Nara: Unique melon of the desert

The nara, a valued food source for thousands of years in the Namib, holds promise for wider use in other arid areas.

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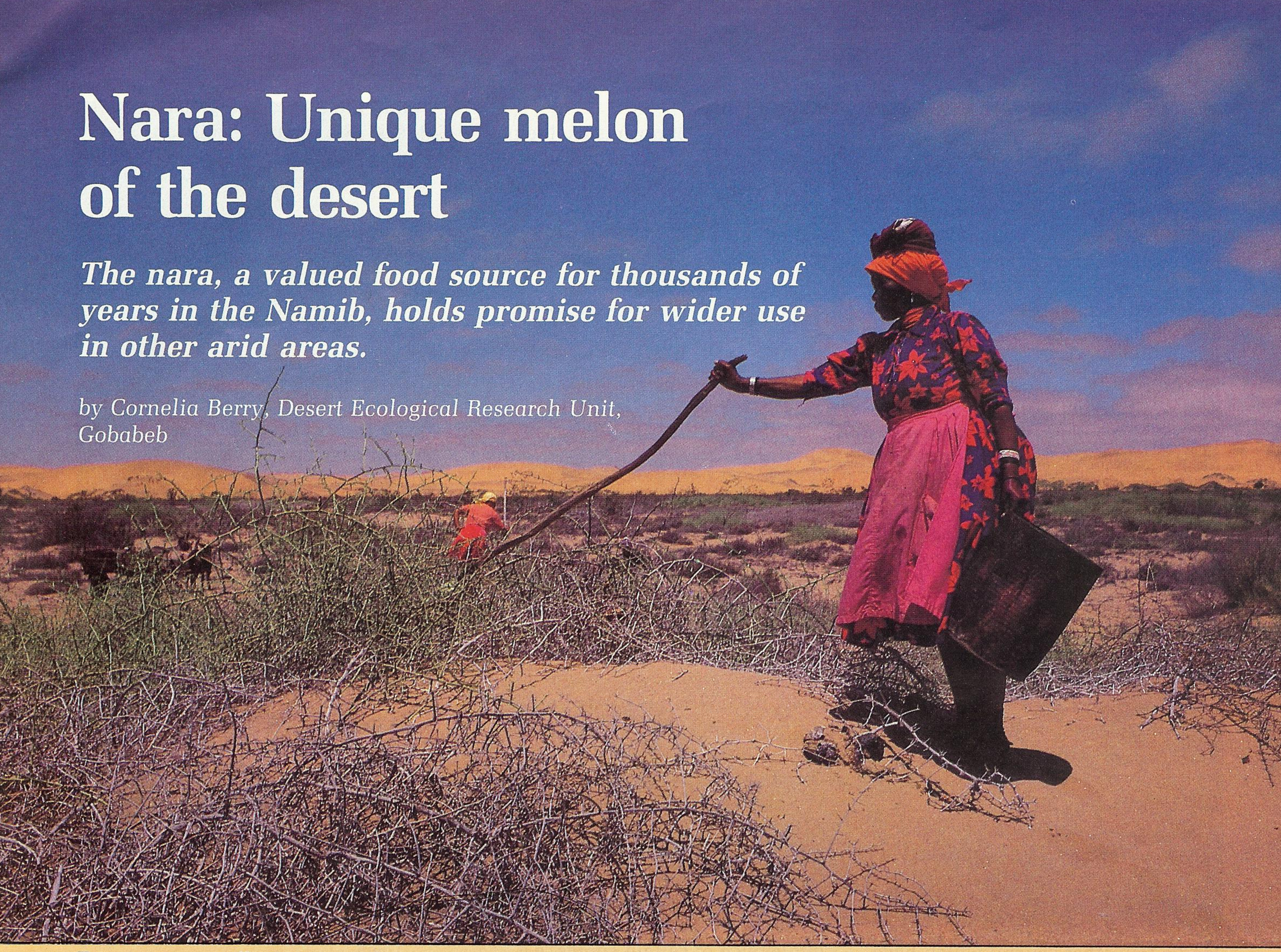


Topnaar woman collecting nara melons. Photo: M K Seely

The nara, *Acanthosyscios horridus*, is endemic to the Namib and is one of its most characteristic plants. It is a member of the cucumber family and its specific name, "horridus" probably refers to the sharp thorns and the plant's ability to grow into impenetrable spiky thickets.

Nara occur in a long, narrow, coastal belt from Mossamedes in southern Angola to Port Nolloth, south of the Orange River. Fossil evidence suggests that nara existed some 40 million years ago.

Where does it grow?

Plants grow up to 1.5 m high, forming tangled thickets. Some nara, estimated to be over 100 years old, cover an area of approximately 3 000 square metres. The root of one very old living plant measured 40 cm in circumference. Because their long tap roots reach underground water supplies, the nara plant can survive without rain for many years. It has adapted to desert conditions with leaves modified to resemble thorns so that water loss is minimised. These thorns and stems contain chlorophyll and have taken over the photosynthetic role from the defunct leaves. Adapted to sandy habitats, nara occur on the banks of dry river beds, on slip faces of dunes as well as in the interdune valleys. When a seedling emerges, the wind blows sand up against it to form a small dune. As the sand heaps up, the plant keeps growing above the sand so that hummocks of up to 5-10 m in height are formed, thus stabilising the sand. Underneath the plant, sand becomes compacted by droplets of fog falling from the branches, and this compaction provides ideal conditions for gerbils and geckos to make their burrows.

Nara are dioecious, with male and female flowers borne on different plants. The male flowers are produced in profusion throughout the year. They are greenish-yellow, cup-shaped, about 3 cm in diameter and have 5 petals. The female flowers are similar, but are easily distinguishable from the males by having swollen fruiting bodies below the petals. These flowers and the entire plant play an important role in providing shelter and food to a variety of Namib fauna. In a recent study near Gobabeb, a large plant measuring about 18 × 13 m was fenced off and pit traps were placed inside the enclosure. Over a period of 8 weeks, a total of 2 221 tenebrionid beetles (*Onymacris plana*), 150 tenebrionids belonging to 9 other species, one side-winding adder (*Bitis peringueyi*), one legless

lizard (*Typhlosaurus brainii*), three lacertid lizards (*Meroles cuneirostris*), two solifuges (*Prosolpuga schultzei*), one scorpion (*Opistophthalmus flavescens*), one cricket (*Comicus* sp.), one grasshopper, as well as uncountable numbers of ants (*Camponotus detritus*) and silverfish (lepismatids), were collected.

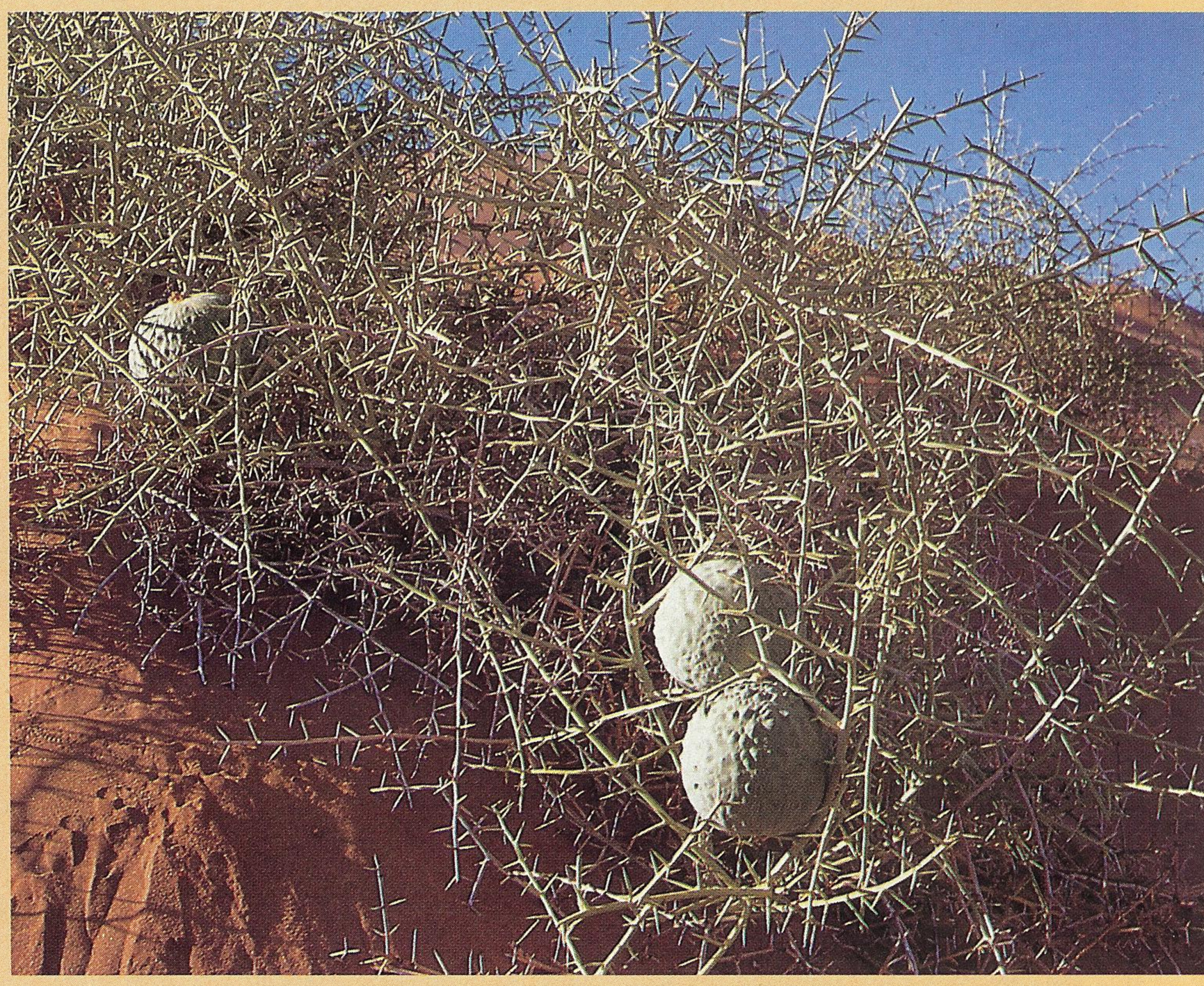
Nara as a desert food source

The flowers provide food for a variety of tenebrionid beetles as well as dune crickets (*Acanthoproctus* sp.) and lizards (*Angolosaurus skoogi*). The soft, growing plant tips are favoured by ostrich as well as meloid beetles (*Gorrisia zigzaga*). Lizards drink the clear juice that exudes from freshly broken stems. This exudate also attracts black aphids (Hemiptera: Aphinidae) which in turn are "milked" by dune ants (*Camponotus detritus*).

The nara fruit is a very important source of food in the Namib — not only for animals such as gemsbok, hyaena, black-backed jackal, gerbils, mice and lizards, but also for the indigenous Nama-speaking Topnaar people who live along the Kuiseb River.

Fruit remains discovered at archaeological sites estimated to be some 8 000 years old show that these plants have been used since prehistoric times by nomads of the Namib. The melon-like fruit is greenish-yellow when ripe and studded with numerous spiny outgrowths. It measures up to 15 cm in diameter, weighs up to 1 kg and can contain up to 400 seeds. The orange-pink flesh has a sweetish taste, but due to its high content of oxalic acid it can leave a burning aftertaste in the mouth. The cream-coloured pips are highly nutritious and, according to some sources, contain up to 50% oil and fat, 30% crude protein, as well as a high percentage of sugar and fibre.

Fruit production was recently studied at Sandwich Harbour, a fresh-water/salt lagoon system south of Walvis Bay. A single plant bore 321 fully developed fruit. Four months later none was left on the plant. Nearby more than 100 freshly eaten fruit were found lying in a heap. The resident black-backed jackals were the main harvesters as numerous tracks and scats in the vicinity testified.



Spiky protection of the ripe nara fruit is provided by the modified leaves. Photo: C Berry

How is Nara used today?

Nara have played a significant role in the lives of the Topnaar people. Traditionally, families owned specific clumps of plants and only the rightful owner was allowed to harvest the fruit from this plant. This practice persists to this day. The main harvesting season in the Kuiseb delta is during the summer months, January to March. The Topnaars set out from their homes with donkey carts to collect the ripe fruit from the nara fields. Every part of the fruit is used. Flesh and pips are boiled to a pulp to make a type of porridge, the rind and pulp may be fed to donkeys, or the pips separated and spread out in the sand to dry. The kernels have a deliciously nutty flavour and taste equally good raw or roasted. Several tons are sold annually to the confectionery industry in the Cape as a substitute for almonds.

Numerous requests for seed from various countries indicate great interest in cultivation of this cucurbit. Currently research is in progress investigating its nitrogen dynamics and conditions required for growth. The results of these studies may be used in the development of nara as a more widely-used food source.

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