

Book review — Boekresensie

Medicinal plants of South Africa, 2nd edition

By B-E Van Wyk, B van Oudshoorn and N Gericke

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The combined knowledge of the authors of botany, pharmacy, and ethnobotany, as well as photography, is further reflected in this updated version of the 1st edition. The majority of the excellent photographs of plants were provided by Van Wyk and facilitate the identification of the plants.

The importance of medicinal plants in pharmacopoeias of the world, their significant role as low-cost alternatives to modern pharmaceuticals and their contribution to viable small-scale farming have been extensively reviewed and promoted. This book is a valuable contribution and source of information of available literature in a convenient and practical format.

The new edition provides descriptions, medicinal usage, regional distribution and the structure of active ingredients of 150 plants, compared to 132 plants in the latest previous edition of 2002.

This book is a 'photographic guide to the most commonly used and best known South African plant medicines' and the 150 plants were selected from 350 species. The scientific pharmacological rationales of the 150 plants up to 2009 are detailed. Introduced (exotic) plants that have become part of traditional medicines are included.

A warning is sounded that the book is a scientific overview and not intended as a guide to self-medication. Many of the described plants are highly toxic and may cause severe adverse symptoms or even death. In addition it could be mentioned that regional and environmental conditions, as well as stage of growth, affect the presence and levels of active principles.

The authors refer to the very large numbers of publications on South African medicinal plants since 1997 (1st edition) that almost doubled available information. This information has necessitated updating, expanding and modifying the plant accounts. An example is *Pelargonium sidoides* (Kho/Afr. *rabas*, *rooirabas*) (pp. 220–221), included in the new edition and supported by articles published in 2008. A commercial product Umckaloabo[®], previously associated with *Pelargonium luridum*, is correctly shown with *P. sidoides*. The active ingredients of *P. luridum* have been revised and those of *P. sidoides* include the coumarin glycoside, umckalin, previously shown in *P. luridum*.

The updating of the new edition is reflected on the cover where *Hoodia pillansii* replaces *Acacia karroo*. The plant account of *Hoodia gordonii* (Kho/Afr. *ghaap*) (pp. 174–175) includes *H. pillansii* described as the original 'ghaap' of Cape Dutch medicine. This plant was recorded in 1857 and still included in brandy 150 years later – hence the use of brandy for medicinal purposes. The appetite suppressant activity of *H. gordonii* is ascribed to a steroidal glycoside P57 which caused 50–60 % decrease in food consumption

and live mass of rats when injected into the brain.

The reviewer has a particular interest in *Boophone disticha* (pp. 66–67) owing to its varied use by the San, Kho, Dutch and Bantu. The highly toxic bulb pulp was utilised in arrow poisons while the bulb scales were used as an outer dressing after circumcision (e.g. by the Xhosa) or applied to septic wounds. Less generally known is its claimed use against redwater (babesiosis) of cattle. Visual hallucinations are induced by weak decoctions and may be used for divination.

The discovery of a c. 2000 year old mummy of modern man in the Kouga Mountains of the Eastern Cape showed that the bulb scales have been used for mummification in southern Africa. This suggests its use over at least 2000 years.

The genus *Artemisia* is represented by *Artemisia afra*, Afr. 'wildeals' (pp. 48–49), described as one of the most widely used traditional medicines in South Africa. It is widely distributed in Africa, from the Cape to southern Ethiopia. One of the claims is its use as an anti-malarial, whether due to its febrifugal action or by association with artemisinin from *Artemisia annua* (China). However, in a review of the scientific literature of *A. afra* it was shown that artemisinin does not occur in *A. afra* and that its anti-plasmodial activity has not been scientifically authenticated.

One of the oldest plant medicines in Africa is 'aloe' derived from *Aloe ferox* (pp. 42–43). The production and export of this product, known as 'aloe lump', have been commercially significant for more than 250 years. Although available in a range of products for human use e.g. Lewensessens[®], its use in animal medicine is questionable, since some activity is only attained at levels causing severe diarrhoea.

The plants reviewed here are a random personal selection and readers will find their own favourites. Many readers will recognize plants used in commercial over-the-counter products.

Medicinal plants of South Africa is a welcome augmentation of the monumental *Medicinal and poisonous plants of southern and eastern Africa* by Watt and Breyer-Brandwijk and provides the latest botanical names. This is a problem when reviewing, for example, travel reports of the 18th century. The regular references to San and Kho names and usage extend anthropological records of human medicines of the indigenous peoples.

Although the veterinary toxicity of plants in South Africa has been extensively recorded and reported in textbooks, there is no comparable literature on veterinary medicinal use. It is hoped that this will be rectified in the foreseeable future.

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