

THE VALUE OF RECORD KEEPING: A CASE STUDY FROM FOUR ELDERLY ORCHID ACCESSIONS

*Andrea Fowler*¹

The history of four orchids growing at the Royal Botanic Garden Edinburgh (RBGE), some of the oldest accessions still in cultivation in the Indoor Department, is outlined. Records from the time of their arrival have been invaluable in providing an insight into the history of plant collecting, introduction and cultivation methods from the 1890s. They demonstrate the importance of accurate record keeping and the potential for species conservation in botanic gardens.

INTRODUCTION

The four oldest orchid accessions at RBGE date from 1896, the current specimens being vegetative propagules from the original plants acquired in that year (see the section on propagation below). Two of the species originated in Columbia, one from Guatemala and one from North East India. Recent interest in these old collections has stimulated research to trace their origin and document their history at RBGE.

These four species arrived at RBGE during the 'golden age' of plant hunting and orchid cultivation. Orchid prices peaked in 1906, after which time horticulture on the grand scale declined, especially with the advent of the First World War. During the early part of the twentieth century little attention was given to the natural environment of these plants and their conservation. Orchid collectors stripped whole areas of their plants to prevent competitors sharing their bounty. One description of a new *Cattleya* 'provisionally named *gluckiana*' proudly stated that 'every plant [from that locality] was collected'. Collectors for nurseries would sometimes deliberately give an incorrect origin in order to put rival collectors off the scent of a good site. To make matters worse, many of these orchids did not survive the journey back to Europe or died through incorrect cultivation methods in glasshouses. Today, botanic gardens and the horticulture industry are more responsible and, with the introduction of CITES and the Convention of Biological Diversity, endangered plants are generally safer. For botanic gardens in this age of conservation awareness plant records are invaluable. They show vitally important details of wild collected plants, and offer a fascinating insight into their history within a botanic garden such as Edinburgh.

In the RBGE archives there is a printed catalogue listing all the orchids growing in the Garden in March 1896, which shows a surprising total of more than 1260 orchid taxa, belonging to 110 genera. Three of the plants, *Coelogyne holochila*, *Dracula bella* and *Stanhopea saccata* were purchased from the Protheroe and Morris Auction House. Protheroe and Morris was probably the most famous horticultural auction house at the turn of the twentieth century during the height of 'Orchidmania'; a period analagous to the 'Victorian fern craze' when the fashion for a particular plant group reached extraordinary levels and

¹Andrea Fowler is an Indoor Horticulturist at RBGE where she is responsible for the temperate orchid collection. Address: Royal Botanic Garden Edinburgh, 20a Inverleith Row, Edinburgh EH3 5LR. Email: a.fowler@rbge.org.uk

SALES BY AUCTION.

MONDAY NEXT.

IMPORTANT SALE OF BORDER PLANTS

MR. J. C. STEVENS will sell by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, March 20, at half-past 12 o'clock precisely—

A GRAND COLLECTION OF BORDER PLANTS, RARE HOME-GROWN LILIUMS AND BULBS, ORNAMENTAL SHRUBS FROM HOLLAND, STOVE AND GREENHOUSE PLANTS, CLIMBERS, JAPANESE LILIES, ROSES, &c. On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

1000 LOTS OF ROSES AND SHRUBS.

Several thousand choice named STANDARD, HALF-STANDARD, DWARF, CLIMBING, &c. POT, and other

ROSES,

From celebrated English, German, and Dutch Growers, including many of the newest and best varieties. Standard, Pyramid, and Dwarf-trained FRUIT TREES.

J. A. FANES, R. L. L. U. M. S. BORDER PLANTS, a choice selection. Well-grown PALMS, TUBEROSES, BEGONIAS, GLOXINAS, &c.

Also— FIVE CONSIGNMENTS FROM HOLLAND OF SMALL DECORATIVE SHRUBS, FLOWERING TREES, &c., comprising—

Several hundred AZALEA MOLLIS, a variety of RHODODENDRONS, a fine variety of small EVERGREENS for decorative purposes, Standard and Dwarf ROSES, Standard and Dwarf LILACS, BOX, well-grown FERNS, CYPRIPEDIUM FRUIT TREES, OLEASTIS, HONEYUCKLE, and other Climbers; LILIUMS, FEXONES, LIANTUS; a collection of FLOWERING TREES, &c., sent direct in splendid order for present planting.

MR. J. C. STEVENS will sell the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, March 20, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Thursday Next.

The Somerset Collection of Established Orchids. MR. J. C. STEVENS has received instructions from the Executors of the late Sir Julian Goldsmid, Bart., of Somerset House, to offer for SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, March 20, at half-past 12 o'clock precisely, the FINEST and the variable and well-grown Collection of ESTABLISHED ORCHIDS, including, amongst other choice things—

- Cattleya Mossie Reineckiana Odontoglossum vestitulum
- " Wagneri Coddianum
- " eximium Lycaste Skinneri Imperator
- Dendrobium glaucum Celoglossa cristata alba
- " validum Dendrobium noble albiflorum
- Disa Veitchii " Cooksoni
- Yanda teres Vanda Sanderiana (Gold-
- Thalia Veitchii " Smith's variety)
- Laelia Gouldiana Laelia tenebrosa (extra good
- Colozyge Dayana varieties)
- Anthurium Andraeanum " anceps (do. do.)
- " album Anthurium Le Flambeau
- " Perrierense " Langii
- Odontoglossum Uro-Skinneri " rotundispatum
- " &c. &c. &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

VALUABLE IMPORTED ORCHIDS. A fine importation of CYPRIPEDIUM VILLOSUM, from an entirely new district; C. CHARLES WORTHII, PSEUDODIUM FOROSTUM GIANTUM, CYPRIPEDIUM SPURSUM, DENDROBIUM THYSEIFLORUM, &c., just received in splendid condition. Also, by order of Messrs. W. L. Lewis and Co., a grand importation of

the following CATTLEYA WARNEI, in magnificent order; LAELIA TENEROSA, CATTLEYA INTERMEDIA, &c.; ODONTOGLOSSUM HASTULIFLORUM, &c.

MR. J. C. STEVENS will include the above in the SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, March 20. On view morning of Sale, and Catalogues had.

Thursday Next.

AN IMPORTATION OF CATTLEYA SPECIES. Just received direct, in ten cases, from Pernambuco, Brazil, in splendid order. Wh-hom Reserve.

MR. J. C. STEVENS will include the above in the SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, March 20. On view morning of Sale, and Catalogues had.

Monday Next.

AZALEA MOLLIS, A. INDICA, GAMBELLIA, and other Greenhouse PLANTS, 30 lots of Stove and Greenhouse FRUITS, 400 Standard and Dwarf ROSES, FEXONES, BEGONIAS, GLOXINAS, LILY OF THE VALLEY CROWNS, &c. MESSRS. PROTHEROE and MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY NEXT, March 20, at 12 o'clock. On view morning of Sale, and Catalogues had.

Tuesday Next, March 24.

By order of Mr. P. McArthur, The London Nurseries, Maida Vale. MESSRS. PROTHEROE and MORRIS will sell by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, March 24, at half-past 12 o'clock.

A MARVELLOUS IMPORTATION OF CATTLEYA MOSSIE, from a new district; some remarkable varieties have opened in the case (Cattleya Wagneri was found growing with them, and those will be offered for sale at an early date).

CATTLEYA LABIATA, PERCIVALIANA AUTUMNALIS (Dwarf).—Flowers in December; quite distinct from the above type. These are larger, and more richly coloured.

A NEW GIANT CATTLEYA, provisionally named "GLIUKIANA." This flowered in February. It was found on cool high mountains at an altitude of 2000 feet; its enormous flowers are 6 inches across, bright pink, after four or five days it becomes blush-coral, and remains in perfection three weeks. Every plant was collected. Dried flowers will be catalogued at the sale.

LELIA GORTON, new, very wonderful. The Collector says it is very lovely. It flowers at Chertsey, the colour is coral blue. Only a few plants were found.

A Marvellous importation of ANGULOA RUCKERI SUPERBA (GIANT).—This true variety is most difficult to obtain. Every plant was secured. It gives us great pleasure in being able to offer this unique variety.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

Great Consignment of 220 CASES OF JAPANESE LILIES, &c.

- Just received direct, in grand condition, comprising:—
- 450 LILIUM AURATUM.
- 97 " RUBRO-VITTATUM.
- 2,670 " SPECIOSUM RUBRUM.
- 2,475 " " ALBUM.
- 500 " MELPOMENE.
- 500 " TIGRINUM.
- 400 " FLORE-PLENO.
- 80 " KRAMERI, extra large.
- 30 " CRIDION.
- 110 " BELGANS INCOMPARABLE.
- 20 " SEMPERPARVA.
- 50 " LONGIFLORUM FOLIIS ALBO-MARGINATUM.
- 100 Cleopatra's wand.
- 800 Platycodon grandiflorum and secalinaeae.
- 1000 Ten Kampei and setosa.
- 1,018 Peas.
- 840 Maples.
- 100 Tree Peonies.
- 281 Daxallia ballata.
- 1,153 Perennials.
- 20 lbs. Polygoum sachalinense seed.
- 10 lbs. Imperial Morning Glory seed.
- 10. Chinese numbered seeds.
- 30 roots Cypridium japonicum and macranthum.

4,000 DWARF PEARL TUBEROSES, 350 large bulbs CALADIUM ESCULENTUM GLADIOLUS LEMOINEI HYDRIS, Dwarf-corned P. ZONES, 200 CYPRIPEDIUM SPECTABILE, received direct; 4 AZALEA MOLLIS and INDICA, GAMBELLIA, Climbing PLANTS and RHODODENDRONS, BEGONIAS, DAHLIAS, 500 DWARF ROSES, 50 lots of well-grown PALMS from an English grower, GARNATIONS and PROTEES (fixed-stem Flowers), and 20,000 SEEDS PHENIX RUPICOLA.

MESSRS. PROTHEROE and MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 25, at 12 o'clock. On view morning of Sale, and Catalogues had.

Tuesday, March 31.

By order of W. L. Lewis & Co., Southgate. SPECIAL AND IMPORTANT SALE. Grand Importations of

CATTLEYA WARNEI, collected by special permission on a large private estate, including huge masses, " INTERMEDIATA (?), well-leaved plants, " INTERMEDIA, including many fine specimens, " INTERMEDIA SUPERBA, twenty fine plants, " HARRISONIA VIOLACEA, all well-leaved, and in grand condition, " CIRINA, in quantity.

A choice lot of— LAELIA TENEROSA, new exceedingly scarce; EPIDENDRUM VITELLINUM MAUREI, distinct suit large and small buyers, ONGIDIUM MARSILLIANUM, C. CRISTATUM, ODONTOGLOSSUM BOSSII MATUS, C. MATULIATUM, &c.

MESSRS. PROTHEROE and MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, March 31, at half-past 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, March 27.

Great Sale of ORCHIDS, by Order of F. Sander & Co., St. Albans. Splendid selection of CYPRIPEDIUM and DENDROBIUM, including a magnificent consignment of CYPRIPEDIUM INSIGNE MONTANUM, Sanderian variety, collected from the districts which originally yielded C. Sanderian. From the distinct appearance of the plants, many varieties are anticipated.

MILTONIA SPECTABILIS, var. MORELIANA.—The dark large-flowered extra-rare type. A consignment of CYPRIPEDIUM sent by the Collector, as CYPRIPEDIUM INSIGNE PUNCTATUM VIOLACEUM.—This magnificent variety has not been imported for twenty years, and among the plants offered, C. I. MAULKI may be looked for.

CYPRIPEDIUM CURTISII.—A noble, richly-coloured, and very desirable species.

A CYPRIPEDIUM species, obtained from the Dehala district, and which our Collector thinks is new, or else a peculiar form of C. papilionis.

DENDROBIUM BENSONIAE.—Plants in grand order. CELOGLYNE OCELLATA, MAXIMA.—A beautiful, early-flowering, snow-white and yellow-flowered Orchid, most flowers, deliciously scented, and very valuable for all kinds of floral decoration.

1000 Plants of VANDA CERULEA, gathered from the district which has yielded the finest varieties of all. A splendid consignment of over 1000 plants of DENDROBIUM INFUNDIBULUM.—The plants are in grand order, and we strongly recommend this opportunity of acquiring this magnificent species. The huge white and golden-yellow blossoms command admiration, and are most serviceable for decoration. Also

THUNIA HENSONIAE, DENDROBIUM GRASSINODE, D. ALBO-SANGUINUM, D. DAKHOUSGANDE, D. AURUM, D. DIXANTHUM, D. DENSI-FLOREM, OGDONIA, YARCOSSUM, ROGERSSII, CYPRIPEDIUM PARISHII, &c., to be sold by

MESSRS. PROTHEROE and MORRIS at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, March 27, at Half past 12 o'clock. On view morning of Sale, and Catalogues had.

Friday Next, March 27.

"REICHENBACHIA"—The great work on Orchids, illustrated and described by F. SANDER, Esq., magnificently illustrated in colours, neatly bound. Second issue, 70s.

"THE ORCHIDACEAE OF MEXICO AND GUATEMALA," by JAMES BATEMAN, Esq.

MESSRS. PROTHEROE and MORRIS will include the above BOOKS in their ORCHID SALE on FRIDAY NEXT, March 27, at 2 o'clock.

ON TUESDAY NEXT, MARCH 24.

By Order of

Mr. P. Mc Arthur, THE LONDON NURSERIES, 4, MAIDA VALE W.

MESSRS. PROTHEROE & MORRIS Will Sell at their Central Auction Rooms, 67 & 68, Cheapside, E.C.,

A MAGNIFICENT IMPORTATION OF NEW ORCHIDS,

With many rare varieties of ODONTOGLOSSUMS, and a splendid lot of the true

ANGULOA RUCKERI SUPERBA.

On view morning of Sale, and C. catalogue had.

FRIDAY, MARCH 27, 1896.

By Order of MESSRS. F. SANDER & CO., ST. ALBANS.

GREAT SALE OF ORCHIDS.

- 1000 VANDA CERULEA.
- 1000 DENDROBIUM INFUNDIBULUM.
- CYPRIPEDIUM INSIGNE MONTANUM, SANDERIAN SECTION.
- CYPRIPEDIUM INSIGNE PUNCTATUM VIOLACEUM.
- MILTONIA MORELIANA.
- CELOGLYNE OCELLATA MAXIMA.
- CYPRIPEDIUM CURTISII.

And splendid selections of the most beautiful DENDROBIUMS in great variety, including D. BENSONIAE, &c.

TO BE SOLD BY

MESSRS. PROTHEROE & MORRIS, 67 & 68, CHEAPSIDE, E.C.,

On FRIDAY, MARCH 27, 1896.

Plate 1. Gardener's Chronicle January-June 1896 p350 showing advertisements for up and coming auctions.

		146
56	Messrs Protheroe & Morris, Rookwood, Longway.	
Lots		4. 3. 96.
28	<i>Zygopetalum blayii</i> .	
33	<i>Grammanjis Ellisi</i> .	
49	<i>Stanhopea saccata</i> & <i>S. tejoi</i> .	
61	<i>Cymbidium longifolium</i> .	
74	<i>Trichopilia crispata</i> , <i>Oncid. splendidum</i> , & <i>Oncid. tejoi</i> var. <i>unguiculatum</i> .	
90	<i>Cattleya aurantiaca</i> , & <i>Ada aurantiaca</i> .	
104	<i>Cymbidium Protheroii</i> .	

Plate 2. Page from RBGE accession book 1896. The auction lot numbers are written in the left hand column.

enthusiasts were prepared to pay huge prices for plants they craved and were prepared to dig up vast numbers from the wild. Located at Cheapside, London it was very close to the stock exchange, which provided a potential source of wealthy customers. William Henry Protheroe (1846–99) and George Field Morris (1831–1909) were both members of the RHS Orchid Committee. A page from the classified section of the Gardener's Chronicle for March 1896 (Plate 1) is filled with notices for forthcoming auctions and sales; these included advertisements for a number of lilies, roses and shrubs in addition to orchids, and gives an idea of the scale of these commercial activities. The firm of Protheroe and Morris features prominently, but other auction houses, private collections and nurseries are also advertised.

The sheer number of wild collected plants and seeds that they sold are unimaginable in these conservation-minded days. The following lots for instance were sold at individual sales in 1896: 270,000 *Kentia forsteriana* seeds, 59,000 *Lillium harrisii*, 3,000 *Odontoglossum alexandrae* and 2,000 *Cattleya aurantica*. It should be noted that the orchids were not all taken directly from the wild. Protheroe and Morris also sold orchids obtained from famous orchid nurseries such as Sanders of St. Albans (after which *Paphiopedilum sandermanum* is named). Private collections were also auctioned by Protheroe and Morris, but whether this was because the owners had died or their passion for orchids faded was not recorded.

The RBGE accession books dating from the time are a valuable source of information (Plate 2). The date that each plant arrived at the Garden and its source were written by hand into large ledgers. These are now stored in the Plant Records Office at RBGE and serve as a reminder of the past, when records were far less detailed than those held on the present BG-BASE database.

THE PLANTS

Examining the accession books we find the following details:

Coelogyne holochila Hunt & Summerhayes, native to NE India. Arrived as *C. alata* on 21 February 1896 from Protheroe & Morris. It was subsequently named *C. stricta* before receiving what is currently believed to be its correct name.

Stanhopea saccata Bateman, native to Guatemala. Arrived in a batch of 11 species of orchid purchased on 4 March 1896 from Protheroe & Morris, and which originally came from the collection of Rockwood House, Torquay.

Dracula bella (Reichenbach) Luer, native to Columbia. Arrived as *Masdevallia carderi* on 27 March 1896 purchased from Protheroe & Morris. This was among a collection of one hundred species of orchid, including 79 species of *Masdevallia*. *Dracula* was separated from the genus *Masdevallia* by the botanist A. Luer Carlyle in 1978.

Maxillaria turneri Nichols, native to Columbia. Donated to RBGE by Dr J. Foulis (1846–1901) of 34 Heriot Row, Edinburgh on 10 July 1896. This was among a collection of 25 orchids, but individual species were not listed. Less than one month later another batch of 480 Orchids arrived from Dr Foulis, in what we can only presume to be another generous gift.

The accession books show that in one month alone, March 1896, RBGE bought or was given more than 334 orchid taxa. Many of the prices are recorded in the accession books, and the total spent in this month would amount to the equivalent of £4417 in today's terms. The most expensive plant was a *Cattleya mossiae* (Low's Strain) at twenty shillings (£1). In contrast, others were very cheap: a collection of *Cypripedium* and *Paphiopedilum* was bought, with prices ranging from eight pence (3p) to fifteen shillings (75p) per plant.

CULTIVATION OF ORCHIDS AT RBGE

At present there are around 1500 orchids in the collection of the Indoor Department at RBGE representing 159 genera and 849 taxa. These are grown in the Orchid and Cycad display glasshouse, and in the temperate and tropical 'back-up' glasshouses where plants are cared for when not on public display. The Orchid and Cycad house and the tropical back-up house are heated to a night minimum temperature of 18°C and a daytime maximum of 26°C. The temperate back-up house has a night minimum temperature of 11°C and a daytime maximum of 17°C. Automatic vents open when these maxima are reached on hot days. Heating is provided by gas-fuelled medium pressure hot water pipes. Air circulation fans keep the atmosphere buoyant in the winter and reduce the temperature in summer. Since their installation in early 2004 these fans have been very effective in reducing bacterial spotting and generally improving the health of the plants. Shading is provided internally by light reflective 50% shading material in the summer months.

All four of the species discussed above are epiphytes and as such are potted in an epiphytic orchid mix comprising coarse orchid grade bark, perlite and charcoal. Nutrients are provided throughout the growing season using water-soluble feeds weekly at a quarter to a half of the manufacturer's recommended quantities. The concentration used is dependent on the genus and size of plant. During the growing season a high nitrogen feed is used, which is replaced with a high potash feed at the end of the growing season. It is important to water between liquid feeds to flush out any build up of salts in the compost. Water comes from the mains supply which has a pH of 7.5 and does not leave a chalky deposit on the foliage of the plants.

In the tropical glasshouse *Stanhopea saccata* is grown in a slatted hanging basket. The flower stalk often penetrates the open compost and appears on the underside of the basket. *Coelogyne holochila*, being a large plant, is grown in a pot for ease of cultivation. *Maxillaria turneri* and *Dracula bella* are grown in the temperate glasshouse. As a clump forming herb *Maxillaria turneri* is best suited to pot culture. *Dracula bella* is cultivated in a moss lined basket, and as its native environment is the cloud forest of Columbia, it requires high humidity and cool temperatures.

Propagation is always by division at RBGE. At least three pseudobulbs and a growth are separated from the main plant in spring. These are then potted on and cultivated in the normal way.

It should be noted that orchid cultivation techniques were rather different when the plants arrived in the nineteenth century and it seems worth giving a note here on changes in growth media used during the intervening period. In 1896 the orchids were probably



Plate 3. *Dracula bella* photographed in March 2005 at RBGE.



Plate 4. Orchid pseudobulbs suitable for propagation

grown in terracotta pots with degraded fibre of the royal fern (*Osmunda regalis*) or coarse peat, which were then the preferred orchid growing medium. Royal fern fibre imported from Japan was still in use at RBGE as recently as the mid 1970s. It arrived in large bales which required chopping. When conservation concerns were raised the price rose, and 'impostor' substances, which provided a substandard growing medium, began to arrive. Other alternatives, such as coconut fibre were tried but proved not suitable for all species. The milled pine bark, which is currently used, became the most economical and successful growth medium during the 1980s (Alistair Paxton, pers. comm.) Sphagnum moss was also in use in 1896 as reported by H.A. Burberry of Highbury, Moor Green, Birmingham:

"Masdevallias may also be repotted now...Peat and sphagnum moss in equal proportions suits them best. See that they are made quite steady and water very carefully for a time." (Burberry, 1896).

REFERENCE

BURBERRY, H.A. (1896). Calendar of operations for January. *Orchid Review* 4: 24–29.