

# Recording flora

KAREN WATKINS

Academics, field botanists and fundies celebrated the 150th anniversary of the oldest functioning herbarium in South Africa, last week.

The Bolus Herbarium was established in 1865 and has a collection of over 400 000 specimens, from flowers and ferns to seaweeds and a few lichens, making it the third largest in South Africa and the third largest university herbarium in the southern hemisphere.

After celebrations on Tuesday December 8 (see opposite page), and lectures by renowned botanists Professor Ben-Erik van Wyk and Professor Peter Linder, curator Terry Trinder-Smith invited everyone present to use the herbarium, which is located in the HW Pearson Building on the University of Cape Town's (UCT) upper campus.

Mr Trinder-Smith said the primary function of the herbarium is to aid in the teaching and research of the diversity of the southern African flora, particularly that of the Cape Floristic Region.

Botanical artist, businessman and philanthropist Harry Bolus was born in Britain in 1834 and advanced botany in South Africa by

establishing bursaries and founding the Bolus Herbarium and bequeathing his library and much of his fortune to the South African College, now UCT.

When the Bulletin visited the herbarium, student Brian du Preez arrived with a plant press of about 28 specimens.

Mr Trinder-Smith could not accept them saying they had to be frozen for 48 hours to make sure any insects, particularly book lice feeding on the paper in which they were dried, are killed off.

The temperature and humidity at the herbarium must also be kept at optimum conditions so that should any bugs creep into the facility, they will be prevented from breeding.

The herbarium, library and offices are also fumigated once a year as a preventative measure.

Early botanical explorers in the Cape, including Carl Thunberg, William Burchell, Johann Drège, Christian Ecklon and Karl Zeyhr, collected hundreds of thousands of species.

Not an easy task considering that they travelled by ox-wagon and would have had to press the plants at night unlike nowadays where the shelf life of plants can be longer



PICTURES: KAREN WATKINS

■ A specimen of *Crassula pubescens* collected by Harry Bolus in 1908, written in Latin and originally named by Carl Peter Thunberg.

thanks to preserving the samples in cooler boxes.



■ Terry Trinder-Smith with a specimen collected by Harry Bolus in 1908.

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## 150 years of cataloguing Cape's floral kingdom

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The previous evening Professor Linder of the Institute for Systematic Botany at the University of Zurich, said Drège, Ecklon and Zeyhr financed their collections by listing the species for people to buy.

Until the 1850s, all collections were exported but it was colonial botanist Karl Pappé who changed this by starting the South African Museum collection. This has since been moth-balled.

Initially plant specimens in the Bolus herbarium were kept in wooden cupboards but nowadays they are filed in metal, magnetically sealed cabinets.

Preserved specimens are mounted onto sheets and include a record of the taxonomic (name) history, from its initial name to any that may follow subsequent to changes that may have been required to reflect its scientific accuracy.

Mr Trinder-Smith said Swedish botanist, physician and zoologist, Carl Linnaeus, known as the father of modern taxonomy, initiated the current biological naming system called binomial naming, which means that each has a genus and a species name, for example *Homo sapiens* equals modern man.

The oldest specimen in the collection predates the herbarium and was collected by William Burchell in 1814. "Burchell left his dried plant collection to his sisters, who then later donated these to various institutions, Kew Gardens in London being one of them. Harry Bolus then exchanged some of his collections for some of Burchell's. One such specimen is of *Agathosma ovata*, commonly known as false buchu, and collected in Knysna," said Mr Trinder-Smith holding the type sheet.

This specimen forms part of the multiple representatives of this species, and despite the age of many of these collections, when opening the cupboard in which they are housed, the fragrance associated with this group of plants is still very evident. The false buchu is part of the Rutaceae family of which citrus is another member.

Now brown and fragile, stuck to aged paper, the sheet is marked with various hand-written notes providing a glimpse into the history of the plant and including the original species name of *Diosma ovata*, given to it

by Thunberg in 1794, then later moved to the genus *Baraosma* and then much later, in his revision of *Agathosma*, by Neville Pillans, to the latter genus.

Another fascinating part of the herbarium is Bolus' plant collection register, volume one from 1865 to 1873. Filled with hand-written notes, diagrams and lists, it provides a glimpse into the man's vast knowledge and collection.

A note in the front states that the next diary, 1873 to 1874, was lost at sea when the first Windsor Castle was wrecked in Table Bay, in October 1873. Bolus was returning from Kew and many valuable books and plants were also lost.

Some sheets have more than one specimen mounted onto them, a paper saving device during both wars.

Among modern day collectors was Elsie Esterhuizen who lived in Rondebosch and collected around 36 000 specimens. Others include Jan Vlok, Nick Helme, Peter Goldblatt and John Manning.

Professor Linder spoke of how the digital age has changed the method of recording plants what with online herbaria and virtual flora. Thanks to a French parliamentarian, five-million species were scanned while the Paris Herbarium was undergoing renovation.

And while the number of computer geeks are growing the number of field botanists are reducing. "Making the taxonomic data accessible online is important who will collect and name species in the future," asked Professor Linder.

He added that when botany students were asked why and how they chose to study this subject the answer was unanimous, from their parents taking them out and showing them in the field.

Professor Anusuya Chinsamy-Turan, Head of UCT's Department of Biological Sciences, said that it is wonderful that after 150 years the herbarium is still actively being used for teaching and research – precisely as Harry Bolus wanted it to be used.



■ Curator of the Bolus Herbarium Terry Trinder-Smith; Professor Peter Linder, head of the department of biological sciences at UCT; Professor Anusuya Chinsamy-Turan; Professor Ben-Erik van Wyk and Professor Jeremy Midgley.



■ Olwen Gibson of Meadowridge, Stephanie Saunders of Newlands, Wendy Paisley of Tamboerskloof and Pat Holmes of Bergvliet.



■ Student Brian du Preez hands over a plant press to the curator of the Bolus Herbarium, Terry Trinder-Smith.



■ Nina Hobbhahn from Meadowridge with Andrew and Heather Hodgson from Muizenberg.



■ Clare and Mike Madden from Constantia.