

### e-flora; a new interactive floristic and chorologic information system on the Internet

S. Castroviejo

Real Jardín Botánico, CSIC, Madrid, Spain

A demonstration of two new informatic tools will be done. These programmes have been developed to both identify species and show information – mainly geographical – related with species. Both, together, have as characteristics:

- work over the Internet.
- can be augmented from traditional descriptions, even already published.
- for any one of the species it displays a dot map made on-the-fly, a picture, a plate, a description, the list of synonyms, an updated list of localities, etc.
- show geographic, cytological or graphical information taken from both sources: bibliography and herbarium specimens.
- avoid the problem caused by the synonyms.
- the information related with a single species can be found under more than a single name.
- through a routine developed to understand the nomenclature and synonymy.
- assist as well for specific identification without using dichotomical keys, but a interactive way of searching. In summary, we can show a system to provide taxonomic and floristic information not as a printed flora, but in a modern and interactive format through the Web.

doi:10.1016/j.sajb.2008.01.038

### Difficulties encountered during the micropropagation of *Boophone disticha* (L.f.) Herb (Amaryllidaceae)

L. Cheesman, J.F. Finnie, J. Van Staden

Research Centre for Plant Growth and Development, School of Conservation and Biological Sciences, University of KwaZulu-Natal Pietermaritzburg, Private Bag X01, Scottsville 3209, South Africa

*Boophone disticha* (= *Boophane disticha*) is one of the most widely distributed bulbous species in southern Africa. It is known for its poisonous and medicinal properties. *B. disticha* has great potential as an ornamental due to its fan-shaped foliage and large umbel of bright pink to deep red flowers. Twin-scale explants, from dormant bulbs collected from March to May, were placed on solid Murashige and Skoog media supplemented with various concentrations of Naphthalene acetic acid (0, 2.69, 5.37, 10.74, 26.85 and 53.7  $\mu$ M) and benzyladenine (0, 2.22, 4.44, 8.88, 22.2 and 44.4  $\mu$ M). No response or differentiation was observed and all the explants turned brown. To overcome browning, the treatments were placed on 2 g/L charcoal with 150 mg/L ascorbic acid. Cultures were placed either in a 16 h light/8 h dark regime or kept in the dark at 25 °C. Although explants in the dark did not turn brown, no differentiation or growth was observed. These experiments are being repeated with plant material that was collected in spring. Due to the lack of success with vegetative explants, reproductive organs were investigated. Immature floral parts (ovaries, anthers, filaments and pedicels), developing ovaries and immature seeds were placed on Murashige and Skoog media. Different combinations of plant growth regulators, including 2,4-dichlorophenoxyacetic acid, IAA, BA and NAA, are being tested.

doi:10.1016/j.sajb.2008.01.039

### A pharmacological assessment of various South African orchids used in traditional medicine

M. Chinsamy, J.F. Finnie, J. Van Staden

Research Centre for Plant Growth and Development, School of Biological and Conservation Sciences, University of KwaZulu-Natal Pietermaritzburg, Private Bag X01, Scottsville 3209, South Africa

South Africa has unique and diverse plant habitats which are home to many ethnic groups. The current ethnobotanical investigation taps into the utilisation of such natural resources and indigenous knowledge to find ways to alleviate and/or control certain diseases that kill people of all ages. The more prevalent diseases that affect world communities, more especially children, are a result of microbial infections. The associated symptoms and opportunistic infections cause added distress to patients. The use of plants for traditional medicine as well as other informal practices and trading is still a common feature in various parts of South Africa, where a number of plants (including members of the *Orchidaceae*) are harvested annually. Orchids are used in the African Medical System to combat various microbial infections and associated diseases; worm infections; and other mental ailments. They are also used during spiritual rituals and for magic. The primary aim of this study is to determine the pharmacological activity of the various medicinally used orchids. Crude plant extracts were screened for antibacterial, anti-inflammatory, antifungal and selective serotonin re-uptake inhibition (SSRI) activity. A secondary aim is to identify the compounds responsible for the activity observed, using chromatography techniques.

doi:10.1016/j.sajb.2008.01.040

### Endemism, phytogeographical considerations, and a preliminary flora of the Sneeuberg mountain complex in the Great Karoo, South Africa

V.R. Clark<sup>a</sup>, N.P. Barker<sup>a</sup>, L. Mucina<sup>b</sup>

<sup>a</sup>Department of Botany, Rhodes University, Grahamstown 6140, South Africa

<sup>b</sup>Department of Botany and Zoology, University of Stellenbosch, Private Bag X1, Matieland 7602, South Africa

The Sneeuberg, Eastern Cape, comprises one of the most prominent sections of the Great Escarpment in South Africa, yet remains one of the least known botanically. Most of the limited botanical work in the Sneeuberg was undertaken in the 1800s, and several species are only known from their types. Following extensive literature review and a detailed collecting programme, the Sneeuberg has a provisional flora of 1667 species. Twenty-nine (1.7%) endemic species occur, compared to 13% endemism in the Drakensberg Alpine Centre (DAC) and 1.5% in the Great Winterberg-Amatolas. Five near-endemic Sneeuberg species are shared with adjacent sections of the Great Escarpment. Five hitherto DAC endemic species and two possible others suggests that the Sneeuberg is the western limit of an extended DAC. This is supported by (1) Mucina and Rutherford's (2006) extended DAC concept that includes the moister, high-altitude fragments of the Great Escarpment south-west of the DAC, (2) the presence of 84 DAC near-endemics in the Sneeuberg, and (3) comparative faunal distributions such as *Chaetops aurantius* (orange-breasted Rockjumper) and invertebrates such as *Pseudonympha trimenii ruthae*. The presence of three Cape Floristic Region (CFR) species in the Sneeuberg suggests a historical link with the CFR. The thicket vegetation of the lower slopes and adjacent kopjes can be assigned to the Albany Centre given its geographical continuity with adjacent thicket types in that Centre.

doi:10.1016/j.sajb.2008.01.041

### Conservation biology and population dynamics of *Leucospermum gerrardii* Stapf. (Proteaceae) in the Dr Hamilton Protea Reserve, Mpumalanga

K. Coetzer, E.T.F. Witkowski, B. Erasmus

University of the Witwatersrand, Private Bag 3, Wits 2050, Johannesburg, South Africa

*Leucospermum gerrardii* Stapf. (Proteaceae) is a vulnerable South African and Swaziland endemic. In South Africa it occurs in KwaZulu-Natal and Mpumalanga: the two KwaZulu-Natal subpopulations have sizes of less than 40 individuals; the Mpumalanga subpopulations had not been evaluated. The aim was to assess a large Mpumalanga subpopulations at Nelsshoogte, within a grassland reserve patch surrounded by pine plantations. The location of each *L. gerrardii* was accurately logged using a differential GPS, and specific plant