



The strawberry helichrysum,  
*Syncarpha eximia* on the south slopes  
of the Langeberg. Photo: D.J. McDonald.

# MOUNTAIN STRAWBERRIES

Is *Syncarpha eximia* being over-exploited by wildflower pickers?

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'Strawberries?' you ask. 'In the mountains? Are they edible?' Well, not quite! There are no edible strawberry-like fruits in the Cape mountains, but there is a plant that has bunches of flower-heads that resemble strawberries. These flower-heads, although not edible, are much sought after. They are valued by floral artists for dried flower arrangements and in the wildflower trade they are known variously as 'strawberries', 'strawberry helichrysums' or 'strawberry everlasting'. But like all good things, these flowers are not plentiful, and are obtained by fair means or foul for supply to the wildflower trade.

The strawberry everlasting is one of a large group of daisies that have papery 'everlasting' bracts on the perimeter of the flower-heads. These persistent bracts are often colourful and showy. Everlastings are found in a number of genera in the daisy family (Asteraceae): *Edmondia*, *Helichrysum*, *Helipterum* and *Syncarpha*, to name a few. Some confusion has recently crept into the correct botanical naming of the 'strawberry everlasting', which for the non-botanist or amateur botanist can be most frustrating (in many instances, no sooner is the scientific name of a pretty, desirable or unusual plant species mastered when it changes!). For some time the strawberry everlasting has been known as *Helipterum eximium* DC. However, in an article in the *Compositae Newsletter* in 1989, a Swedish botanist, Prof Bertil Nordenstam placed this species in the genus *Syncarpha*. Its correct name is now *Syncarpha eximia* (L.) B. Nord.

*Syncarpha eximia* is a medium-height shrub (1-2 m) with one to a few branches. The leaves and stems are grey-green and densely covered with fine hairs, giving the plant a woolly appearance. The species is distributed on the cool south-facing slopes of the mountains of the southern Cape; from the Langeberg near Montagu in the west to the Tsitsikamma mountains in the east. It occurs frequently, but seldom in dense stands, from 700–1400 m above sea level in fynbos vegetation. Flowering occurs in mid-summer. The flower-heads are clustered together at the ends of the branches, looking just like bunches of strawberries. The flower-heads, which are pollinated by insects, mature from March onwards. Once the seeds are mature, the bracts, which by this stage have changed in colour to a dull brown, open to release the seed. Each seed has a pappus of fine hairs which acts as a parachute to facilitate wind-dispersal.

## Flower harvesting

A large amount of fynbos floral material is harvested, not for the fresh cut-flower market, but for the dried-flower trade. The flower-

heads of *Syncarpha eximia* fall into this category. Attempts to cultivate strawberry everlastings have been limited and consequently all commercially available material of *S. eximia* has been harvested from the veld. With the attractive price offered for these flowers (see accompanying table), it is worthwhile for flower pickers to obtain these flowers - even at the risk of picking them unlawfully from conservation areas - in the catchments of the southern Cape mountains.

Harvesting of *S. eximia* takes place in late January and early February, just before the flower-heads reach maturity. At this stage, the bracts exhibit their full colour, although the actual flowers have not yet pushed through the bracts to allow for pollination. This early picking ensures that development of the flower-heads is arrested and they are dried in this state.

The method of harvesting also requires careful investigation. It appears that flower-bearing stems have been cut with little regard for the well-being of the plant. Stems have been cut for maximum length and hence have been cut in 'old wood'. This practice inhibits

Grade	Number of flower heads per stem	Price paid to local supplier (S.A. Rands)	Full price paid on European flower markets (DM)*
Small	10–15	0.65/stem	0.95/stem (R 1.19)
Medium	25	1.00/stem	1.40/stem (R 2.82)
Large	>25 (Saucer)	1.35/stem	1.65/stem (R 3.33)

\* S.A. R1 ~ DM 0.493

Current commercial grades of *Syncarpha eximia*. Prices paid to South African suppliers and prices obtained on European flower markets.



development of side-branches with the result that plants senesce (age) more quickly. Obviously early senescence leads to diminished flower-production in subsequent years, which is detrimental both to the cut-flower trade and the production of seed for future generations of the species.

#### Ecology of *Syncarpha eximia*

Unofficial records indicate that approximately 50 000 stems of *Syncarpha eximia* were harvested in 1988 whereas in 1993 only about 1 000 – 1 500 stems were harvested. This could be inter-



Above. Open inflorescence of *Syncarpha eximia* showing a puparium of the fruit fly, *Craspedoxantha marginalis* and the frass (excrement) from the larva which totally destroyed the seeds.

Left. Mature 'strawberry' flower-heads of *Syncarpha eximia*.

Photos: D.J. McDonald.

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preted in a number of ways. Firstly it could indicate a serious decline in the populations of *S. eximia* through injudicious harvesting. Secondly it could be the result of natural senescence of populations or thirdly, the lack of availability of accessible populations. If the first reason is valid, there is cause for concern as it would seem that pressure on wild populations of *S. eximia* is high.

Research into the ecology and of *S. eximia* is needed, because apart from a little knowledge about the seed biology of this species, little other information is available.

Seed of *S. eximia* germinates readily after treatment with smoke, according to Neville Brown of the National Botanical Institute, Kirstenbosch. (See *Veld & Flora* 79(3), 77-79. September 1993). This agrees with field

observations that *S. eximia* seedlings establish soon after fires in the mountain catchments where the species occurs. Despite this early establishment, however, survival of the seedlings beyond the age of about three years is apparently limited. Those plants that do survive usually occur alone or in small groups and are fairly widely scattered. There is no definite information about the time from germination to flowering maturity but it is thought to be around four to five years after germination (i.e. four to five years after a fire).

### Predation of *Syncarpha eximia* seed

It would be unusual to expect that there would be no predation of the seeds of *Syncarpha eximia* since the seeds of many fynbos species are fed upon by the larvae of various insect species. The flower-heads of *S. eximia* are indeed no exception. Flower-heads collected in March 1993 on the slopes of the Langeberg above Swellendam were found to contain fly pupae. Virtually every flower-head collected yielded a pupa and most of the seed was destroyed, having been eaten by the fly larvae.

The pupae were collected and the flies allowed to hatch in controlled laboratory conditions. The flies were identified as *Craspedoxantha marginalis* (Wiedemann 1818) and are in the fruit-fly family, Tephritidae. This fly-species is from a group within the Tephritidae known to parasitize the flower-heads of species in the daisy family, Asteraceae. *C. marginalis* is not species-specific to *S. eximia*. It is a generalist species with a wide distribution and has also been found in the flower-heads of the closely related *Syncarpha speciosissima* at Silvermine on the Cape Peninsula.

### Conservation and utilization of *Syncarpha eximia*

The aesthetic appeal of *Syncarpha eximia* and its desirability to the wildflower trade, make it worthwhile investigating the biology of this species.

What levels of commercial harvesting can be allowed? What

### CULTIVATION OF *SYNCARPHA EXIMIA*

In an attempt to address the problem of commercially available stocks of *S. eximia*, investigations into the viability of cultivation of the species have been pursued by horticulturists of the Agricultural Research Council at Elsenburg.


At Elsenburg, seeds collected in autumn are sown from April to August. Until now the seeds have not been smoke-treated, but merely treated with a commercial fungicide and sown in a light medium of one part coarse river sand to two parts fine bark. Seed trays are moistened and subjected to alternating warm and cold temperatures. Germination occurs within four to six weeks, and 60 – 70% germination has been achieved. Seedlings are sprayed weekly with Kaptan or Benlate to prevent damping off.

When a satisfactory root system has developed, seedlings are transplanted into 0.5 l plastic bags, kept under 50% shade through the summer, with adequate water and fortnightly spraying with fungicide. Approximately eight weeks before planting out, seedlings benefit greatly from fertilization with compost (7:3:8). Plants are placed outside in full sun in March/April, a month before planting out.

Year-old plants are planted out after the first rains in April/May. The sites are carefully chosen; ideally they have an acid, well-drained soil. Irrigation, preferably by drip-irrigation, is essential during summer with a thorough once weekly watering.

Plants are planted close together and, if necessary, staked to prevent falling. Control of weeds is required and in summer the *S. eximia* plants should be sprayed monthly with fungicide. Developing flower-heads should also be sprayed to prevent insect attack.

methods of harvesting should be allowed and how often? Could commercial harvesting, coupled with seed-predation, affect the future viability of populations of *S. eximia*? These are some of the questions about one of many highly desirable fynbos species that require answers. In an effort to make conservation compatible with utilization of our natural resources, it is important that we

know more about the biology of these species. What better place to start than with those for which there is an obvious commercial demand but which may be sensitive to over-exploitation? 

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