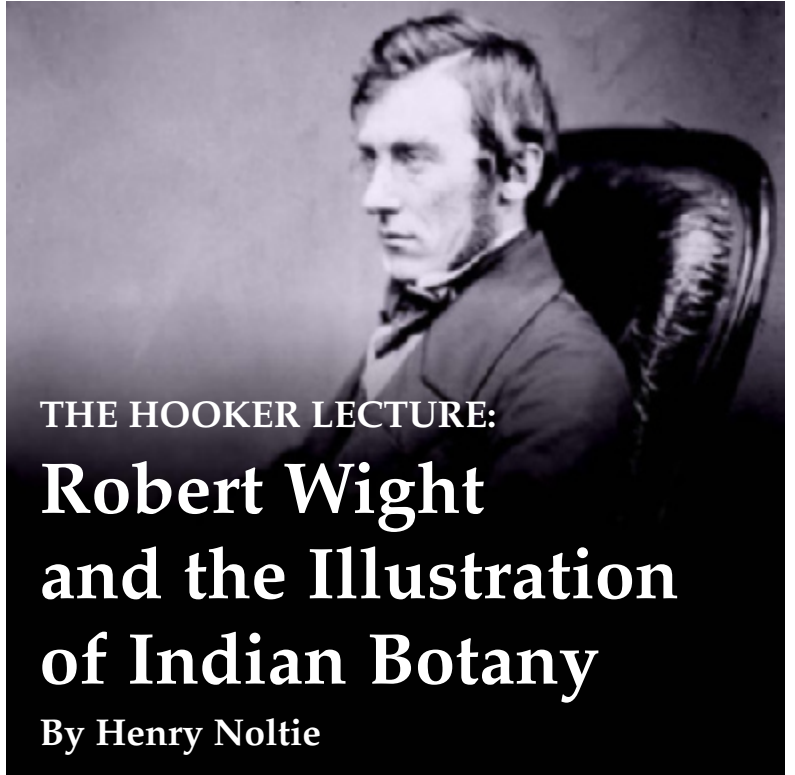




PATRON: HER MAJESTY THE QUEEN



THE HOOKER LECTURE:

Robert Wight and the Illustration of Indian Botany

By Henry Noltie



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A living forum for biology

The portrait of Joseph Hooker on the cover is by George Henry Polyblank, c. 1855, for the Literary and Scientific Portrait Club. Wight's portrait for the same Club, sitting in the same chair, is reproduced on page 20.

**Robert Wight
and the Illustration
of Indian Botany**

The Hooker Lecture
Read at the Linnean Society of London
8th December 2005
by Henry Noltie

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Robert Wight aged 36. Lithograph by Allan & Ferguson of Glasgow after a crayon drawing by Daniel Macnee, from *Journal of Botany* volume 3 (1840).

Introduction

It is rather a daunting thing to be asked to lecture at the Linnean Society (... lurking shades of Darwin and Wallace, 1858 and all that ...), but it is a privilege for which I feel deeply honoured – not least to be asked to give the Sir Joseph Hooker Memorial Lecture. However, on arriving here and looking around these walls I feel among (admittedly mute) friends, as no fewer than nine of the portraits in this room are of individuals known personally to the subject of tonight's lecture.

Colonel Gage in his history of the Society gave the origin of the event and its shaky start, with a bequest of £100 by Hooker himself when he died in 1911. Hooker's friend Henry John Elwes, who had followed in his footsteps in Sikkim, gave what he believed to be the first Hooker Lecture in 1913 but there was evidently some doubt as to whether his effort had cut the mustard, and it was later deemed not to have been the first one. Sharing both of Elwes's forenames, his interests in monocots, and similar travels in Sikkim (though without a gun), I cite this as a precedent and ask you to reserve judgement until the end, and only if my effort has been found acceptable that it be deemed to have been a 'real' Hooker Lecture. By official reckoning the first Hooker Lecture was given in 1917 by Frederick Orpen Bower, professor of botany at Glasgow, on 'The Natural Classification of Plants'. My subject this evening has links (through Glasgow) with Bower, with his topic, and also with Joseph Hooker (slide 1 – for illustrations shown at the lecture see p. 30), to whom I have long been devoted, and followed around the globe not only in Sikkim, but in Nepal, the Chittagong region of Bangladesh, the Khasia Hills of Meghalaya in NE India, and in the mountains of Morocco and Tasmania.

The most recent Hooker Lecture was given in 1993, and this one follows rather naturally from it, as it was on Hooker's Indian links and given by Ray Desmond, to whom those of us work on the history of Indian botany are so deeply indebted. Robert Wight (Frontispiece), the subject of tonight's lecture, was a friend of Hooker. As the most important taxonomist working in South India in the first half of the nineteenth century Wight was a passionate advocate not only of Bower's subject, Natural Classification, but also of the importance and use of illustration in his prolific publications on Indian botany. William Jackson Hooker was Bower's predecessor as Professor at Glasgow, and it was in his house at West Bath Street that Wight first met his son, the 14-year-old 'Joe' in 1831. They would not meet again until 1853 when Wight retired from a 34-year career spent in South India, and a more mature and imposing Dr Joseph Hooker had only recently returned from his own North Indian travels. India and botanical illustration were also great interests of Hooker's, a combination

demonstrated in a rhododendron that he discovered in Sikkim in 1848, and dedicated to Wight, the ‘distinguished Indian botanist and personal friend’ (Fig. 1).

This print was based on one of Hooker’s own sketches, worked up and lithographed by Walter Hood Fitch: a fine example of the classical tradition of western botanical illustration. In Hooker’s dedication of *Rhododendron wightii* he referred to Wight’s publication of illustrations in India and cited them as an example of ‘the perfection of which botanical illustrations can be brought by indomitable perseverance under the most discouraging circumstances’. It is these illustrations, commissioned by Wight from Indian artists, and their progenitors, that I will discuss in the second part of the lecture.



Figure 1. *Rhododendron wightii* J.D. Hooker. Hand-coloured lithograph by W.H. Fitch after a sketch by J.D. Hooker. Plate 27 of Hooker’s *Rhododendrons of the Sikkim Himalaya* (1851). Royal Botanic Garden Edinburgh.

But before that a review of Wight’s life and work as a taxonomist and economic botanist, set in the tradition of Scottish-Indian links, especially the huge botanical contribution made by East India Company surgeons. Wight was of a particularly interesting generation, raised in the dying embers of the Scottish Enlightenment and at the height of the Romantic movement. To set this twin context here is a likeness of Lord Meadowbank, a major Enlightenment figure, who was Wight’s cousin (once removed) (Fig. 2).

It was Meadowbank’s son who publicly announced Sir Walter Scott as the author of *Waverley*, but to illustrate the Romantic I will take a view of the Upper Falls of Bruar (Fig. 3), a must on the Scottish romantic tourist route situated in the parish of Blair Athol, which Wight visited in the early 1830s while staying with his sister (who was married to the local parish minister).

Following suggestions from Robert Burns, the fourth Duke of Atholl had assisted nature here by planting trees, and laying out of walks and rusticated



Figure 2 (left). Allan Maconochie, first Lord Meadowbank (1748–1816). Etching by John Kay, 1799.



Figure 3 (right). Upper Falls of Bruar, Perthshire. Lithograph printed by C. Hullmandel, from part 4 of *Sketches of Scenery in Perthshire Drawn from Nature and on Stone by D.O. Hill* (1822). National Library of Scotland.

bridges. It is important to be conscious of such a background when looking at natural scientists working in India at this period. The Enlightenment legitimised their investigation and documentation of human and natural resources by ‘statistical’ surveys, and the plant life of South India still required much investigation and description in the period 1800–50. But when we look at the observational sciences, such as nineteenth-century classification, we also have to bear in mind the cultural environment and outlook of people exposed to Romanticism, which was very far from being as ‘objective’ as we now like to think our own scientific work. (For example, Wight’s support for W.S. MacLeay’s bizarre Quinarian System, to which I will return). However, in this romantic image we can also see the seeds of change that germinated during Wight’s lifetime: the original drawing was by David Octavius Hill, one of the pioneers of photography, and the image is from a collection of landscape drawings that were the first lithographs published in Scotland. I will return to the subject of lithography later on.

How did my interest in Wight arise? Although the standard works state that Wight’s herbarium is at Kew, this is only partly true, and the Royal Botan-

ic Garden Edinburgh in fact has about 23,000 Wight sheets, mainly in the collection of George Walker-Arnott, who in 1845 followed indirectly in William Hooker's footsteps at Glasgow. Since being deposited on permanent loan by Glasgow University in 1966 this collection has never really been adequately studied (though cherry-picked for particular families, or specimens collected by notables such as Darwin). On further study about 2000 of these have turned out to be types, mainly of the species jointly described by Wight & Arnott, for example that of the araliad *Paratropia venulosa* (6). Meanwhile, downstairs in the Garden's library, among the 250,000 miscellaneous items that form the 'Cuttings Collection', lay embedded 711 superb drawings made for Wight by two Indian artists (Fig. 4).

These drawings are intimately related both to the herbarium specimens and to Wight's publications, but were unknown except to a handful of Edinburgh taxonomists, and not even mentioned in the published history of the library.

This led to a project to link the two collections, and to restore their historical context. The herbarium part of the work is complete, and has recently been published under the auspices of the International Association of Plant Taxonomists as *The Botany of Robert Wight* (forming *Regnum Vegetabile* volume 145), listing Wight's new taxa and their types, with supplementary information on collectors, localities, and a bibliography of Wight's 144 publications. The second part of the project, of which this lecture forms a taster [references for information contained herein will be published there] – a study of the illustrations, and a biography of Wight – is not yet quite complete.

It should be noted that 'specimens' both in the Herbarium and in the Cuttings Collection are filed purely as taxonomic sequences, stripped of all related historical material (including provenance). In this respect taxonomists have been somewhat tunnel-visioned (though interestingly there is a



Figure 4. *Lagerstroemia speciosa* (L.) Persoon. Drawing by Rungiah, c. 1834. RBGE.

certain schizophrenia going on here, as many taxonomists have been collectors and connoisseurs in their private lives! Joseph Hooker was a great collector of Wedgwood ceramics, for example) and it can take a great deal of effort to discover, or rather recover, the background – the answers to why paintings were commissioned, what was the purpose behind the formation of collections of hundreds of thousands of specimens at enormous trouble and expense? This investigation required voyages of discovery both in herbaria and libraries in Britain and following Wight to India, and at this point I would like to thank all the people who have helped me on the way, not least the librarians, several of whom are here tonight. I hope to present here a glimpse of the picture that emerges and the richness of the cross connections that it is possible to make. In fact, the subtext of this lecture is really the interconnectedness of things.

Wight was a great believer in the power of images, and in the context of botanical illustration wrote that: ‘the insufficiency of language alone to convey just ideas of the forms of natural objects has led naturalists, ever since the invention of engraving, to have recourse to pictorial delineation to assist the mind through the medium of the senses.’ As many of you know I hate speaking in public, so, in Wight’s spirit, I hope that the varied images shown will be a more potent way of telling this story than my own insufficient language.

Robert Wight (1796–1872)

And so to Wight’s biography. He was born on 6 July 1796 at Milton (8), near Pencaitland about ten miles east of Edinburgh, where his father had the lease of a farm, though he was an Edinburgh solicitor on the make, who made a fortune but lost most of it down a coal mine. On his father’s side was a long line of improving East Lothian tenant farmers. His mother’s family, the Maconochies, were prosperous Edinburgh tradesmen (burgesses). Scottish society was then one of considerable fluidity – we have already met his mother’s cousin, Allan Maconochie, the judge Lord Meadowbank, one of the witnesses at Wight’s baptism in 1801. He was an important figure of the Scottish Enlightenment, being a protégé of Adam Smith the great economic theorist, and, in 1764, a founder member of the influential Speculative Society, a debating club based in Edinburgh University. Meadowbank was also an agricultural improver (who published on the uses of peat as a soil conditioner), but their family wealth was based on property speculation. Their estate and part of their mansion in Midlothian exist to this day (9). The reward of finding the initials of Wight’s great grandparents scratched onto a window lintel at Meadowbank (whose meaning was unknown to the present generation) was for me as exciting as discovering an unrecognised type in the herbarium, or the identity of the artist of an anonymous botanical drawing.

In 1813, aged 17, Wight matriculated at the University of Edinburgh to study medicine, attending lectures and classes in the various subjects required for the degree of MD, including midwifery and materia medica, botany and chemistry. Thomas Charles Hope's chemistry ones were spectacularly illustrated (with flashes and bangs) to the delight of the 515 international undergraduates who attended in Wight's year. Wight appears not to have studied anatomy with the University professor Alexander Monro tertius (who so disgusted Darwin), and most probably did so 'extra-murally' with John Barclay. In 1813 Barclay had been sent an elephant skeleton for his osteological collection, by George Balingall, which would have given Wight a taste (at least in desiccated form) of Indian fauna. An amusing caricature from 1821 by John Kay (10) shows several of Wight's lecturers. Barclay riding his elephant is trying to persuade the University to establish a chair of comparative anatomy, propelled by James Gregory, professor of the 'practice of physic', but is restrained by Hope standing on his discovery, the element strontium. Two more (successfully as it turned out) defend the portals of their vested interests (student fees) riding a walrus brandishing a narwhal tusk and a giant tibia. In 1818 Wight submitted his Latin thesis *De Febrium Natura Scalpello Quaesita*, a topic that would be of relevance to him in India, the investigation of fevers by dissection. A recent epidemic in Edinburgh resulted in the necessary corpses from the fever hospital run by Benjamin Welsh (Jane Welsh Carlyle's uncle) in Queensberry House, now occupied by a quite different sort of fevered body, the Scottish Parliament. Wight was taught the importance of dissection and observation by James Sanders, who believed that the seat of fever was in the tissues around the spine, different sorts resulting in different discolorations of these tissues: typhoid ones giving black, and synocha or inflammatory ones red (another example of romantic science perhaps?). Wight attended botany lectures at the botanic garden, then in Leith Walk, given in 1816 by Walter Scott's uncle Daniel Rutherford (11). In the following year, accompanied by his former schoolmate Walker-Arnott, he attended John Stewart's botanical lectures. It is worth noting that Rutherford spent a good deal of time in his three-month summer lecture course discussing Jussieu's natural classification (in addition to that of Linnaeus), and demonstrated a vast range of plant material grown by his gardener William McNab, which included Indian species such as the peepul (*Ficus religiosa*), the banyan (*F. benghalensis*), *Zingiber zerumbet* and *Erythrina arborescens* probably sent by William Roxburgh from Calcutta.

As the family money had mainly gone down the coal mine, the Wight sons had to earn their own livings. Since the late eighteenth century (especially when Henry Dundas was in charge of the Board of Control that governed the affairs of the East India Company), India drew enormous numbers of aspiring young men from Scotland to 'shake the pagoda tree': as administrators,



Figure 5. Plate 102 of Leonard Plukenet's *Phytographia*, first published 1691, from Wight's own copy of the 1769 collected edition. Engraving, showing *Zornia zeylonensis* Persoon var. *plukenetii* Wight & Arnott ('*Onobrychis Madraspatana diphyllos* ...'). RBGE.

illustrations to help him were relatively primitive engravings (Fig. 5) such as those in Leonard Plukenet's *Phytographia* of 1691–6, which includes many plants collected at Madras.

Wight sent specimens back to Robert Graham (14), by now Regius Keeper at Edinburgh, but who was arguably more interested in his lucrative medical practice and in good living (such as the lavish dinner attended by the great American ornithological artist John James Audubon in 1826) than in botany, and who failed to respond to Wight's generous gifts.

In 1824 Wight's broader interests and anatomical training were recognised, when he was appointed to the medical superintendence of the Public Cattle Depot near Mysore. This was an important breeding establishment built up in the previous century by Tipu Sultan, who developed 'Amrit Mahal' cattle as draught power for his artillery, but as I discovered in 2002 these are now a rare breed (15). Wight was supposed not only to look after the health of the

soldiers and surgeons. This was an age of patronage, and people from Wight's background got a hand onto the ladder. In Wight's case in 1819 this came from Sir Robert Preston, a former Calcutta nabob known as 'Floating Bob', a friend of Pitt, and Lord Meadowbank's great-uncle by marriage (who commissioned Repton's only Scottish garden at Valleyfield in Fife). Wight's elder brother James was already in the Madras army, and Wight joined his regiment as an Assistant Surgeon. In this, his first period in India, Wight was based in the area around Samulcottah, where Roxburgh had been 40 years previously, and he started to collect plant specimens. Frustrated by a lack of books Wight had no choice but to use the Linnaean system, as may be seen from the Class and Order noted on a specimen of *Zornia gibbosa* collected in 1821 (12). The only illustrations

staff of this large establishment, but to investigate, by dissection, the diseases that were killing the cattle. Significantly it was here that Wight first employed a draftsman, though his name or what he drew is not recorded. But in less than a year Wight was struck down by malaria and had to resign from the insalubrious swamps of Seringapatam.

Wight was then appointed to the post of Madras Naturalist by the great Governor of Madras, Glasgow-born Sir Thomas Munro in 1826 (16). The Madras Government had long recognised the potential of science in developing the commercial possibilities of natural resources. The first official Naturalist they appointed was Linnaeus's pupil J.G. König in 1778, who started as a missionary at the Danish trading post of Tranquebar. König was succeeded by Patrick Russell, then William Roxburgh. Of the eight holders of the post over the 50 years of its existence no fewer than five were Edinburgh trained. We will return to Roxburgh, so I will show a portrait of the less well known Patrick Russell (17) in a soft ground etching by William Daniell after a wonderful drawing by George Dance (faithful to the last nose hair), made in London in 1794 in the same month that he drew Haydn. Daniell must have had much to talk to Russell about during the sitting, as he had accompanied his uncle Thomas to India where they painted the notable sights and antiquities (later famously engraved) including, in 1792, the falls of Courtallum that 40 years later would become one of Wight's most productive collecting localities. Russell is best known for his work on Indian snakes (which were painted for him by Indian artists), but he also collected plants for the Naturalist's collection that was inherited by Wight. These collections were kept in Fort St George, the military and administrative headquarters of the East India Company at Madras (18), specifically in the Office of the Medical Board (19 which still stands, now occupied by the Engineer of the Andaman part of the Indian Navy). By this time Wight was commissioning paintings from an Indian artist called Rungiah, who may or may not have followed him from Mysore, and in 1826/7 Wight made an extensive, nine-month collecting trip around South India. Because of the loss of Wight's private diaries and all but 110 autograph letters almost nothing is known of his thoughts and personal experiences. But here (Fig. 6) is an example of the rich and colourful indigenous Indian culture that he must have encountered on his travels.

Although their motivation was different, this man (bearing offerings in a yoke called a kavadi) and Wight had the same geographical goal – the Palni Hills, which Wight reached in December 1826. The Indian pilgrim was heading for the shrine of Subrahmanya at Palani, whereas Wight's pilgrimage was in the name of science. This is a painting on mica by a Trichinopoly artist, which although made for the Western market around 1850 is somewhat closer to the



Figure 6. Pilgrim *en route* for Palani. Gouache on mica, c. 1850.

sort of painting Indian artists would have been making for home consumption than the sort of subject that Wight and his ilk asked them to paint.

To give a geographical context, this map (Fig. 7) shows the area to which Wight was restricted for the whole of his time in India, from Samulcottah in the Northern Circars, to Palamcottah in the south, and on which the route of Wight's 1826/7 expedition has been traced by Wallich.

One of the places where Wight collected was the spectacular hill fort of Gingee near Pondicherry (22). The collections were wide ranging and included birds (23 showing a brown fish owl and a primeval-looking Indian grey hornbill), seaweeds (24 *Sargassum cervicorne* supplemented back in Edinburgh with a drawing by R.K. Greville), and to show how catholic Wight was in his botanical tastes, a modestly draped gasteromycete (25 *Dictyophora multicolor*), its lacy veil designed to intercept the clumsy advances of coleopteran suitors.

In February 1828 catastrophe struck and the Naturalist's post was scrapped, to save £1500 per year, by the Governor of Madras Stephen Lushington who seems to have had a personal grudge against Wight, as well as a limited imagination in the matter of the potential long term benefits of scientific research. The collections, which Lushington dismissed as 'curiosities', including those of Russell, Wight's own, some bought by him from J.P. Rottler the last of the

Tranquebar Missionaries, and a collection of 150 botanical drawings (that are now at Kew), were packed up and sent to India House in Leadenhall Street, London. Wight was sent back to regimental duties, as Garrison Surgeon of Negapatam at the southern end of the Coromandel Coast (26, a photograph taken before the tsunami, which devastated the area in 2004). However, Wight took Rungiah with him, and employed up to four Indian plant collectors to reach more interesting hill areas such as Courtallum and the Nilgiri Hills; Wight himself could make only short collecting forays, tied to camp, being the only doctor within 50 miles.



Figure 7. Map of South India from Wallich's *Plantae Asiaticae Rariores* (1832). RBGE.

At this time it was extremely difficult to identify plants in India – the comprehensive libraries and herbaria (including the types) were all in Europe. Success therefore depended on having a collaborator based there. His first attempt with Graham had been abortive, but Wight was much more fortunate with his second, William Hooker (27) in Glasgow, to whom Wight first sent specimens, drawings and descriptions, from Negapatam in October 1828, such as one of *Clerodendrum inerme* (28 Wight's written description, supplemented by Rungiah's drawing annotated by Hooker with the name). Hooker reciprocated with identifications and lavish presents of much needed books, and began to publish the most interesting illustrations and descriptions as a series in his periodical the *Botanical Miscellany*. The original drawings (which are now mainly at Kew) were engraved in Glasgow by Joseph Swan (Fig. 8), and expensively hand-coloured. I will return to the subject of methods of reproduction later.

A second contretemps with Lushington led to Wight's return home on furlough between 1831 and 1834; an important period when he met with the elite of metropolitan scientists. Wight was elected FLS on 17 January 1832, and through the Society met Robert Brown, John Lindley, the elderly Archibald



Figure 8. *Vallisneria spiralis* L. (female plant). Hand-coloured engraving by Joseph Swan, after drawing by Rungiah, published in the *Botanical Miscellany* (1832). RBGE.

Menzies and John Forbes Royle. This fortuitously coincided with the period that Nathaniel Wallich (30) was on leave from his job as Superintendent of the Calcutta Botanic Garden. Wallich retained his (large) salary and spent his time in frenetic scientific activity distributing the vast East India Company herbarium collections from a house in Frith Street (31), which included Wight's early collections that had been sent back to India House. In three years Wallich distributed 250,000 specimens in 641 parcels to 66 individuals and institutions, and produced a catalogue of the herbarium (which contained multiple collections of 7683 species from a wide area of South-east and South Asia) using lithography (32). Wallich was clearly swamped and could offer little help, so Wight rented a house around the corner from him in what is now Bateman Street, and started sorting his own mere

100,000 specimens (weighing 2 tons). During his three-year leave Wight spent much time in Scotland, made his peace with Graham, whose alpine botanical excursions to Clova and Braemar he took part in, along with favoured students and other visiting botanists such as the phrenologist H.C. Watson. It was on one of these that Wight discovered a sedge, which in 1843 Francis Boott, Secretary of the Linnean Society described as *Carex Grahami* (33).

Wight would not have got far distributing and describing his specimens, but for the fortunate re-establishment of contact with his school and university friend Arnott (34). At this time Arnott was living the life of a somewhat impoverished gentleman-philosopher at Arlary in Kinross-shire and working as an unpaid botanical workhorse for William Hooker. Trained as a lawyer, with a keen analytical mind, Arnott had just published the influential article on 'Botany', based on Candolle's natural system, for the seventh edition of the *Encyclopaedia Britannica* (those for the fourth to sixth editions had been writ-

ten by J.E. Smith, and were thus largely Linnaean). Having attended Antoine Laurent de Jussieu's last field excursion near Paris, and spent time working in Candolle's herbarium in Geneva, Arnott had a unique insight into such matters. Wight already had copies of Jussieu's *Genera Plantarum* and most of what was then published of Candolle's work by 1829 in India, where he arranged his herbarium according to the Candollean system. Together Wight & Arnott worked on the first volume of their *Prodromus Florae Peninsulae Indiae Orientalis* (35), a peninsular Flora based mainly on Wight's specimens though largely Arnott's work; but for various reasons the intended second volume never appeared. They also produced a lithographed catalogue of Wight's herbarium and distributed sets of specimens as far afield as Boston and St Petersburg.

Wight returned to India in 1834, to 'doctoring sepoy's' at Palamcottah (36, a nineteenth-century house, though no trace now remains of the large fort where Wight was based). Palamcottah is a dull place near the coast, almost as far south as it is possible to get in India, but close to the southern end of the incredibly plant-rich Western Ghats to which Wight continued to send his Indian collectors and Rungiah. But this did not last long and Scottish elements within the Madras administration realised that doctoring was a waste of Wight's talents. Robert Brown had put in a word for him with Sir Frederick Adam who had consulted him before going out as Governor of Madras in 1832. (Adam's father was a Kinross neighbour of Arnott, and it is curious to think that this consultation may have happened in the part of the house his great uncle Robert Adam had designed for Banks in Soho Square – home both to Brown, and the Linnean Society). The result was that in 1836 Wight was appointed to work on economic botany, with an unusually enlightened and broad-ranging job description, which, while directed to 'objects of immediate utility' also afforded 'opportunities for the investigation of others of a more speculative character'. As this brief also allowed for the making and publishing of plates of plants of economic importance, it is hard not to think that Wight himself had some hand in its writing. The aim was to get the *ryots* (Indian tenant farmers) to grow new crops, and improve old ones such as sugar cane, senna and tobacco, for export. This harked back to Wight's East Lothian ancestry, but also brought in his taxonomic skills, as the names and identities of many of the economic plants required clarification, such as which species of *Cinnamomum* were the sources of Cassia bark and the true cinnamon; and which *Garcinia* the source of the yellow pigment gamboge. Wight also had to analyse reports made by local revenue officials relating to agriculture, and wrote a fascinating report on these showing a keen grasp of Smithian economics. Consideration of taxation, export and transit duties, and usury rates charged by money lenders on whom the *ryots* were dependent for borrowing

the costs of planting crops and paying land tax, were every bit as important as agricultural botany.

In 1836 Wight visited and reported on some of the most interesting hill areas of the southern peninsula, notably Courtallum, and the Shevagherry and Palni Hills, investigating agriculture, all the time amassing herbarium specimens. These were statistical surveys of the sort that Sir John Sinclair had pioneered in Scotland, and which had been developed in India by surgeons such as Francis Buchanan. Courtallum Wight had first visited as a doctor from Palamcottah, but he now returned to examine the spice gardens, which still exist (37, 38). A spectacular series of sacred waterfalls (39) appealed to Wight's romantic sensibilities, and must have reminded him of Bruar, though the rocks are covered in carved lingams and it is doubtful if his brother-in-law the minister would have approved of the semi-naked devotions of the attendant 'idol worshippers'.

Wight also visited and reported on the Palni Hills (40) – still a rich area, studied by the late and greatly lamented Fr Matthew. These hills reach 2500 metres; the steep slopes are still covered in rich shola forest, but the upper part, once covered in grassland, is now an eco-wreck, overtaken by Australian acacias and eucalypts. Some interesting plants, however, manage to hang on, including the spectacular gentian, *Exacum wightianum* (41), an example of the 256 published species commemorating Wight's name. As 110 of these are still in use, there is fortunately no danger of forgetting Wight when working on Indian botany.

As part of his economic botanical work, Wight undertook horticultural and acclimatisation projects, based on the garden of the Agri-Horticultural Society in Madras, which still exists though with a very uncertain future (42). This involved extensive correspondence with Wallich, by now back in Calcutta, over plant transfers, such as the native Assam tea, and timber trees such as sal (*Shorea robusta*) and sissoo (*Dalbergia sissoo*). Wight was consulted by members of the Society, and by the Madras Government, on any scientific agricultural question that arose, such as the problem of how to germinate teak seed. Though it has to be said that some of his theories were decidedly askew, such as his theory of the 'homöothermal method of acclimating extra-tropical plants within the tropics', based on a faulty analogy with the Brunonian concept of 'irritability' in animals. In 1841 Wight was sent to the Nilgiri Hills to report on opportunities for agriculture in more temperate climates – despite the joys of Indian fruit and veg (mangoes and okra), it seems that expatriates still pined for strawberries and lettuce. As with the Palnis the Nilgiri Hills are still an extremely rich area botanically, but like them now also bedevilled by

invasive exotics. From the 1820s the settlement of Ootacamund (Fig. 9) was developed here as a hill station and sanatorium.

Shown in this view is Kelso Cottage, owned by Wight in the 1840s and which still survives (44). Wight used it as a base for his family and for exploring the Nilgiri flora, though he did not have to travel far to find the handsome orchid *Disperis neilgherrensis* (45), which he described from the ravine behind his cottage in 1851.

Having learned greatly from Arnott, with ever growing collections to work on, and wanting to publish in India rather than Europe (partly over concerns about priority), this was also the period when Wight embarked on his major solo taxonomic publications – the lavish *Illustrations of Indian Botany* and *Icones Plantarum Indiae Orientalis*. Before returning



Figure 9. Ootacamund, showing Kelso Cottage. Lithograph after a drawing by Capt. E.A. McCurdy published in *Views of the Neilgherries or Blue Mountains of Coimbatore Southern India* (c. 1830). National Library of Scotland.

to these it is appropriate to say something briefly about Wight's taxonomy. Earlier on I mentioned that many plants still remained to be discovered and described in South India at this period, and Wight certainly did his bit towards this – describing (including joint ones with Arnott) no fewer than 2 new families, 110 genera and 1267 species. Of the species about half (52%) are still recognised in some form, 382 under their original names (the reason for the loss of many being that he used the 'Kew Rule', and coined new epithets when he transferred a species to a different genus). I emphatically do not want to give the impression that Wight was a species-monger, as this was by no means the case, and in attacking such habits, Wight repeatedly stressed the need for 'philosophical' botany, the search for universal laws and the discovery of 'true' affinities between taxa. He was a passionate advocate of natural classification, which he had first heard about from Rutherford, who had earlier taught Robert Brown. As I have mentioned Wight had met Brown, Lindley and Bentham in London, and was on terms of close friendship with Arnott

and Hooker, and it was this mighty handful who were the key exponents and developers of the system in Britain from 1810 onwards. The main purpose of the *Illustrations* was to popularise the Natural System in India, by providing accounts of families and representative species, with extensive notes on affinities and uses. This was in part a direct spin-off of Wight's economic work (in that members of a family tended to share useful properties), but there was also a didactic element, in that if readers could recognise family characters, then it would be easier for them to identify species.

I have already alluded to 'non-objective' methods and procedures in nineteenth-century classification, and Wight fell prey to one such scheme – that of William Swainson. Wight knew and admired Swainson's works, and was encouraged in this through the influence of William Griffith, a pupil of Lindley. Griffith had gone out as a surgeon to Madras in 1832, while Wight was on leave, where he made contact with Rungiah whom he instructed in the use of the microscope in order to improve his drawings of floral dissections (see Fig. 18). Wight and Griffith corresponded botanically (they may never have met) until Griffith's tragically early death in 1845, when Wight erected a memorial to him in Madras Cathedral. Botanists at this time could only establish affinities of plants (and there was no suggestion by Wight or Griffith that these came about through common descent), by comparison of morphological features. They believed in Divine creation, and sought to find universal laws encompassing the whole of plant and animal creation, which reflected the mind of the Creator. One such scheme was W.S. MacLeay's Quinarian system where groups of organisms were thought to be linked in circles of affinity, with five groups at each level of the taxonomic hierarchy. It was thought to be no coincidence that the number of major groups of animals and plants was the same (though extensive fudging was required to achieve this). Swainson modified this system, under the influence of High Church Trinitarian doctrine according to David Knight, so that (by an arithmetic slight of hand) the circles were really in threes – 'typical', 'subtypical' and 'aberrant', linked by 'osculating' taxa – and Wight tried to apply such a scheme to his classification of the family Myrtaceae.

The final phase of Wight's career with the East India Company began in 1842, when he was appointed to superintend experiments on the introduction of American cotton, based in Coimbatore close to the foot of the Nilgiris. On visiting a modern breeding station at Coimbatore and seeing their collection of cotton species and varieties I was thrilled to realise the significance of an unlabelled painting from Wight's wife Rosa's album (Fig. 10). This is nothing less than a testament to her husband's work, showing one of the Indian diploid cottons, the 'uppam', extensively grown and used by Indians in Wight's time,

and the ‘New Orleans’ cotton, a New World tetraploid, which he was optimistically trying to persuade the *ryots* to grow for export and spinning in Lancashire.

Wight worked on this project for more than ten years and showed that it was indeed possible to grow American cottons (which had a longer staple than the ‘uppam’), though given the unpredictable rainfall this was not easy without irrigation. The experiments failed, but largely for economic reasons, including disputes within the Madras Government over issues such as whether cultivation of American cotton (as opposed to the ‘uppam’ for which there was always a vast internal market) should

be left to market forces, or encouraged by planting subsidies, remissions in land tax or guaranteed prices for the produce. It was not until the early twentieth century that American cottons were extensively introduced into India – and then via Cambodia.

Wight had left the land of Walter Scott the year *Ivanhoe* was published, but returned to Dickensian England in the year of *Bleak House*, 1853. He wanted to be close to London (and Kew), which was by now the happening place for Science as for almost everything else, and in which Wight initially intended to participate, being elected FRS having been proposed by Brown, Wallich, the Hookers and others. In fact Wight appears to have been tired out (Fig. 11) and did no more botany and pursued more practical ‘agri-horticultural’ hobbies on the 66-acre estate of Grazeley Lodge (47) near Reading.

Although Wight did no more taxonomy he made his herbarium freely available to visiting botanists from home and abroad, and from 1857 started to give



Figure 10. Page from Rosa Wight's album showing *Gossypium arboreum* var. *obtusifolium* race ‘Wightianum’ (left) and *Gossypium hirsutum* (right). RBGE.

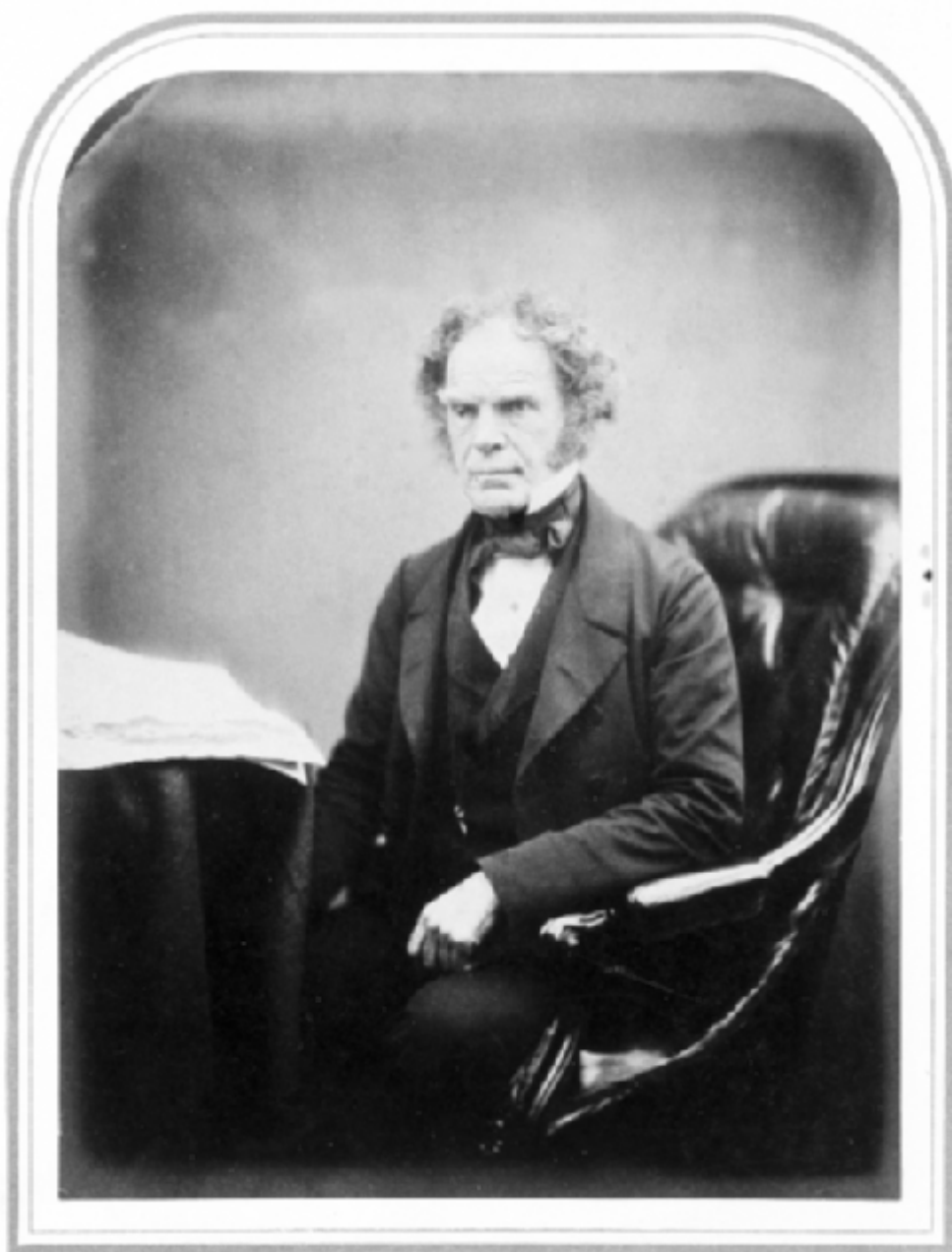


Figure 11. Robert Wight. Photograph by George Henry Polyblank of Maull & Polyblank for the Literary & Scientific Portrait Club, 1855. Linnean Society.

vast amounts of unmounted duplicate herbarium material to Kew. From 1866 these were curated and distributed by Joseph Hooker (3108 species in 20 sets despatched worldwide from St Petersburg to Melbourne, some at last returning 'home' to Calcutta and Ceylon). In 1871, the year before he died, Wight gave his working herbarium to Kew, which contains the types of the species

described in the *Icones*. A particularly interesting sheet (Fig. 12) from this collection that has ended up in Edinburgh, and its copious annotations, tell an eloquent tale of the international spirit of collaboration that is one of the best features of taxonomic botany.

This is a type of Wight & Arnott's *Hedyotis stylosa* (now *H. leschenaultii*), collected by Wight in the Nilgiris before 1828. Duplicates of this sheet were sent back to London with the Madras Naturalist's collection in 1828, which formed part of the collections sorted by Wallich in Frith Street. Robert Brown examined the specimens of Rubiaceae and gave this one the manuscript name *Hedyotis stylosa*, which was taken up and described by Wight & Arnott in 1834. This duplicate, however, was kept by Wight in his working herbarium until this was given to Kew in 1871, where it was studied by Sir Joseph Hooker

for his work on the *Flora of British India*. Hooker then gave the specimen to Sir George Watt, the great late-Victorian economic botanist of India, who in turn gave his collection to the Royal Botanic Garden Edinburgh. The sheet was later (1919) studied by John Sykes Gamble for his *Flora of Madras*, and in 1984 it was lent to Calcutta for study by D.B. Deb the current Indian expert on Rubiaceae. Wight would surely have been pleased at the use of his collection as demonstrated by this much travelled example, proving the value of the generosity of spirit in which he collected and distributed his hundreds of thousands of specimens.



Figure 12. Type of *Hedyotis stylosa* Wight & Arnott. Specimen from Wight's working herbarium given to Kew in 1871. RBGE.

Botanical Illustration in India

So much for Wight's biography, the remaining part of the lecture concerns the 'Illustration of Indian Botany', the title (confusingly) of two of Wight's

publications. There was a strong Scottish Enlightenment tradition of the use of illustration both in teaching and in publication. In this John Hope, Regius Keeper of the Royal Botanic Garden Edinburgh and Professor of Botany at Edinburgh University from 1761 to 1786, was a key figure. Hope emphasised the importance of the senses in scientific method and analysis, and as part of his botany course devoted a whole lecture to the sense of taste. By great good fortune his collection of visual teaching aids has survived, so we can see for ourselves his use of the sense of sight in developing the intellect of his medical students – poster-sized, hand-drawn diagrams illustrating experiments, plant morphology and anatomy, classification schemes, and prints of species that he could not demonstrate from living plants. This had a major influence on pupils who stayed at home, like James Edward Smith, founder of the Linnean Society, and author of what to his chagrin became universally known as ‘*Sowerby’s English Botany*’, the first completely illustrated British Flora. But Hope’s teaching was also carried much further afield – notably to the Indies, both West and East; and at this time Edinburgh University was the major centre of medical training for surgeons going into the service of the East India Company. As part of the syllabus students had to attend a three month lecture/demonstration course at the botanic garden, then at a site on Leith Walk. This teaching was clearly inspirational: I have already mentioned Smith, Buchanan and Roxburgh, who were all pupils of Hope, but there was also Archibald Menzies (whose portrait hangs behind me), and other lesser known ones such as James Kerr, who in about 1774 sent Hope a drawing from India of a plant he thought would interest him (50, he also sent copies to India House and to William Cullen in Glasgow). This is the earliest drawing by an Indian artist in the Edinburgh collection and shows the ‘telegraph plant’ (*Cordariocalyx motorius*), the ‘burrum chundalli’ from Bengal, which exhibits the property of ‘irritability’ (the small leaflets jerk spontaneously during the day and the large terminal leaflet declines at night), and was then seen as forming a link between plants and animals.

On reaching India these surgeons encountered a fascinating flora whose study some chose to pursue – those, that is, who were not lured away by hunting, gaming or more carnal pleasures. They also encountered a rich and ancient culture, part of which was a highly developed visual and decorative one. The two came together to produce a remarkable school of botanical art. As an example of what Indian artists could do with vegetable forms one can take this magnificent painted cotton palampore (Fig. 13), made on the Coromandel Coast in the early eighteenth century.

Leaving aside questions of botanical accuracy we can see the exuberance of pattern making and the way the whole surface of the cloth is covered by the

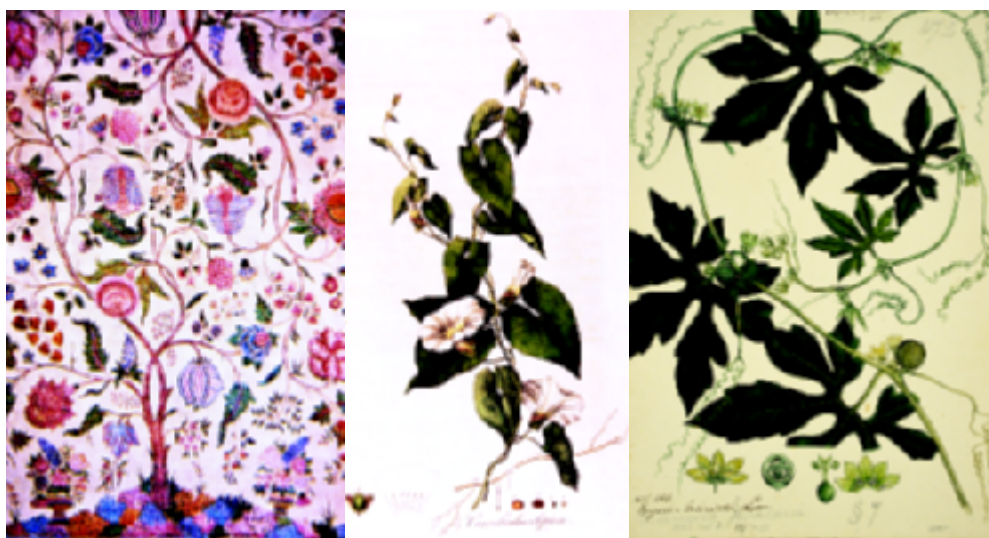


Figure 13 (left). Palampore, cotton, hand painted and resist dyed, Coromandel Coast, c. 1700–25. © V & A Images/Victoria & Albert Museum.

Figure 14 (middle). *Convolvulus sepium* L. (= *Calystegia sepium* (L.) R. Br.). Hand-coloured engraving, probably after a drawing by William Kilburn, from Curtis's *Flora Londinensis* (1777). RBGE.

Figure 15 (right). *Diplocyclos palmatus* (L.) Jeffrey. Drawing by Rungiah, c. 1828. RBGE.

design. By contrast an example of late eighteenth century British botanical art (Fig. 14) – from William Curtis's *Flora Londinensis*, showing a climbing plant (*Calystegia sepium*). See how the image sits on the page, the base of the stem placed symmetrically at bottom-centre, surrounded by white margins – the specimen isolated for scientific study and contemplation. And here (Fig. 15) is what happens when the two cultures meet, a demonstration of the property of hybrid vigour. The plant depicted here, like Curtis's, is a climber (the cucurbit *Diplocyclos palmatus*), whose stem Wight's artist Rungiah has taken not so much for a walk, as for a dance (to misquote Klee). Rungiah (in about 1828) started drawing this plant at the bottom right hand corner of the sheet, and elegantly coiled the plant to fill the whole page. The paper is only 10 x 7 inches, yet look how the strength of the image stands up to massive enlargement when projected on a screen.

Hope's pupil William Roxburgh (54), who went to Madras in 1776, was the first to make use of Indian artists on a systematic and extensive scale in his personal project to document the Indian flora both in words and pictures. The result was a manuscript describing about 2600 species the vast majority of which were accompanied by a painting; this continued after he went as Superintendent to the Calcutta Botanic Garden in 1793. As an example one can take *Indigofera atropurpurea* (55), introduced by Buchanan from Nepal to

the Calcutta Garden in 1802 and painted there shortly thereafter. Roxburgh's work of commissioning botanical paintings had started when he was on the Coromandel Coast, but who were his painters? Is it coincidence that this was chintz-painting country? Mildred Archer, the authority on what is called Company School painting, started the oft-repeated story that the natural history painters such as those used by Roxburgh were of the school that had painted miniatures for the Mughals, which is at least partly true in North India, but simply does not apply in the South. Both Roxburgh and Wight, later on, recruited local artists, about which everything remains to be discovered.

Roxburgh was carrying out Enlightenment projects of statistical surveys, and developing resources by means of experimental plantations. While the primary reason for these activities was as a source of profit for his bosses in the East India Company and their investors, these Scottish surgeons were in some ways playing a double game, being entirely aware of other values, such as additions to scientific knowledge, and the practical benefits that their work could have for Indians. Wight's agenda, motivation, and much of the methodology, had changed remarkably little two generations later. Certain things however had altered – notably advancing technology. Painting 'originals' was all very well, but what of the multiplication and distribution of these images? I will return to the question of copying, which is of great relevance in the case of Roxburgh's drawings, but I now want to say something about printing technology, as this was another area in which Wight made an important contribution.

Lithography was invented by Aloys Senefelder in Germany in 1798, and rapidly taken up (as, later, would be photography) in India, as a much simpler, quicker and cheaper process than engraving on either wood or copper, which worked both for text (including complex Indian scripts) and images. Wight knew about lithography even in his first Indian period as one of its earliest uses in India had been by Nathaniel Wallich in Calcutta to reproduce the works of his artists, such as Vishnu Prasad, in his *Tentamen Florae Nepalensis Illustratae* of 1824–6 (56), a copy of which Wight had in Negapatam. As we saw earlier Wallich had used the process while in England (1828–32) to reproduce his manuscript catalogue of the East India Company's herbarium, but also in a much grander form, as practised by Maxim Gauci, to produce the magnificent large folio plates for his *Plantae Asiaticae Rariores*, made even more sumptuous by hand colouring. In this great work a single plate is based on a drawing of Rungiah's, supplied by Wight (57).

Wight had discussed the problem of reproducing botanical drawings with Hooker in Glasgow in 1834, and realised that a solution would be to teach himself lithography. For three years after returning to India he was too preoc-

cupied and peripatetic but in 1837, relatively settled in Madras, he got down to it, and bought himself a press, possibly a Ruthven Press known to have been used in Calcutta around this time (58). The process was simple: Rungiah's drawings were traced in greasy ink on transfer paper, then pressed on a piece of smooth, absorbent limestone into which the ink sank. The stone is wetted and printing ink applied by a roller sticks to the greasy lines but is repelled by the damp stone, and in this way multiple impressions can be pulled off. As Wight explained the process is easy in principle, but fraught with practical difficulties under the environmental extremities of Madras. This resulted in 'innumerable failures, from the damp and heat of the climate, clumsiness and prejudice of the natives, warpings of presses, breaking of stones, moulding of paper, drying of printing ink, and cracking of rollers'. But the major problem was the uncertain behaviour of the ink, the consistency of which was vital if fine lines were (literally) to make an impression. Of course nothing like the sophistication of a Gauci was achieved, but Wight successfully reproduced the drawings as clear, unshaded outlines.

One of first lithographs produced by Wight himself was a plate of lichens in 1837 (59), the result of an enquiry about these important dye-sources by the Royal Asiatic Society. However, Wight became too busy with his economic botanical work to continue doing his own lithography, and turned to two lithographers, Winchester and Dumphy by name, who worked for the Government Lithographic Office in Fort St George (60, the building still exists, though is now in military use as the headquarters of an Indian army Signal's Company).

Ever since his experience of the difficulty of identifying plants from written descriptions and poor illustrations in the 1820s Wight had had a mission to produce an extensive illustrated work on Indian botany along the lines of Sowerby & Smith's *English Botany*. The beginnings, as we have seen, were the drawings of Rungiah published as engravings by Hooker in Scotland (Fig. 8). In 1838, his lithographic skills honed, and a semi-official brief to produce illustrations at least of useful plants, Wight was ready to do something on a far larger scale. In this Wight was encouraged by John, 13th Lord Elphinstone, who had by now succeeded Sir Frederick Adam (his cousin-once-removed) as Governor of Madras, and who sanctioned the purchase of 50 copies of Wight's publications. Wight started to publish two illustrated works in Madras simultaneously: the hand coloured *Illustrations* (dedicated to Elphinstone) and the uncoloured *Icones* (dedicated to Roxburgh's memory). By the end of his time in India Wight had published no fewer than 2464 plates of Indian plants (including the ones published by Hooker), and could with some pride state that 'the Indian Flora can now ... boast of being more thoroughly illustrated than



Figure 16. *Arum margaratifera* Roxburgh (= *Amorphophallus margaratifera* (Roxb.) Kunth). Pencil copy of one of the Roxburgh *Icones*, made at Calcutta under Wallich's supervision c. 1844, sent to Wight in Madras and published as plate 795 of his *Icones* (1844). Edinburgh University Library.

any other country under British, Great Britain alone excepted'.

The *Illustrations* (61) proved, as intended, the more popular in terms of numbers of copies sold, but it is somewhat doubtful if the work ever achieved its aim of teaching amateurs how to identify Natural Orders. Quite apart from the fine plates the work is full of interesting information abstracted and digested from a vast range of contemporary botanical literature, and for the light it sheds on Wight's taxonomic method. It was never completed, however, reaching plate 181 of volume 2. Far more extensive, and still widely used (in reprint) for the purpose of identification in India, is the *Icones* (62), which reached six volumes and plate 2101 in 1853 shortly before Wight retired. The majority of the plates in both works are based on drawings by his own artists Rungiah and Govindoo, but there are contributions from correspondents in other parts of India. By far the biggest and most important of these 'extraneous' elements are

the copies of 419 of the drawings that Roxburgh had (unwillingly) left behind in Calcutta, only 300 of which had been published up until then. Wallich chose the most important of the unpublished ones, had them copied, and sent to Wight in Madras for publication in the *Icones*. These copies have recently been discovered to have survived in Edinburgh University Library, with a few in the Wight collection at the Natural History Museum, and are fascinating in showing how a Calcutta artist has translated the colours of the original drawings into subtle graphite shading (Fig. 16).

Some, such as this, one bear notes written in Telugu script by Rungiah, and lines to show the lithographer which parts of the drawing to include, so that the folio original can be fitted into the 'Royal Quarto' format of the *Icones*.



Figure 17 (left). *Melia azederach* L. – habit. Drawing by Rungiah, c. 1834. RBGE.

Figure 18 (middle). *Melia azederach* L. – floral details. Drawing by Rungiah, c. 1834. RBGE.

Figure 19 (right). *Melia azederach* L. Lithograph by J. Dumphy, plate 160 of Wight's *Icones* (Madras 1839). RBGE.

However, I want to leave the last word to Rungiah and Govindoo, ending by showing a few examples of their original drawings, which are almost completely unknown other than in their rather crude lithographic avatars. It has unfortunately been impossible to find out anything about either of these artists other than that they were Telugu speakers. The only possible hint I have been able to discover, after much searching, is a comment in a letter written by the Rev. Bernhard Schmid, a missionary based in Ootacamund, to Wallich. Schmid had been trying to recruit a botanical artist and a Madras surgeon had told him that one could easily be found in either Tanjore or Trichinopoly, suggesting that one of these could have been the original home of Wight's artists. So perhaps appearances can be deceptive and it is the mica painting (Fig. 6) that is more closely related artistically to the botanical drawings than the visually much more similar chintz (Fig. 13)?

Firstly Rungiah, who seems to have worked for Wight from about 1825 to 1845, and some examples of works from what is probably his best period – the early 1830s. A drawing of *Melia azederach* (Fig. 17), the Persian lilac, demonstrates the wonderful delicacy of Rungiah's line and his beautiful filling of the page.

On the reverse of this sheet (Fig. 18) can be seen an example of the stunning result of Rungiah's training in dissection and the use of the microscope



Figure 20. *Bulbophyllum fuscopurpureum* Wight. Drawing by Govindoo, c. 1845. RBGE.



Figure 21. *Christisonia tubulosa* (Wight) J.D. Hooker. Drawing made by Govindoo for H.F.C. Cleghorn, 1857. RBGE.

by William Griffith. It should be noted that many of the Edinburgh sheets have drawings on the reverse, some only revealed when freed from the herbarium sheets to which they had been attached for incorporation into the ‘Cuttings Collection’. A lithograph from the *Icones* (Fig. 19) based on a combination of these two drawings by Mr Dumphy, shows how Rungiah’s gloriously bold details have had to be reduced and scrunched into a corner in order to fit into a quarto plate. Although Wight’s original intention was to include plates of economically useful plants in the *Icones*, in a curious case of phyto-racism, he excluded introduced species. The Edinburgh collection is made up mainly of drawings that were published by Wight, but at the Natural History Museum in London is a collection of 840 drawings that appear to represent his reserve stock that he never got around to publishing. Among these are many depicting non-native species, such as a wonderful drawing of the tomato (67, 68). It is not known when or why Wight’s collection was split up, or how or when either institution received its share.

Govindoo took over from Rungiah, probably in 1845, as in that year the Ceylon-based botanist George Gardner recorded that Wight had two artists working for him. Rungiah must have trained Govindoo, and some of the draw-

ings would be unattributable on stylistic grounds alone. For example, the extraordinary orchid *Bulbophyllum fuscopurpureum* (Fig. 20), which Wight discovered and described from the Nilgiris, and that resembles a creation of Edward Lear.

This we know to be Govindoo's work as it is attributed to him on the lithograph. Later on Govindoo developed a bolder and cruder style, perhaps because he knew that subtle details would be lost in the lithographic process. A drawing of the parasitic plant *Christisonia tubulosa* (Fig. 21) shows this later style. After Wight retired in 1853 Govindoo continued to work in Madras for Hugh Cleghorn and Richard Beddome, with works published as late as 1870s, marking the swansong of a crossover tradition of botanical art that had lasted for about a century.

In 1839, William Griffith wrote from Peshawar (in what is now Pakistan) to Wight in Madras stating that he intended to have a huge placard made and hung in his room expressing his gratitude to Wight for the publication of his plates of Indian plants. I hope that I have managed to persuade you that we can, like Griffith,

Be
Grateful
to
ROBT WIGHT!

for his contributions both to taxonomy, and to the 'Illustration of Indian Botany'.

List of illustrations shown at lecture

1. Joseph Hooker aged 38. Pencil portrait, by George Richmond.
2. Robert Wight aged 36. Portrait in coloured chalk, by Daniel Macnee, made in Glasgow in December 1832 for W.J. Hooker's collection of portraits of botanists: price 2 guineas. Royal Botanic Gardens Kew.
3. See Figure 1.
4. Allan Maconochie, first Lord Meadowbank (1748–1816). Oil on canvas by Sir Henry Raeburn. Scottish National Portrait Gallery.
5. See Figure 3.
6. Type specimen of *Paratropia venulosa* Wight & Arn. (= *Schefflera venulosa* (Wight & Arn.) Harms), from the herbarium of George Walker-Arnott. RBGE.
7. See Figure 4.
8. Milton House, near Saltoun, East Lothian. Photograph taken 2005.
9. Meadowbank House, Kirknewton, Midlothian. Photograph taken 2005.
10. 'The Craft in Danger', engraving by John Kay, 1821. Published in Kay's *Original Portraits* (1837–8). Collection of W.D. Ian Rolfe.
11. Professor Daniel Rutherford (1749–1819). Engraving by William Holl, after a painting by Sir Henry Raeburn. Published by Robert Thornton in *New Illustration of the Sexual System of Carolus von Linnaeus*, London (1804).
12. Specimen of *Zornia gibbosa* Spanogué, collected by Wight at Samulcottah, 1821–2, annotated with Linnean Order and Class. RBGE.
13. See Figure 5.
14. Professor Robert Graham (1786–1845). Mezzotint by E. Mitchell, after portrait by unknown artist. RBGE.
15. Amrit Mahal bullock, Dairy Research Centre, Bangalore. Photograph taken December 2002.

16. Sir Thomas Munro Bart. (1761–1827), Governor of Madras, 1820–7. Bronze statue by Sir Francis Chantrey (1839), the Island, Madras (now Chennai). Photograph taken November 2002.
17. Patrick Russell (1727–1805). Soft ground etching by William Daniell (1811), after portrait by George Dance drawn 23 March 1794.
18. The Wallajah Gate to Fort St George, Madras. Photograph taken October 2002.
19. Medical Board Building, Fort St George, Madras. Photograph taken November 2002.
20. See Figure 6.
21. See Figure 7.
22. The fort of Gingee, Tamil Nadu. Photograph taken November 2002.
23. Birds collected by Wight in 1826–7, including brown fishing owl and Indian grey hornbill. Natural History Museum Birdroom, Tring.
24. Holotype of *Sargassum cervicorne* Greville. Specimen collected by Wight, with MS description and watercolour by R.K. Greville. RBGE.
25. *Dictyophora multicolor* Berkeley & Broome. Drawing by Rungiah. Natural History Museum, London.
26. Beach at Negapatam (now Nagapattinam), Tamil Nadu. Photograph taken November 2002.
27. William Jackson Hooker (1785–1865). Photogravure by Walter L. Colls, c. 1902, after chalk drawing by Daniel Macnee. RBGE.
28. *Clerodendrum inerme* (L.) Gaertner. MS description by Wight, and drawing by Rungiah, c. 1827. RBGE.
29. See Figure 8.
30. Nathaniel Wallich (1786–1854). Lithograph by Thomas Herbert Maguire, for the Ipswich Museum portrait series (1849).

31. 61 Frith Street, Soho, London. Photograph taken 2004.
32. Page from *Numerical List of Herbarium of Honorable East India Company*, lithographed MS in the hand of Nathaniel Wallich (1831). RBGE.
33. *Carex* × *grahamii* Boott. Teaching diagram painted c. 1870 by John Sadler (1837–82), for Professor John Hutton Balfour. RBGE.
34. George Walker-Arnott (1799–1868). Copy photograph c. 1930 by R.M. Adam of an original by an unknown (probably Glasgow) photographer of c. 1860. RBGE.
35. Page from *Prodromus Florae Peninsulae Indiae Orientalis*, vol 1 (1834). H.F.C. Cleghorn's interleaved, annotated copy. RBGE.
36. Nineteenth-century house at Palamcottah (now Palayankottai), Tamil Nadu. Photograph taken November 2002.
37. Nutmegs and mace (*Myristica fragrans* Houlttuyn), bought in the market at Courtallum (now Kuttrallam), November 2002. Photograph by Debbie White.
38. Glen above the main waterfall at Courtallum, Tamil Nadu. The site of some of the spice gardens visited by Wight in 1836. Photograph taken November 2002.
39. The main waterfall at Courtallum. Photograph taken November 2002.
40. Shembaganur, Palni Hills, showing shola forest on slopes. Photograph taken November 2002.
41. *Exacum wightianum* Arnott. Photograph taken in the Palni Hills, Tamil Nadu, November 2002.
42. Garden of the Madras Agri-Horticultural Society, Cathedral Road, Madras. Photograph taken November 2002.
43. See Figure 9.
44. Bellevue (formerly Kelso Cottage), Ootacamund (now Udthagamandalam), Tamil Nadu. Photograph taken January 2003.

45. *Disperis neilgherrensis* Wight. Photographed at Thenmallai Tea Estate, near Munnar, Kerala, by Pascal Bruggeman.

46. See Figure 10.

47. The Grazeley Lodge Estate – map and photograph of house made when put on the market following Wight's death in 1872. Reading Public Library.

48. See Figure 11.

49. See Figure 12.

50. *Codariocalyx motorius* (Houttuyn) H. Ohashi. Drawing by Bengal artist made for James Kerr c. 1774 and sent to John Hope in Edinburgh. RBGE.

51. See Figure 13.

52. See Figure 14.

53. See Figure 15.

54. William Roxburgh (1751–1815). Photoetching (Calcutta, 1895) after an engraving by Charles Turner Warren based on an anonymous miniature. RBGE.

55. *Indigofera atropurpurea* Buchanan-Hamilton ex Hornemann. Painted for Roxburgh in Calcutta, by anonymous Indian artist, c. 1800. RBGE.

56. *Arum costatum* Wallich (= *Arisaema costatum* (Wallich) Martius ex Schott). Lithograph, 1824, made at the Government Lithographic Press Calcutta, after a drawing by Vishnu Prasad from N. Wallich's *Tentamen Florae Nepalensis*. RBGE.

57. *Gardneria wallichii* Wight ex Wallich (= *G. ovata* Wallich). Hand-coloured lithograph by Maxim Gauci, 1832, after drawing by Rungiah. Plate 281 of Wallich's *Plantae Asiaticae Rariores*. RBGE.

58. Ruthven Lithographic Press. Woodcut from Gentleman's Magazine, August 1820.

59. Lichens. Lithograph by Wight after drawings by Rungiah, made in Madras in 1837. Issued with *Transactions of the Agricultural and Horticultural Society of India*, Calcutta (1838). RBGK.

60. Government Lithographic Office, Fort St George, Madras. Photograph taken November 2002.

61. Wight's *Illustrations of Indian Botany*. Title page of volume 1 (Madras 1840); and plate 98, *Syzygium malaccense* (L.) Merrill & Perry, lithographed by Winchester after a drawing by Rungiah (Madras 1841). RBGE.

62. Wight's *Icones Plantarum Indiae Orientalis*. Title page of the index to the work compiled by H.F.C. Cleghorn (Madras 1856); and plate 207, *Milletia rubiginosa* Wight & Arnott, lithographed by Wight after a drawing by Rungiah (Madras 1839). RBGE.

63. See Figure 16.

64. See Figure 17.

65. See Figure 18.

66. See Figure 19.

67. *Lycopersicon esculentum* Miller – habit. Drawing by Rungiah, c. 1834. Natural History Museum, London.

68. *Lycopersicon esculentum* Miller – floral details. Drawing by Rungiah, c. 1834. Natural History Museum, London.

69. See Figure 20.

70. *Aeginetia pedunculata* Wallich. Drawing by Govindoo, c. 1850. Natural History Museum, London.