

Mienkie Welman of the National Herbarium, NBI, Pretoria, looks at two very different aspects of the genus *Ipomoea*: an alien weed and four indigenous species.

The Convolvulaceae or morning glories constitute a family of some fifty-five genera and about 1700 species with a cosmopolitan distribution, especially in the warm regions of the world. They are mostly natives of tropical Asia and America, extending to Australia, Africa and Madagascar. There are sixteen genera and 115 species in southern Africa, some of them naturalized aliens. *Ipomoea* is a very large genus in the Convolvulaceae consisting of about 500 species which occur mostly in the tropics and warm-temperate regions. They are twining, prostrate or erect annual or perennial herbs, sometimes shrubs or small trees. Species of this genus often have showy flowers that do not last, such as the common garden morning glory, the annual *Ipomoea purpurea*.

Some have hallucinogenic or purgative properties and a few are edible and cultivated such as *I. batatas*, the sweet potato, one of the world's most important root crops. Most species can be cultivated easily in any good soil, although some require a warm and humid climate. The genus name *Ipomoea* is derived from the Greek *ips* (a worm) and *homoios* (like), alluding to the trailing habit of many species. There are forty-nine species of *Ipomoea* indigenous to southern Africa (four of which are dealt with in the following article), widespread in all regions, but rare in the Northern and Western Cape Provinces of South Africa. There are seven naturalized aliens in the area; and several more are cultivated as ornamentals, some of which occasionally escape from gardens and become problem invasive plants.

#### About the author and illustrator

Mienkie Welman is a taxonomist with the National Botanical Institute (NBI) and works mainly on the Asteraceae, Convolvulaceae, Cucurbitaceae and Solanaceae families. Meeuse and Welman's treatment of the Convolvulaceae for *Flora of southern Africa* should be published in 2000.

Gillian Condry has been the resident botanical artist with the NBI in Pretoria since 1983. Her work is regularly published in NBI publications. For years, she has been a strong promoter of South African botanical art, herself having exhibited in over fifty group exhibitions, both locally and overseas.

Right.  
The habit and habitat of the introduced *Ipomoea alba* outside Nelspruit, Mpumalanga.

Photo: M.J. Wells.  
Facing page.

This specimen of *Ipomoea alba* was collected by the artist, Gillian Condry, on a pathway near running water at Beachwood Mangroves Nature Reserve in Durban in January 1987. It opened for two nights after it had been picked.

## THE MOONFLOWER AND THE

*Ipomoea alba*, a naturalized alien creeper in the KwaZulu-Natal coastal region has an interesting connection with the Dutch occupation of the Cape of Good Hope.

*Ipomoea alba* is a robust annual or perennial herb with up to 20 m long prostrate or twining stems. These stems contain milky latex and have short fleshy thorns in the older parts. The inflorescence has several-flowers with the sepal lobes ending in 1.5 cm long narrow awns (a bristle-like projection). The corolla tubes are 7-15 cm long while the expanded flower is 11-16 cm across. The ripe fruit is a 2.5 cm long ovoid woody capsule containing four smooth white to black 1 cm long seeds.

The common name is moonflower, it is also sometimes referred to as lady-of-the-night, moon creeper or prickly *Ipomoea*. It should not be confused with the popular garden shrub *Brugmansia* or angel's trumpet (a member of the Solanaceae from tropical America) which is also occasionally known as the moonflower. The specific epithet *alba* (white) refers to the creamy white flowers. The moonflower is cultivated for these large, sweetly fragrant, nocturnal blooms that open rapidly (in a few minutes) in the evening and stay open until early morning, their fragrance fading during the day. They are pollinated by moths, but their southern African pollinators remain unknown, so perhaps *Veld & Flora* readers in the KwaZulu-Natal coastal region can keep a look-out for long-tongued moths!

It is believed that *I. alba* may have come originally from tropical America (although it was first described from an Indian specimen), but it is now found as a naturalized weed in waste places, rubbish heaps, on the edges of clearings and along roads, often locally established in grasslands, on river banks, on the edges of dams and lakes and in upland and riverine forests and forest edges. It has also been found at the seashore covering sand dunes with another *Ipomoea* (*I. pes-caprae*, the strand plant). It can twine in tall grass and reeds and climb over and cover bushes, shrubs and trees. When no support is available, the radiating prostrate stems will form a dense, thick mat.

In South Africa it has been recorded as a garden escapee or as 'semi-naturalized' in the Mpumalanga lowveld and Eastern Cape coast; and it seems to be naturalized only in the KwaZulu-Natal coastal region from sea level to about 600 m. It has also been recorded across tropical Africa and southwards to Zimbabwe and Mozambique. *I. alba* is cultivated in the above-mentioned regions and also in other somewhat cooler areas at higher altitudes where it is rarely found as an escapee outside gardens or parks. In South Africa it seems to flower and fruit in summer, mainly in January and February; but throughout the year in more tropical regions. It is not hardy in temperate areas, and must be grown from seed every summer. The milky sap of this plant and of various other Convolvulaceae has long been used in Central America for coagulating the latex of *Castilla* rubber trees. The tough stems are often employed in place of string, especially for hanging tobacco leaves to cure.



# COMMISSIONER GENERAL

Linnaeus published his *Species Plantarum* in 1753, introducing his new system of naming plants with each plant having just a genus and a species name. (The modern binomial system of nomenclature started from this date.) The name *Ipomoea alba* was also published in this work. Linnaeus based this name on the illustration of *Convolvulus malabaricus flore amplo* in the 1692 volume of the *Hortus Malabaricus*. (How grateful we are that we no longer have to use Latin phrases as names for plants and other organisms!) The plant specimen that was illustrated was collected on the Malabar coast of southwestern India, but was unfortunately not preserved. The author of this work was the Dutch East India Company's Commander of Malabar from 1669–1677, Hendrik Adriaan van Rhee de tot Drakenstein (1636–1691) who, as Commissioner General of the Company, visited the Cape of Good Hope in the late 17th century to inspect settlements and fortifications. It would be interesting to look at this famous scientific work and its remarkable author/editor who is remembered as a soldier, diplomat and administrator as well as a scientist.

The preparation of the *Hortus Malabaricus* was a result of the Company's recommendation to gather more information on natural products other than spices and to undertake a search for effective tropical medicinal plants in order to relieve the Company of costly importation of European and Asian medicines.

The *Hortus Malabaricus*, an inventory of the plants of the Malabar coast, contained 793 illustrations, discussed about 690 species and listed, among other information, common names and local medicinal uses. Naturally van Rhee de, who was not really a botanist, needed the assistance of several Indian and European collaborators (plant collectors, physicians, artists and translators) for this publication which is considered to be the first comprehensive printed book on the natural plant resources of the Indian subcontinent written in a European language (Latin, a language which van Rhee de himself could not write).

In 1988 Nicolson, Suresh and Manilal gave an excellent overview of van Rhee de and his *Hortus Malabaricus* in their *An interpretation of van Rhee de's Hortus Malabaricus* of 1988. Van Rhee de had many frustrations and difficulties in the preparation of this work, which was published in twelve volumes from 1678–1693. At first his military and diplomatic duties prevented him from devoting enough time to the collection of data. His critics in the Dutch East India Company objected to his independent and unauthorized decisions such as the establishment of a laboratory and the appointment of a chemist to distil oil from medicinal plants. Contrary to Company policy, which was to destroy the Portuguese empire in the East, he not only obtained the

services of a Portuguese Catholic priest who had a great knowledge of Indian plants, but allowed this missionary to stay on in Cochin and build a church. As a result of constant harassment by his Company colleagues and bosses, mainly Van Goens, he asked for a transfer, but soon after that returned to the Netherlands for a six-year period during which he worked intensively on the *Hortus Malabaricus*. He returned to Malabar (Cochin) as Commissioner General shortly before his death.

Van Rhee de had an appreciation for plants and a burning desire to communicate their medicinal virtues to Europeans. He was not a botanist nor had he proper scientific training, but he had the necessary administrative skills to organize others to carry out the work. Its completion gave him an important position in the history of botany. It gave an idea to European botanists of the uniqueness and richness of the flora of peninsular India. Many pre and post Linnaean workers gathered information from *Hortus Malabaricus* when they described Asiatic plants. Even though it is a pre-1753 work, it had an important role in the history of plant taxonomy. Linnaeus had a high regard for this publication and named a genus for the author, namely *Rheedia* (Clusiaceae), now included in *Garcinia*. 🌿

