Inspector for Science (M.B.A.W.S., 1914).²

It had always been my impression that Graham Kerr seemed never really to have been able to come to terms with the notion that Millport might legitimately have a role other than that which he, personally, would like to have seen best fit his requirements for biological researchers in Glasgow University (see Kerr, 1911a,b, undated; and which held to be closest to Murray's vision for the Station, see below). To be fair, though, it was not simply that he denigrated the activities of amateurs for, as he acknowledged openly enough (Kerr, 1911a),

"Zoology owes much to its amateur workers from Darwin onwards, and Glasgow has been particularly fortunate in its able and enthusiastic amateurs. As contributions to marine faunistics, it would be difficult to beat such works as, for example, that of the late Dr. Alexander Frew on Mollusca, or that of Mr. A. Patience on Crustacea."

In the concluding remarks to his generally unknown contribution (Kerr, 1911a), Graham Kerr had ventured to hope that the M.B.A.W.S. might invite a team of experts (he proposed Prof. M'Intosh, Sir John Murray and Sir Ray Lankester) (see also Kerr, 1949) to review the past, present and future of the Millport Station (a forlorn hope,



Figure 1. The Royal Aquarium, Rothesay (photograph by James Valentine; ref. JV-1250), reproduced with permission courtesy of the University of St Andrews Library (photographic archive). James Valentine, of Dundee, was photographer by special appointment to Her Majesty Queen Victoria. Original caption, only partially visible, reads "Aquarium Rothesay 1250 JV" (date registered 1878).

perhaps, given the rivalry that existed between Murray and Lankester alluded to elsewhere (Moore, 2006, endnote 27); and one that never materialised).

Shortly thereafter, the year 1912 had witnessed Graham Kerr advocating Loch Sween as the perfect site for a new laboratory (Kerr, 1912). Yet, in a lecture on plankton delivered (3 April 1914) to the Buteshire Natural History Society two years later, Kerr (1914) had reverted to a previous position

“The Clyde Estuary is, as I have urged for ten years past, a magnificent field for carrying out investigations along such lines. All that is needed is a small committee with moderate funds at its disposal to enable it to secure the services of able young men to tackle particular pieces of the problem, and to provide for small laboratory and boat expenses.”

Kerr’s (for those days unwitting) sexism notwithstanding, that same year (1914) saw him securing, for one or two years as a temporary solution to his quest for an alternative to Millport, the permission of the Marquess of Bute to use the Bute Museum and Aquarium in Rothesay (prior to about 1905, this striking Palladian building (Fig. 1) – built 1875-76, opened 29 June 1876 – housed the Royal Aquarium at Rothesay; see Barker, 1877; Edwards, 1986, pp. 112-113). Thus he later (Kerr, 1949) recounted that the then Marquess of Bute “the donor of the site of the Millport station” who was “naturally deeply concerned by the rupture of its official relations with the university departments stepped in and provided a refuge for Glasgow students of zoology and their teachers by purchasing and equipping as a laboratory the old Rothesay Aquarium”. The Aquarium contained “several large and small tanks of salt and fresh water, and in these gambol many rare denizens of the deep” (Anonymous, not dated [1878?], p. 86).³ The death of his esteemed friend Sir John Murray (1841-1914) that year, in a motoring accident in Edinburgh, put paid to another of Kerr’s acceptable scenarios; that of Murray taking on the Directorship at Millport (Moore, 2006). But, as befitting decorum, Kerr’s obituary of Murray for the Royal Society of Edinburgh maintained a dignified silence on this matter (Kerr, 1915).

Graham Kerr’s philosophy regarding a Marine Station’s function, as being to furnish a source of reference for readily marshalled factual information about the distribution and natural history of the fauna and flora in its vicinity (Kerr, 1911a,b, undated) to assist researchers, having been – in his eyes – endlessly frustrated at Millport (Moore, 2006) probably accounts for why he was so keen for his Assistant, James Chumley, to collate the faunistic information of Sir John Murray’s Clyde investigations (once Chumley, then no longer a young man, had transferred to Glasgow). A barbed sting, however, remains discernible in the tail of Kerr’s Prefatory note to Chumley’s *Fauna of the Clyde Sea area* (Chumley, 1918, p. vi), in which he noted “the present time is particularly appropriate for making these records accessible, owing to the establishment of the Bute laboratory at Rothesay, which affords *long-needed* facilities to those desirous of carrying on *scientific* investigations of the Clyde Sea area [my italics]”. The fact that the majority of the records listed therein emanated from work that had been accomplished from Millport (note also Hoyle, 1889), however, is overlooked with seeming insouciance.⁴ Should anything deliberately intransigent be read into the fact that Kerr’s own 1905 work on Arran plankton (Kerr, 1911b) had been accomplished from Blackwaterfoot? Or, given the fact that August and September fall within the University summer vacation period, had he simply been holidaying there and taken

the opportunity to access waters with a greater oceanic influence? Had he taken so lengthy a holiday in 1905, such luxury was to be short-lived. In a holograph note to S.M.B.A.'s then Superintendent at Millport, Richard Elmhirst (1884-1948), dated 18 April 1922 (now in the Dunstaffnage Marine Laboratory archives), Kerr had lamented "I haven't been able to get a single day's holiday this vacation".

Frustratingly little is known about the Bute interlude; dates and details remain elusive. McMillan (pers. comm.) stated that the Aquarium "ran as such until purchased by the Marquess of Bute in 1907 to be used to house the Bute Museum collection to be transferred from Chapelhill". Archival material relating to the Aquarium is now held by Argyll & Bute Archives at Lochgilphead (Ref. BR/27), including the Minute Book of the Rothesay Aquarium Company Ltd, Articles of Association etc but no records relating to the setting-up of a Marine Station on Bute exist either therein or in the Bute Museum (McMillan, pers. comm.). Blair (1976), in considering the jubilee of the Rothesay Museum (1926-1976), had this to say on the subject:

"In 1907 Lord Bute offered to house the museum in that building in Battery Place which was then called the Aquarium and is now called the Baths. So there was a great flitting down the hill and out the shore and the exhibits had much more elbow room than formerly and holidaymakers had no trouble finding the place. Lord Bute paid the salary of a curator [Renouf] and the wages of a janitor and much good work was done in collecting, classifying and displaying."⁵

Hindle (1958) noted that Graham Kerr "was mainly responsible for the foundation of a temporary marine station at Rothesay". In taking-up the Bute Marine Station story, Sheina Marshall (*loc. cit.*) stated briefly:

"Lord Bute had agreed to build a Marine Station on Bute, near his own Mount Stuart House and the then curator of the Buteshire Natural History Society, L. P. [W.] Renouf (later to be Professor of Zoology in the University College, Cork), moved the whole contents of the Museum to store them in a building near Mount Stuart. Many of the specimens were lost or broken and were never reassembled. Lord Bute then gave up the idea of a Marine Station on Bute and Renouf left".⁶

Renouf had won an open scholarship to Trinity College, Cambridge. He had taken his B.A. degree in 1914 and, after graduating, had written (exactly when is unstated) to John Graham Kerr at Glasgow to enquire about the possibilities of a post to teach biology to medical students.⁷ Kerr's initial reply had been discouraging, but a little later he had received a telegram asking "Can you begin demonstrating on Monday morning?" Renouf had travelled on the night train on a Sunday, arriving at 5 am, and proved equal to the task. For several years he combined a term of teaching at Glasgow with the Curatorship of the Bute Museum (Ebling, 1969). Interestingly, Vickerman (1995) noted that Graham Kerr, M.A. (like many of his contemporaries) was contemptuous of the Ph.D. degree (*cf.* an Oxbridge higher doctorate presumably); a qualification though that even Sir John Murray apparently sported (see Kerr, 1915) and which, nowadays, is generally regarded as a rite of passage to a research career.

Revealingly, there is a letter, dated 10 February 1919 (in the Bower archive at Glasgow University Archive Services; ref. GB 0248 DC 002/14/389), from Renouf to Frederick Orpen Bower, FRS, who was Regius Professor of Botany in the University, proselytising The Bute Laboratory and Museum at Rothesay, and written on headed

notepaper proclaiming that title, which includes the following vision for the “line of work for the new laboratory”

Objects

1. To encourage the pursuit of Biology and kindred Sciences.
2. To provide facilities for Research Workers.
3. To make systematic study of the Fauna and Flora of Bute & the Clyde Sea Area, & to form a Collection of Species belonging to this Area as a foundation from which to undertake the investigation of problems, a) of purely scientific, b) of economic importance.
4. To supply specimens & preparations to Universities, Museums etc.
5. As the occasion arises to extend 3) to include the West Coast of Scotland as far out as the Continental Shelf.

Little wonder, given the circumstances leading to its formation, that the facilitation of research workers and the prosecution of pure research were to have been its prime objectives (*cf.* Moore and Carpine-Lancro, 2006). A subscription fund had been opened for the building of a Marine Station on Bute. The sum subscribed was held by a specially constituted body (the Bute Marine Biological Committee) with an *ex officio* membership of the Marquess of Bute, various Professors in the Scottish Universities and the President of the Buteshire Natural History Society (founded 1905) (Kerr, 1949; Marshall, 1987).⁸ However, not long thereafter, the scheme faltered and failed (see below).

Maybe significantly, Dr John Nairn Marshall (1860-1945), the well-respected and energetic family doctor from Rothesay, founder and President of the Buteshire Natural History Society (1905-1920) (and father of the Marine Station’s Dr Sheina Marshall; she, a Glasgow graduate taught by Graham Kerr, was appointed onto the staff at Millport in 1922) had been a member of the Finance and Endowment Committee of the Marine

Biological Association of the West of Scotland at Millport in the period surrounding these ruptures (1908-1911) (Fig. 2).⁹ Where would his sympathies have lain? John Marshall was a friend of James Fairlie Gemmill (1867-1926) who, sharing a medical background too, had been a long-term supporter of the Millport Station (Marshall, 1987; Moore and Hancock, 2004; Moore, 2006). He would also have known the public-

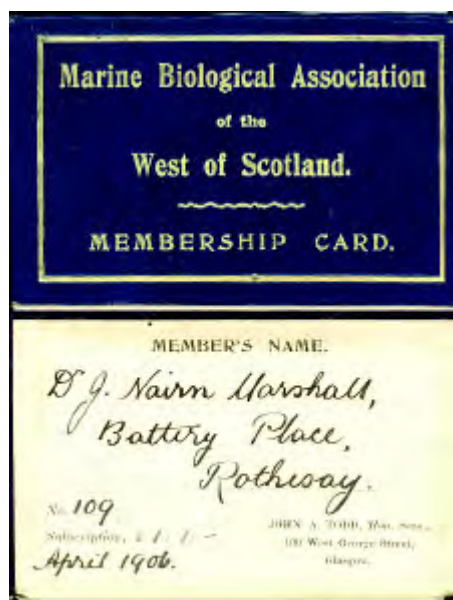


Figure 2. Dr John Nairn Marshall’s membership card for the Marine Biological Association of the West of Scotland (courtesy of S.A.M.S., Oban; donated by Dr Sheina Marshall).

Figure 3. Bookplate of John Nairn Marshall, MD (1860-1945) in his copy of Freud's *Psychopathology of everyday life*, which had subsequently belonged to his second daughter Sheina MacAlister Marshall, and which was amongst those books donated to the Marine Station library by her younger (archaeologist) sister, Dorothy Nairn Marshall (1900-1992), after Sheina's death.



spirited Marquess of Bute professionally and socially, not least due to the latter's concurrent position as Honorary President of the Buteshire Natural History Society.¹⁰ It remains only conjecture at present but John Marshall, positioned as he then severally was, could have been in a position to influence the encouragement of the Millport Station rather than Kerr's

Bute enterprise and (wise old owl indeed? Fig. 3), perhaps even facilitate, latterly, the annual substantial donations from the Bute Marine Biological Committee to the Scottish Marine Biological Association (S.M.B.A.) at Millport; a practice that continued between 1925 and 1936. When the Bute committee was wound-up, its remaining – not insubstantial – assets (£1,900) were handed over to the S.M.B.A. (Marshall, 1987, p. 26).

James Chumley, in a holograph note to Elmhirst, sent from the University of Glasgow (dated 2 October 1922; now in the Dunstaffnage Marine Laboratory archives), had stated "I am sending you the enclosed authorization, after consulting the principal and Prof. Graham Kerr, enabling you to take possession of everything belonging to the Comm[ittee] whether boats, sounding machines, chemical balance, glass jars, museum specimens, etc etc and you can use your own discretion as to anything you may look upon as rubbish." In a typed 'official' letter to Elmhirst of the same date, titled Bute Marine Biological Committee, Chumley had ended "Will you kindly consult Dr Marshall and take what steps you may find necessary in the matter?". The boats he alluded to, that were then lying in Bute, were the "big boat" (the *Mère Julie*) that had been hauled-up in 1920, a 29ft lifeboat and a 12 ft dinghy. What became of these boats is uncertain. In a later letter (12 June 1923), however, Chumley had written to Elmhirst:

"Will you please arrange for their transport and if possible use them in connection with the work of the Marine Station; if not practicable to use them try to dispose of them, any proceeds to be handed over to the Scottish Marine Biological Association as a donation from the Bute Marine Biological Committee."

It seems likely that this latter option was realised. In the long run then, the Millport Marine Station actually did not do so badly out of the Bute interlude and even Graham Kerr was eventually won over to be supportive of the Millport Station (once it became securely funded by government, with research its primary remit, see Marshall, 1987; Moore, 2006). His rather grudging enthusiasm, however, remained tempered by past history, as witness this statement from his 1928 account of the Marine Station at Millport for the general handbook of the meeting of the British Association for the Advancement of Science held in Glasgow that year (Kerr, 1928),

“As it now stands the Millport laboratory, while on a comparably humble scale, is admittedly, one of the most favourable centres in the world for the prosecution of marine research.”

The complementary accompanying excursion guide relating to the Firth of Clyde from that same meeting, however, was more effusive; referring to the Marine Biological Station “which for thirty or more years now has carried on a wonderful work in ascertaining the facts and solving the problems of under-water life of the Clyde estuary” (Eyre-Todd, 1928). How much the realisation of Millport’s potential was due, in fact, to a surreptitious Marshall plan we might be forgiven for wondering? Recalling that the famous Scottish essayist, historian and philosopher, Thomas Carlyle (1795-1881), once averred perceptively (Carlyle, 1800) that history is a distillation of rumour, I should emphasise that no such rumour currently circulates.

Graham Kerr’s personal ‘take’ on the situation when he cast his mind back over his lifetime’s achievements (Kerr, undated, pp. 86-89), however, sheds revealing light on the subject. This is his version of these events

“the one cloud which overshadowed my early years in Glasgow arose out of an unfortunate misunderstanding. In my interview with Lord Balfour I had emphasized that to me one of the great attractions of the Glasgow Professorship was the prospect which it afforded of carrying on my earlier interest in the marine biology of the Clyde, and in my official letter of application I foreshadowed the hope that Glasgow, with its proximity to the Clyde “and with the Marine Laboratory at Millport”, might become one of the chief national centres of zoological research. Unfortunately my strongest local rival for the Chair, Dr James F. Gemmill, was also pre-eminent among the supporters of the Millport Station at which he had carried out a long series of important pieces of original research. The mention of my own prospective interest in the Station was immediately pounced upon as indicating the intention on the part of the Cambridge invader of doing his best to annex the Millport laboratory to his own department in the university.”

In Kerr’s eyes what resulted at Millport (that he reacted against) was “a complete *volte face* from the intentions of John Murray when he initiated the research centre at Millport”. It is true that the original constitution of the Marine Station had included within its first objective “the fostering and encouragement of biological research in Glasgow and the West of Scotland” (M.B.A.W.S, 1897). Kerr was pertinacious in his fight to keep alive the vision for Millport that had been his friend John Murray’s.¹¹ But was this his only motive? Should Kerr’s acknowledgement of the rivalry that might have existed betwixt himself and Gemmill be something that should now also be factored into the equation? Was it real and something that continued? The author has commented elsewhere (Moore, 2006) that it seems somehow odd that Graham Kerr, given their shared interests in fishes and background in Glasgow University,

had not been among those selected by Gemmill to support his candidature for election to the Fellowship of the Royal Society (1924) only a couple of years before he died. Never exactly a shrinking violet, Kerr was certainly no stranger to combative animosity, once having been challenged to a duel with rapiers during one particularly heated exchange (Hindle, 1958). By 1928, however, two years after Gemmill's untimely death, it should be noted that Kerr was heaping nothing but praise on his erstwhile Glasgow rival's talents and accomplishments (Kerr, 1928, p. 350). In that connexion, and apropos the aforementioned rivalry considerations, it is worth mentioning that, in 1918, the University of Glasgow had conferred on Gemmill the signal honour of University Research Fellow, a title only held previously by Lord Kelvin (Gemmill, 1928, Preface). Additionally, in a letter to Richard Elmhirst held in the archives of the Scottish Association for Marine Science (Dunstaffnage, Oban), dated 20 February 1932, commenting on an unpublished manuscript entitled "A Cumbrae Record" submitted to him for comment by Elmhirst, Graham Kerr, however, suggested inserting into a sentence about Gemmill the following phrase: "who more than anyone else deserves to be called the creator of the Millport laboratory". There was thus a generosity of spirit on Kerr's part towards Gemmill's memory, whatever else might have passed between them.

As pertinently to our present focus, Kerr's unpublished memoir (p. 88) reveals why the Bute Marine Station enterprise stalled.

"The upheaval at Millport involved severe interference with the practical facilities available to the University Department of Zoology but this was mitigated by the sympathy and generosity of the Marquess of Bute who purchased the aquarium building at Rothesay, fitted it out as a laboratory, and placed a properly qualified biologist in charge [Renouf]. During the next few years the Rothesay laboratory under its successive Heads provided the centre at which Glasgow students gained practical experience of Marine Zoology. It was so successful that Lord Bute planned to erect and endow a fine new Marine Station within his own grounds at Mount Stewart [sic], but this plan was brought to an abrupt end by the shock he received as a witness before the Sankey Commission which seemed to imperil his whole financial future. While reluctantly abandoning his plans of a Mount Stewart marine station, Lord Bute agreed to my suggested foundation of a "Bute Marine Biological Committee", with himself as Chairman and a purely ex officio membership, to receive and hold sums of money for the furtherance of marine biological study in the Clyde region. Safeguarded by its constitution against interference by personal animosities [!!], this new committee might be trusted to wield a good influence for the future. In point of fact it did so until at long last the Millport Station was brought back into harmony with the aim of its founder."^{12, 13}

Graham Kerr held Sir John Murray – a man nearly thirty years his senior – in the highest esteem; quite rightly so for he was, after all, the most prominent figure in marine science of his day (Adams, 1996). But even if Kerr's loyalty and esteem verged on hero worship (see Kerr, 1928, p. 348), was he right to insinuate Murray as being the founder of the Marine Station (*cf.* his own earlier words above)? Surely David Robertson, "the Cumbrae naturalist", was as much responsible for choosing Millport and influencing its ethos (Marshall, 1987, p.3)? Graham Kerr's own distinguished researches focused on fish developmental biology and evolution. He even wrote a textbook entitled *Evolution* (Kerr, 1926), yet he seemed determined to set the remit of the Millport Marine Station in aspic of his own selection. In fact, even reconstituted in

its post-1922, ‘Kerr-approved’ format the Marine Station at Millport remained more than just a research facility (Moore, 2006).

Times change; ineluctably, institutions evolve. So the mix of professional and amateur, research and education has had a long and – as we have seen – convulsive history at Millport (“much hindered from time to time by disturbing factors” as Kerr, 1949 put it) – and being ‘all things to all men’ remains, to this day, not without its frissons.

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It is with the greatest respect for both that I dedicate this paper to the memory of two erudite ladies: the late Marshall sisters, Sheina and Dorothy, who showed me, my wife and our, then, young family innumerable kindnesses during our early years at Millport.

NOTES

- ¹ Browne was a near neighbour of Norman at Berkhamsted (Hertfordshire) and the two were close friends (Allen, 1938).
- ² Three decades before that even, Parker (1879) had extolled the virtues of Scottish field teaching in marine biology when describing the activity of the first Scottish marine zoological station (under the auspices of the University of Aberdeen at Cowie, near Stonehaven). That Station at Cowie, although another short-lived facility, significantly pre-dated Granton / Millport’s previously misplaced claim to precedence in the field (Moore, 2002).
- ³ After the Great Exhibition in London in 1851, and as a consequence of the Victorian “cult of the seashore” (Edwards, 1986, p. 112), public Aquaria became much in vogue. In 1876, the Royal Aquarium opened on a (2.5 acre) site in London, overlooking Westminster Abbey and the Houses of Parliament but one of the disquieting and embarrassing features at the time of the opening was the absence of fish in its largest tanks. It soon became apparent, however, that the Aquarium management, even in the capital, was losing interest in marine life and eventually swimmers took over the larger

tanks (Munro, 1971). That same year, the Royal Aquarium at Rothesay (Rothesay; Gaelic *Reogh-siudh* “King’s seat”) acquired its Royal title on the occasion of a visit in October 1876 by H. R. H. Prince Leopold (1853-1884), later Duke of Albany (the short-lived haemophiliac fourth son of H. M. Queen Victoria) (Anonymous, not dated [1878?], p. 86). Containing *inter alia* a large seal-house at the back of the building and a camera obscura on top (Groome, 1882-1885; Anonymous, not dated [1878?], p. 86), it was built on the site of a former battery at the East of the town. It was advertised as containing “MONSTER LIVING WONDERS of the mighty deep, exhibited in SPACIOUS GLASS TANKS holding many thousand gallons of sea water, and kept in constant circulation by powerful steam machinery. A HERD OF LIVE SEALS from the Arctic Regions sporting in their capacious pond. Admission - 6d (children - 3d).” (Hughes, pers. comm.). Ernest E. Barker was the original curator and manager. Latterly it became a swimming pool and music hall (Blair, 1976; Edwards, 1986, p. 113; Anonymous [Adams], 1989) and after that it was converted into offices, flats and a warehouse. Alexander Bannatyne Stewart (1836-1880), of Ascog Hall (Bute), had also taken a “practical interest” in the erection of the Aquarium and had become its shareholders’ guarantor (a steam-yacht enthusiast, he was commodore of the Royal Aquatic Club and, in public office at the time, was Convenor of the county) (Anonymous, not dated [1878?], p. 86; MacLehose, 1886, no. 86). The large tanks at the Rothesay Aquarium had, at one time, also been a rearing facility used by the Fishery Board for Scotland (Fulton, 1889); e.g. for studies on hatching lobsters (Ewart and Fulton, 1888, p. 196), the development of Ballantrae herring spawn and the spawning of cod (see Adams, 1996). In another interlinkage, Dr John Murray (as he then was) had once been associated with the Fishery Board of Scotland, upon which he had served gratis as Scientific Expert, resigning from it in 1898 (Thompson, 1958, p. 134).

⁴ The strikingly handsome full-bearded James Chumley (1861?-1948) features (seated in the middle), as a young man, in a group-photograph reproduced in Speak (2003, p. 26; see also the signed image, no. 49414, in the Natural History Museum, London, Challenger collection). Note: a pensive Thomas Wemyss Fulton (1855-1929), who became the first Scientific Superintendent of the Fishery Board for Scotland (a post now, in effect, represented by the Chief Executive of Fisheries Research Services) (see Thompson, 1929), is seated on Chumley’s left – all sitters’ signatures barely legible as reproduced – in the same photograph in Speak’s book. Chumley had previously been “Murray’s long-time secretary and assistant” (Kerr, 1915) in the Challenger Office in Edinburgh. It seems as if Chumley translated himself to Glasgow after the sudden death of his initial mentor. James was the son of John Chumley, a shoemaker (deceased) and his wife Mary (afterwards Hicks). His Leeds stepfather, William Hicks, was a printer and compositor. As a 57 year-old widower, James had married Margaret Forrest Gow, a 42 year-old divorcee, in Glasgow on Christmas Eve 1918 (from an address at 46 Edgehill Road, Broomhill, Glasgow). He died of chronic bronchitis, aged 87 years, at 246 Milton Road East, Joppa, Edinburgh.

⁵ Marshall (1987) gives this date as 1905.

⁶ The fate of the Museum collections might well have discomfited John Marshall. After his appointment to the Chair of Zoology in The National University at Cork (1922), Louis Percy Watt Renouf’s (1887-1968) interest in establishing a Marine Station later re-asserted itself in his setting-up a laboratory facility at Lough Hyne (then L. Ine) in Co. Cork (now the Renouf laboratory); an area that he had begun visiting in 1923. Renouf never published much in the way of research himself (Ebling, 1969; Norton, 2005), a characteristic which runs somewhat counter to the tenor of his proclamations in his letter to Bower (above). His small paper on nudibranchs appears to be the only research work

he published on Clyde marine organisms (Renouf, 1915), though in his curator's role he spread his net to hawk moths (Renouf and Berry, 1918). Another brief note (Renouf and Rees, 1932) can though, justifiably, be regarded as the first field-experimental approach to an investigation of biotic factors on rocky shores. Ebling (1969) stated that "he dedicated much of his scientific life to two great tasks: the reconciliation of religion and biological science and his work at Lough Ine in West Cork. He would have wished his devotion to the Catholic Church to be placed first". He was certainly well connected there. His grandfather was the (Guernsey-born) latterly H. M. Inspector of Schools and ultimately celebrated British Museum Egyptologist Sir Peter Le Page Renouf (1822-1897) who, while studying theology at Oxford, had become an Anglican convert to Catholicism and Cardinal Newman's amanuensis (and a man whom Lord Acton had described as "the most learned Englishman I know"). Although Renouf is very much a Channel Isles surname, Louis grew up in Birmingham. Louis Renouf's published output was mainly of textbooks (co-authored with Joseph Whiteley Stork), although he was interested too in zoological themes in philately. He was elected a Fellow of the Royal Society of Edinburgh in 1936.

- ⁷ Presumably such a position would have constituted a reserved occupation in wartime (war with Germany had been declared in August 1914). Intriguingly, Renouf had been educated initially at the German Benedictine Monastery at Erdington. His grandmother (Ludovica von Brentano) was from a prominent German literary family. Louis might well have experienced some discomfiture about his background and allegiances at the time.
- ⁸ James Chumley was Secretary to this committee. The Buteshire Natural History Society superseded the Buteshire Archaeological and Physical Society (1872-1904).
- ⁹ Dr J. N. Marshall expended much spare-time energy on the Buteshire Natural History Society and the Museum collections in Rothesay (Anonymous, 1945). He would surely have been unhappy at what eventually befell the Museum collection by the end of Renouf's curatorship. It is tantalising to note that Sheina Marshall's appointment to S.M.B.A at Millport in 1922 coincided with Renouf's departure from Bute to Cork, and to wonder what (if any) correlation there may have been between these two events? Interestingly, both were listed as Fellows of the Royal Physical Society of Edinburgh in its published list of Fellows at 1 October 1923 (one affiliation regarding Renouf not mentioned by Ebling, 1969) and they must have been acquainted. Interestingly too, in passing, is the fact that John Graham Kerr had been its President in 1909, and that listed among its Fellows for that year was S. Pace (elected 1907, under his London address). It seems highly likely that Graham Kerr would have facilitated his friend Pace's election after his ejection from the Millport Directorship (Moore, 2006). Pace moved south, attempting to establish a research-orientated Bureau of British marine biology, from his new base in London, along the lines that Kerr was proselytising in Bute; an attempt that also ended in failure (Moore and Carpine-Lancré, 2006).
- ¹⁰ The Most Honourable John Crichton-Stuart, 4th Marquess of Bute (1881-1947) was a man who shared his father's passion for the arts and architecture. His interest was in the conservation of the built environment and he was a great supporter of the National Trust for Scotland.
- ¹¹ It should be remembered, though, that Murray's interest in founding a Marine Station at Granton differed to some extent from the aims of the biologists. He saw it as an opportunity to carry out oceanographic research, if only on a small scale (Deacon, 1996, p. 125).
- ¹² It is a pity that the impression is given by Kerr in this unpublished memoir that the

Marquess of Bute bought the aquarium building specifically to mitigate Kerr's problems, as he saw them, with Millport (Adams, pers. comm.). At the end of its usefulness Lord Bute's Commissioners issued a Charter of Novodamus in favour of Rothesay Town Council of the site and buildings of the Rothesay Aquarium in 1922 (BR/27; Argyll and Bute Council Archives, Lochgilphead).

- ¹³ The Royal Commission on the coal industry was set up during Lloyd George's administration (1919). Lord Bute had extensive coal-mining assets in South Wales which were rationalised considerably after this period. The Commissioner, Sir John (later Viscount) Sankey, was a High Court Judge. During the first stage of the Enquiry "The coal owners were thrown off balance by the pugnacity as well as effectiveness with which the union men mounted their onslaught on private ownership and its presumed social consequences" (Supple, 1987, p.126).

REFERENCES

(† published posthumously; ‡ unseen)

- ADAMS, J.A., 1996. The Scottish contribution to marine and fisheries research with particular reference to fisheries research during the period 1882-1939, pp. 97-116, in *British marine science and meteorology: the history of their development and application to marine fishing problems*. Buckland Occasional Papers, No. 2. Lowestoft: Buckland Foundation, 168pp.
- ALLEN, E.J., 1938. Edward Thomas Browne 1866-1937. *Journal of the Marine Biological Association of the United Kingdom*, **22**: 405-410.
- ANONYMOUS, not dated [1878?]. *Tourist's guide to Rothesay and the Island of Bute: containing a popular account of the history, climate, &c, of the island*. Sixth edition. Rothesay: W.C. Harvey, 112pp.
- ANONYMOUS, 1911. Marine Biological Association – its work and policy – Discussion at Annual Meeting. *Glasgow Herald*, 4 March, p. 10.
- ANONYMOUS, 1945. Dr J.N. Marshall. *Transactions of the Buteshire Natural History Society*, **13**: 3-5.
- ANONYMOUS [J.A. ADAMS], 1989. Appendix. History of the Marine Laboratory. *Marine Laboratory Aberdeen, Annual Review 1988-1989*, pp. 81-83.
- ‡BARKER, E.E., 1877. *Rothesay Royal Aquarium and its contents*. Rothesay.
- BLAIR, N., 1976. Museum jubilee, 1926-1976. *Transactions of the Buteshire Natural History Society*, **20**: 5-7.
- CARLYLE, T., 1800. *The French Revolution: a history*. London: Chapman & Hall, 402pp.
- DEACON, M., 1996. Some 19th century research on weather and fisheries: the work of the Scottish Meteorological Society, pp. 119-132, in *British marine science and meteorology: the history of their development and application to marine fishing problems*. Buckland Occasional Papers, No. 2. Lowestoft: Buckland Foundation, 168pp.
- EBLING, F.J.G., 1969. Louis Percy Renouf, B.A., Dip. Agric. (Cantab.), D.Sc. (Nat. Univ. Ireland), M.R.I.A. *Year Book of the Royal Society of Edinburgh, 1967-1968*, pp. 54-55.
- EDWARDS, B., 1986. *Scottish seaside towns*. London: British Broadcasting Corporation, 128pp.
- EWART, J.C. and FULTON, T.W., 1888. The Scottish lobster fishery. *Sixth Annual Report of the Fishery Board for Scotland, being for the year 1887*, pp.189-203.

- EYRE-TODD, G., 1928. Excursion to Firth of Clyde: III. – Millport (for Marine Biological Station). In wallet of pamphlets entitled *Handbooks for excursions. British Association for the Advancement of Science, Glasgow, 1928.* single page.
- FULTON, T.W., 1889. The scientific work of the Fishery Board for Scotland. *Journal of the Marine Biological Association of the United Kingdom*, **1** (N. S.): 75-91.
- †GEMMILL, J.F., 1928. *Natural history in the poetry of Robert Burns.* (edited, and with Preface by, his brother J. L. Gemmill). Glasgow: N. Adshead & Sons [printed privately], 47pp.
- GROOME, F.H. (editor), 1882-1885. *Ordnance gazetteer of Scotland: a survey of Scottish topography; statistical, biographical, and historical.* Edinburgh: T.C. Jack, 6 volumes.
- HINDLE, E., 1958. John Graham Kerr 1869-1957. *Biographical memoirs of the Royal Society of London*, **4**: 155-166.
- HOYLE, W.E., 1889. On the deep-water fauna of the Clyde Sea-area. *Journal of the Linnean Society (Zoology)*, **20**: 442-472.
- KERR, [J.] G., 1911a. Marine biology and the Firth of Clyde. [Provenance unknown, *vide intra*, Glasgow University's copy ink inscribed "February 1911" is in a hand not the author's] 8 pp.
- KERR, J.G., 1911b. Note on the pelagic fauna observed off the west coast of Arran during the months of August and September, 1905. *Transactions and Proceedings of the Natural History Society of Glasgow* (N.S.), **8**: 1-5. [paper read, and separates issued though, in 1906]
- KERR, J.G., 1912. Loch Sween. *Glasgow Naturalist*, **4**: 33-48.
- KERR, J.G., 1914. Plankton. *Transactions of the Buteshire Natural History Society*, **7**: 53-61.
- KERR, J.G., 1915. Obituary notice. Sir John Murray, K.C.B., LL.D., Ph.D., D.Sc., F.R.S., etc. *Proceedings of the Royal Society of Edinburgh*, **35**: 305-317.
- KERR, J.G., 1926. *Evolution.* London: Macmillan, 278pp.
- KERR, J.G., 1928. The Marine Biological Station at Millport, pp. 347-357, in J. Graham Kerr (editor) *Glasgow. Sketches by various authors.* British Association for the Advancement of Science, General handbook, Glasgow meeting 1928. Glasgow: Robert MacLehose and Company Ltd. 357pp.
- KERR, J.G., 1949. The Scottish Marine Biological Association. *Notes and Records of the Royal Society of London*, **7**: 81-96.
- KERR, J.G., undated [probably between 1950-57]. *A gallery of memories.* Unpublished MS. Glasgow: Zoology Museum, University of Glasgow, 188pp.
- KOFOID, C.A., 1910. The Biological Stations of Europe. *Bulletin of the United States Bureau of Education*, No. **4**, 360pp.
- MACLEHOSE, J. (editor), 1886. *Memoirs and portraits of one hundred Glasgow men who have died during the last thirty years, and in their lives did much to make the city what it now is.* Glasgow: James MacLehose and Sons, 2 volumes.
- †MARSHALL, S.M., 1987. An account of the Marine Station at Millport (edited by J. A. Allen). *University Marine Biological Station Millport, Occasional Publication No. 4*, 133pp.
- M.B.A.W.S., 1897. *Constitution of the Millport Marine Biological Station.* Glasgow: N. Adshead & Son, 8pp.

- MOORE, P.G., 2002. Capt. Alexander Turbyne and the origins of the Marine Station at Millport. *The Linnean*, **18**: 25-31.
- MOORE, P.G., 2005. Victorian natural scientists overlooking the Firth of Clyde: a rare, early group-photograph decoded. *Archives of Natural History*, **32**: 10-25.
- MOORE, P.G., 2006. Stephan Ion Pace (1872-1941): a 'little local difficulty' in the history of the Marine Station at Millport. *The Linnean*, **22**: 17-36.
- MOORE, P.G., 2007. Marine faunistics in the Clyde Sea Area: fieldworkers in cultural context prior to 1850. *Millport: University Marine Biological Station Millport, Occasional Publication*, No. **9**, 57pp.
- MOORE, P.G., 2008. The Marine Station at Millport: the "troubled years" between 1897-1907 and their continuing resonance. *The Linnean*, **24**: 21-36.
- MOORE, P.G. and CARPINE-LANCRE, J., 2006. The still-born concept of a Bureau of British marine biology. *The Linnean*, **22**: 26-33.
- MOORE, P.G. and GIBSON, J.A., 2007. The Marine Station at Millport: laying the permanent foundations (1896). *The Linnean*, **23**: 31-49.
- MOORE, P.G. and HANCOCK, E.G., 2004. Alexander Patience (1865-1954): Glasgow's little-known Edwardian carcinologist. *Glasgow Naturalist*, **24**: 119-129.
- MUNRO, J.M., 1971. *The Royal Aquarium: failure of a Victorian compromise*. Beirut: American University of Beirut. 71pp.
- NORTON, T. [A.], 2005. *Under water to get out of the rain*. London: Century, 385pp.
- PARKER, T. J., 1879. The Scottish Zoological Station. *Nature, London*, **21**: 159-161.
- RENOUF, L.P.W., 1915. Note on the occurrence of two generations of the nudibranchiate Mollusca *Lamellidoris bilamellata* (Linn.) and of the *Archidoris tuberculata* (Cuvier) in the course of a year. *Proceedings of the Royal Physical Society of Edinburgh*, **20**: 12-15.
- RENOUF, L.P.W., 1931. Preliminary work of a new Biological Station (Lough Ine, Co. Cork, I.F.S.). *Journal of Ecology*, **19**: 410-438.
- RENOUF, L.P.W. and BERRY, J., 1918. *Convolvulus hawk-moths in Bute and Perthshire*. *Scottish Naturalist*, **1918**, 48.
- RENOUF, L.P.W. and REES, T. K., 1932. A note on experiments concerned with biotic factors on the sea-shore. *Annals of botany*, **46**: 1061-1062.
- SPEAK, P., 2003. *William Speirs Bruce: polar explorer and Scottish nationalist*. Edinburgh: National Museums of Scotland, 144pp.
- SUPPLE, B., 1987. *The history of the British coal industry, Vol. 4, 1913-1946: the political economy of decline*. Oxford: Clarendon Press, 733pp.
- THOMPSON, D'A.W., 1929. Dr T. Wemyss Fulton. *Nature, London*, **124**: 846-847.
- THOMPSON, R.D'A., 1958. *D'Arcy Wentworth Thompson: the scholar-naturalist, 1860-1948*. London: Oxford University Press, 244pp.
- VICKERMAN, K., 1995. Agnes Eleanora Miller MA, PhD (Glas). *Year Book, Royal Society of Edinburgh*. pp. 120-122.
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Whose Genes?

One question to which no answer was received at a Society meeting on the human genome project a couple of years ago was just *whose* DNA is being sequenced. Surely we are all different? At least some differences between us all are due to single nucleotide polymorphisms – SN(i)Ps – where just one base has been replaced in a stretch of DNA by any of the three others. A significant programme, funded by the Medical Research Council and the Wellcome Trust, is under way to detect SNPs in 500 000 people in the UK to see if any correlation exists between particular SNPs and disease, lifestyle and environment, primarily of those of an ageing population (40-70). There clearly is little point in doing this if the information gained is not to be used. Any analyses of SNPs in relation to disease are going to be of great interest to, e.g. pharmaceutical companies seeking to design drugs or modify genes to mitigate their effects, and to insurance companies seeking more accurately to estimate the risks of mortality or critical illness.

Late onset diabetes, heart disease and cancer are all to some extent inherited and are, indeed, major causes of premature death in man. Supposing that you are the possessor of an SNP which correlates with, say, late onset diabetes, what then? Call round to the doctor and allow him to take a bone marrow sample, from which stem cells (the precursors, we believe, of all our differentiated tissues) can be isolated? Allow the DNA in them to be changed back to the most frequently encountered base at the position of the SNP? Re-inject the bone marrow and hey presto, diabetes vanished!

Well, er, no, not exactly. Quite apart from regulatory authorities there to defend the public interest as they see it, detecting the mutation in the first place, the technology of gene-swapping, and getting the modified genes to function correctly afterwards, is the added complication that late-onset diabetes may be caused by any of half-a-dozen metabolic failures (mainly in the liver, not the pancreas) and these will almost certainly turn out to be multi-factorial – due to a number of SNPs and other mutations occurring together. Incidentally, how will the MRC-Wellcome research distinguish between somatic and inherited mutation? People will want to know whether a disadvantageous SNP will be passed on.

Diseases caused by single mutations do occur. They are recognised in diseases such as sickle cell anaemia, where there is a single base change from adenine to thymine in the gene for one of the two paired subunits of haemoglobin. The result – an amino acid change from glutamic acid to valine – leads to haemoglobin aggregation within the red blood cell and its partial collapse. By-and-large we have come to associate such diseases with early life under the title of inborn errors of metabolism, about 1000 of which have been described. Many are life threatening and untreatable and whilst each case may be the result of a single SNP, it is important to notice, not necessarily an identical SNP for the same disease. Cystic fibrosis is caused by just one of many different SNPs.

This view may change as a result of the MRC-Wellcome research. Some, late onset diseases are also, we believe, the result of relative limited genetic changes. The most notorious is Huntington's disease (HD), caused by abnormalities in a protein of unknown function called huntingtin. The unfortunate possessors of abnormal huntingtin

become mentally deranged in the 5th decade of their lives and die. Huntington's disease is inherited dominantly, so children of a victim have a 50% chance of becoming afflicted themselves. It is now possible to carry out, with the agreement of the persons concerned, genetic testing to establish luckless future victims and the results of such testing can be made available to insurance companies for the purposes of offering cover and calculating premiums. So far this is the only disease for which the Government's Genetics and Insurance Advisory Committee (GAIC) has made such a recommendation. It must also be said that HD is a near-unique case. It is the result of the expansion of an unstable DNA repeat, so is not technically an SNP, although it is the result of a single defective gene.

In order to gain some estimate of the risk of, say, mortality, insurance companies request elements of family history, although that may not be much use if close relatives have died in an accident. Suppose that a person finds out in the course of some routine testing (or in the course of the MRC-Wellcome research) that he/she is in possession of a gene which causes a crippling disease in later life. Should it be reported to an insurance company prior to taking out a critical illness policy covering the disease? Would, say, a long-term care policy be taken out at all without the genetic information? These are deep waters, muddied by concerns about the confidentiality of genetic information. Would doctors divulge genetic information to insurance companies? (What do doctors divulge now, since it is usually necessary to agree to an insurance company approaching your GP before obtaining a policy?). Should the information be confidential anyway? To whom? How secure would such information be? Could the information fall into the public domain through hacking, or through busyboding intermediaries akin to present credit reference agencies? In some places, confidentiality is not the name of the game – testing for carriers of thalassaemia has the blessing of churches and others in a number of Southern European countries to discourage the birth of children with much reduced life expectancy. And those with achondroplasia (dwarfism), which is associated with joint and other malfunctions, are hardly able to hide it.

At a recent meeting of the UK Forum for Genetics and Insurance, these issues were addressed in the absence, it has to be said, of much hard evidence of just what to expect. The insurance industry had virtually no claims experience in the area, the scientists and medical practitioners little by way of detailed knowledge of the genetic basis of late-onset diseases. One case was raised at the meeting which encapsulates some of the dilemmas. For reasons which were not entirely clear, a lady had discovered that she was a carrier of cystic fibrosis (CF). Since the carrier level is of the order of 1 in 25 in Caucasian populations and CF leads to much reduced life expectancy, this might be seen as something useful to know. Some time afterwards, the lady complained that a link had been established between CF carriers, pancreatitis and pancreatic carcinoma. The link is marginal; however, the lady felt that she might now have difficulty in getting life assurance and she would rather not have known. In fact, as was pointed out by a distinguished geneticist in the audience, the CF carrier frequency reaching such a high level in the Caucasian population implies significant (unknown) survival advantages in CF carriers, to compensate for the loss of 1% of their offspring overall. In terms of mortality, CF carriers are advantaged, not disadvantaged, by their condition.

Will genetic testing, currently very expensive (\$2500 a test was quoted), become routine? More to the point, will genetic modification of the human genome become routine? If so, there is some prospect that we might get this particularly convoluted can of worms back into the tin.

JOHN MARSDEN

References

- HAI YAN, KINZLER K.W., VOGELSTEIN B. 2000. Genetic Testing – Present and Future. *Science* 289: 1890-1892.
- KLOTZKO A.J. 2000. SNPS of Disease. *Scientific American June 2000*: 18.

Book Review

British and Irish Butterflies: The complete Identification, Field and Site Guide to the Species, Subspecies and Forms. By Adrian M. Riley, 352pp., 2007. Brambleby Books, paperback, ISBN -13: 978 095539280 1. Price £35.00, £44.50, US\$ 68.77.

My first thought on being asked to review this book was ‘do we need another book on the butterflies of the British Isles?’ There are, after all, several worthy competitors currently in print. However, even a cursory glance at the contents of Riley’s book reveals that this one is different, in terms both of what it includes and omits.

The book covers habitat types, a description of all species and varieties, and includes five useful appendices. It is aimed squarely at the amateur; for example, Latin names of butterflies and their host plants, and technical terms are eschewed. The description of each butterfly includes its distribution, flight period, food plants, habitats, identification, variation, field tips and prime sites. There are no distribution maps or descriptions of early stages (egg, larva and pupa). Even where essential for identification (Irish and Real’s Wood Whites), male genitalia are not figured. Furthermore, apart from migration, the book provides only scanty details of butterflies’ ecology, life histories or behaviour.

Adult butterflies of all species and subspecies, the latter boosting the total to over 100 taxa, are illustrated by diagnostic colour photographs. Based on species I know well, I feel the number of valid subspecies is substantially inflated, though the uniquely comprehensive coverage of what Darwin would have called ‘varieties’ at least indicates that evolution in contemporary Britain is alive and well. Most of the illustrations, from ‘nature’ rather than from set specimens, are of superb quality, which assists field identification, but has the disadvantage that some wing pattern is obscured. This drawback is exacerbated where, as in several of the Hairstreaks and the Wood Whites, only the underside is illustrated. However, to check the reliability of the book for identifying adult butterflies, I tested its efficiency for discriminating all potentially troublesome species pairs; in every case I found the author’s descriptions and illustrations passed the test admirably.

Some eyebrows might be raised by Riley’s policy of giving full map references to sites where even endangered species can be seen on the wing. Armed with this book it has never been easier to locate British butterflies. However, whereas some say that

the digital camera has now largely replaced the net, and that the market for set specimens has vanished, I have some reservations. Avid collectors who take 'series' of rare and local butterflies for purposes other than 'scientific' still exist. Butterfly collecting (as of fossils, rare plants and bird eggs) remains a live pursuit throughout Europe and aficionados may welcome Riley's precise guidance to the whereabouts of rarities.

Despite its (deliberate) omissions, this book is well written, beautifully produced and good value for money. Although it will not fit into any but the largest pocket, it will prove an invaluable aid for those who wish to locate, observe and identify adult butterflies in the field in Britain and Ireland.

DAVID A.S. SMITH FLS,
Clyro, Powys



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Obituary

John Marsden Fellow *Honoris causa*

John Christopher Marsden was born on 4th March 1937, attending Bristol Grammar School before doing his national service from 1955 - 57 in H.M. Forces, Royal Signals. He went up to Keble College, Oxford in 1957 as a Holroyd Scholar, graduating with a 1st Class Honours in Chemistry in 1961. He continued his academic career there, completing his D.Phil in Biological Sciences in 1964. This was followed by a year at Marburg University Germany, on a Theodor Heuss Travelling Fellowship from which he returned to take up a post as Lecturer in Biology, at the University of York which he held until 1971. A short break as a Royal Society Research Fellow at the Hebrew University of Jerusalem was followed by his return to a post as Senior Research Fellow at the Institute of Child Health, University of London. From this he moved in 1972 to become Reader in Cell Physiology, City of London Polytechnic (now London Metropolitan University). A transfer to the Polytechnic of Central London as Head of Life Sciences there in 1974 saw him move into academic administration, being Dean of the Faculty of Engineering and Science from 1986-88. During his time there he oversaw the diversification of the biological sciences into health studies, developing courses for a range of health service professionals, including a King's Fund-sponsored study of training for the remedial profession as well as serving on a number of statutory bodies concerned with the training of health care professionals.

Retiring from the Polytechnic of Central London in August 1988, in view of the extensive reorganisation of higher education in and around London, the coming changes in the status of polytechnics and in the conditions of service of their staff, he was appointed Executive Secretary of the Linnean Society of London in April 1989, taking up the post on a full time basis from July that year. This provided the Society with its first professional biologist staff member. The Society is custodian of priceless paintings and artefacts including the original books, specimens and collections of Carl Linnaeus, the famous 18th century Swedish naturalist whose Tercentenary was celebrated in 2007. It also has one of the best specialist natural history libraries in the world.

Dr Marsden brought professional insight into the Society's academic publication programme, and served the Linnean excellently, propelling it forward to meet the diverse scientific demands of the 21st century, and, despite his uncanny ability to send electronic devices into a frenzy, managing to implement technological advances in the Society's premises as well as having a "hands-on" approach to more practical in-house problems, treating his small staff with great kindness and consideration and prepared to turn a hand to anything! The warmth of his personality was evident in the way he welcomed visitors to the Linnean Society and helped foster the careers of students and others seeking guidance on what future path to take. John was a bon viveur, hospitable and generous, happy to invite visitors to a discussion over a couple of beers (or cider, his personal choice). His service also coincided with the dispute between the Learned Societies and the Government over the tenancy of Burlington House and he only retired in 2004 once the major issues on that had been resolved. Much of his work was 'out of hours', networking in a voluntary capacity. Without this selfless input the Society would not have prospered as well as it did and would not

John Marsden in the Linnean Society library during the 2006 Conversazione (Photo David Pescod).



have been able to deliver the electronic access to the Linnean Collections, now becoming available online. His contribution to the Linnean Society was recognised in his election as a Fellow *Honoris causa* in 2005.

As a chartered chemist and biologist, John was Honorary Secretary of the Institute of Biology, the biologists' professional body from 1985-89, being closely involved in the broadening of the Institute's activities for its 15,000 members under three presidents, including extension of its publishing activities, the formulation of a development plan and the setting up of an active committee on European affairs. Aside from this, Dr Marsden has contributed more than 30 years of (often voluntary and unpaid) service, at home and abroad, to the biological profession and to professions supplementary to medicine, taking part in consultancies in Saudi Arabia (1977), Iraq (1978) and Nigeria (1983). He served as Chairman of the charity Population Concern from 1980-85 and was a Freeman of the Guild of Educators (an embryonic Livery Company for the education profession). He is the author of over twenty publications, mostly related to work on cystic fibrosis, and a book, *Enzymes and Equilibria* published in 1974. The award of an MBE in 2006 was a tribute to his services to biology in the broadest sense.

He is survived by Hazel, whose own professional publishing knowledge was freely contributed to help John and whose support and courage over the past few months was evident when they both attended the last Anniversary Meeting of the Society in May. Their sons Giles and Neil also contributed their own specialist help when needed and the lives of his much loved grand-children also featured in his continuing links with the Society after retirement.

GINA DOUGLAS

The Linnean Society Programme

9 th Oct.*	Thurs 6pm	PHENOLOGY AND CLIMATE CHANGE Nigel Hepper FLS	Evening meeting
11 th Oct.	Sat.	SESQUICENTENARY CONFERENCE OF THE LONDON NATURAL HISTORY SOCIETY	Day meeting
16 th Oct.	Thurs.	DARWIN AND DOMESTICATION † Andrew Sheppy FLS	Day meeting
22 nd Oct.	Wed.	THE LONGER THE BETTER: A CELEBRATION OF LONG- TERM DATA SETS in commemoration of the 300th anniversary of the birth of Robert Marsham, FRS † Humphrey Crick and Tim Sparks	Day meeting
28 th Oct.	Tues.	Palynology Specialist Group † Carol Furness FLS	Day meeting
29 th Oct.	Wed.	Palaeobotany Specialist Group † Peta Hayes	Day meeting
30 th Oct.	Thurs. 6pm	LAUNCH of 'The History of Natural History: An annotated bibliography' by Gavin Bridson Robert Anderson FLS, Hugh Torrens (NB Tea lecture now 22 Jan.)	Evening meeting and Book Sale
6 th Nov.	Thurs.	THE GLOBAL AMPHIBIAN EXTINCTION CRISIS † Gordon McGregor Reid PPLS and Lesley Dickie	Day meeting
13 th Nov.	Thurs. 6pm	FLY ON THE WALL: THE ROLE OF INSECTS IN CRIMINAL INVESTIGATION Martin Hall	Evening meeting
14 th Nov.	Fri.	British Society of Parasitology Autumn Symposium: The interactions and effects of vertical and horizontal transmission cycles in protozoan parasites † Geoff Hide FLS and Sandy Trees	Day Meeting
20 th Nov.	Thurs.	Systematics Debate – speakers TBA	Afternoon and Evening
27 th Nov.	Thurs. 10.0am	THE ROLE OF RESTORATION ECOLOGY IN MITIGATION OF CLIMATE CHANGE AND LOSS OF BIODIVERSITY † Renton Righelato FLS	Day meeting
4 th Dec.	Thurs. 6pm	DARWIN AND HUXLEY'S DISAGREEMENT OVER TAXONOMY'S CONNECTION TO EVOLUTION Polly Winsor FLS	Evening meeting

† organiser * Election of new Fellows Unless stated otherwise, all meetings are held in the Society's Rooms. Evening meetings start at 6 pm (tea available from 5.30). For further details please contact the Society office or consult the website – address inside the front cover.

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