WILDFLOWER FESTIVAL GIVES (GENETIC) FOOD FOR BOTANICAL THOUGHT

You thought you knew your flowers - until the botanists started unravelling their DNA! When you look at the hundreds of specimens on display at the annual Hermanus Wildflower Festival in September you might well question what appears on some of the labels.

Golden *Priestleya* pea flowers have turned into *Liparia* while the unusual silver *Stoebe* is now a *Seripheum*. Pioneer plant *Passerina vulgaris* is no longer vulgar but corymbose (clustered flowers). Our unique endemic *Retzia capensis* with its russet spiky foliage and cigarette-like flowers has lost its own family and joined the Stilbaceae. These changes are only the tip of a large iceberg which has kept the Hermanus Herbarium staff at Fernkloof Nature Reserve busy for months.

The changes are the result of the publication in 2003 of a botanical bible called *Plants of southern Africa: an annotated check list* edited by G Germishuizen and N L Meyer, in celebration of the centenary year of the National Herbarium (PRE) and its immeasurable contributions to botany in South Africa and further afield.

In the introduction of this eight-centimetre thick 1200 page tome it states that southern Africa has the richest flora in the world. It encompasses a rich floristic diversity of approximately 24 000 taxa (species and infraspecific taxa) of 368 families, including more than 10% of the world's vascular plant flora on less than 2.5% of the earth's land surface area.

Accurate coverage of this remarkable flora has been made possible at the species level through PRECIS (National Herbarium, Pretoria (PRE) Computerized Information System) maintained by the National Botanical Institute. The first list of southern African plants was published in l984 , more than 20 years ago. The current publication is the fourth in the series, ten years after the last one.

And why the spate of changes? Most often it is a question of DNA. Modern DNA sequence analysis shows generic alignments where before plants were categorized perhaps by a particular pollination syndrome. An advance in understanding of evolution and radiation of plants has led to some genera being misplaced in a particular family.
Now there has been a validation of the new genera, sinking of others, a reduction of species and correction of nomenclatural problems.

With a mere 9 000 species to deal with in the Cape and going down to 1600 specific to the Fernkloof Nature Reserve, all carefully pressed in the Hermanus Herbarium HER, many months have been spent bringing records up to date.
Flower show labels will be as accurate as the dedicated volunteer staff behind the scenes can make them.

Agapanthus have been given their own family Agapanthaceae as have lobelias (Lobeliaceae). The dainty mauve clustered selagos have gone to nest in with the 'scrophs' Scrophulariaceae) with their previous family discarded in the botanical dustbin. The Orchidaceae have also been extensively revised. And much, much more.

Mind-boggling stuff to most people indeed. But take heart – the flowers remain the same – beautiful, pristine, perfect. Enjoy them at the Hermanus Wildflower Festival in all their glory.

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